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EOSDIS Core System Project

Release A
Integration and Test Procedures for the ECS Project
Volume 2: SDPS

Preliminary

August 1996

Hughes Information Technology Systems
Upper Marlboro, Maryland

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SUBMITTED BY

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Preface

This document is a contract deliverable with an approval code 2. As such, it does not require formal Government approval, however, the Government reserves the right to request changes within 45 days of the initial submittal. Once approved, contractor changes to this document are handled in accordance with Class I and Class II change control requirements described in the EOS Configuration Management Plan, and changes to this document shall be made by document change notice (DCN) or by complete revision.

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Abstract

The Release A Integration and Test Procedures satisfies the requirements for CDRL items 055, DID 322/DV2 (Release Integration & Test Procedures) as specified in the Statement of Work, as a deliverable under the Earth Observing System Data and Information System (EOSDIS) Core system (ECS) contract number NAS5-60000.

The Release A Integration and Test Procedures contains two subdocuments. Volume 1: CSMS Procedures, contains the test cases and procedures primarily to verify the CSMS related Level 3 and Level 4 requirements. Volume 2: SDPS Procedures, contains the test cases and procedures primarily to verify the SDPS related Level 3 and Level 4 requirements. In some cases CSMS or SDPS requirements have been mapped to test cases in Volumes 2 or 1, respectively, to support a more efficient verification approach. This document should be considered as a whole, the CSMS and SDPS volumes serve only to partition the document into manageable sized subdocuments for publication.

This is the Preliminary Version of the Release A Integration and Test Procedures, Volume 2: SDPS Procedures. This subdocument contains the test cases and selected test procedures to demonstrate SDPS functionality and performance as specified in the Level 3 and 4 requirements. This document is intended to provide insight into the consolidated and refined test cases and a sample of the test procedures. This document will be incrementally updated as the remaining procedures are added, refined and delivered according to the schedule in Section 1.4

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1. Introduction

1.1 Identification

This document is submitted as required by CDRL item 055, DID 322/DV2 whose requirements are specified as a required deliverable under the Earth Observing System (EOS) Data and Information System (EOSDIS) Core System (ECS), Contract (NAS5-60000).

1.2 Scope

The Release A Integration and Test Procedures satisfies the requirements for CDRL items 055, DID 322/DV2 (Release Integration & Test Procedures) as specified in the Statement of Work, as a deliverable under the Earth Observing System Data and Information System (EOSDIS) Core system (ECS) contract number NAS5-60000.

The Release A Segment and System Integration and Test Procedures contains two subdocuments. Volume 1: CSMS Procedures, contains the test cases and procedures primarily to verify the Communications and Systems Management Segment (CSMS) related Level 3 and Level 4 requirements. This subdocument, Volume 2: SDPS Procedures, contains the test cases and procedures primarily to verify the Science Data Processing Segment (SDPS) related Level 3 and Level 4 requirements. In some cases CSMS or SDPS requirements have been mapped to test cases in Volumes 2 or 1, respectively, to support a more efficient verification approach. This document should be considered as a whole, the CSMS and SDPS volumes serves only to partition the document into manageable sized subdocuments for publication.

This document reflects the Technical Baseline submitted via contract correspondence no. ECS 194-00343.

1.3 Purpose

This is the Preliminary Version of the Release A Integration and Test Procedures, Volume 2: SDPS Procedures. This subdocument contains the test cases and selected test procedures to demonstrate SDPS functionality and performance as specified in the Level 3 and 4 requirements. This document is intended to provide insight into the consolidated and refined test cases due to ECS organizational and implementation plan changes and a sample of the test procedures. This document will be incrementally updated as the remaining procedures are added, refined and delivered according to the schedule in Section 1.4

1.4 Status and Schedule

This is the Preliminary Version of the Release A Integration and Test Procedures. This document contains the Segment and System test cases revised due to ECS organizational and implementation plan changes. A mapping of the test cases from the approved Release A SDPS, CSMS, System Integration & Test Plans (319-CD-004-003, 319-CD-002-002, and 402-CD-002-002) to the test cases in this document are provided in Appendix B. Once approved this document supersedes the respective Segment and System Integration & Test Plans. Future changes to the Release A test cases will be reflected in this document.

Two more formal releases are scheduled for this document. At the Test Readiness Review (TRR) the document is released containing test procedures for all segment level test cases. Segment level test cases are defined as test that primarily verify Level 4 requirements. Three months prior to the Release Readiness Review (RRR) the document is released containing test procedures for all system level test cases. System level test cases are defined as test cases that primarily verify Level 3 requirements.

Staged updates to test cases and procedures are delivered at the start and during the test rehearsals, as needed, for each set of tests described in this document. These updates are considered working versions of this document and are released informally on an "as required" basis.

1.5 Organization

This document, which is based on Release A requirements, is organized into four chapters:

Section 1	Introduction, contains the identification, scope, purpose and objectives, status and schedule, and document organization.
Section 2	Related Documents, provides a bibliography of parent, applicable and reference documents for the Release A Segment and System Integration and Test Procedures Document.
Section 3	Release Integration and Test Overview, describes the process used to integrate and test the SDPS and CSMS Segments.
Section 4	Test Procedures, describes the specific segment and system level thread and build test cases and the step by step test procedures, which are used to verify the SDPS and CSMS functionality.
Appendix A	Requirements Verification Matrices. Contains the requirements traceability matrices, mapping test cases to Release A Level 3 and 4 requirements.
Appendix B	Test Plan to Test Procedure Matrices, Contains the mapping of the test cases from the approved Segment and System Test Plans to the test cases in this document.

Acronyms List	Contains a listing of abbreviations and acronyms used in this Document.

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2. Related Documents

2.1 Parent Documents

The parent documents are the documents from which this volume's scope and content are derived.

101-CD-001-004	Project Management Plan for the EOSDIS Core System, DCN No. 01
107-CD-002-XXX	Level 1 Master Schedule for the ECS Project
194-201-SE1-001	Systems Engineering Plan for the ECS Project
301-CD-002-003	System Implementation Plan for the ECS Project
319-CD-004-003≠	CSMS Integration and Test Plan for the ECS Project, Volume 2: Release A
319-CD-005-002≠	SDPS Integration and Test Plan for the ECS Project, Volume 2: Release A
402-CD-002-002≠	System Integration and Test Plan for the ECS Project, Volume 2: Release A
501-CD-001-004	Performance Assurance Implementation Plan for the ECS Project
423-41-01≠	Goddard Space Flight Center, EOSDIS Core System (ECS) Statement of Work
423-41-02≠	Goddard Space Flight Center, Functional and Performance Requirements Specification (F&PRS) for the Earth Observing System Data and Information System (EOSDIS) Core System (ECS)
423-41-03≠	Goddard Space Flight Center, EOSDIS Core System (ECS) Contract Data Requirements Document

2.2 Applicable Documents

The following documents are referenced within this volume, or are directly applicable, or contain policies or other directive matters that are binding upon the content of this volume. The following documents are available on the ECS Data Handling System (EDHS); http://edhs1.gsfc.nasa.gov/. Internet links cannot be guaranteed for accuracy or currency.

194-207-SE1-001	System Design Specification for the ECS Project
194-401-VE1-002	Verification Plan for the ECS Project

404-CD-001-001	Procedure for Control of Unscheduled Activities During Verification for the ECS Project
409-CD-001-004	ECS Overall System Acceptance Test Plan for Release A
194-415-VE1-002	Acceptance Testing Management Plan for the ECS Project
505-41-14 ≠	Goddard Space Flight Center, Interface Requirements Document Between EOSDIS Core System (ECS) and Tropical Rainfall Measuring Mission (TRMM) Ground System (TRMM-490-152)

2.3 Information Documents

2.3.1 Information Documents Referenced

The following documents are referenced herein and, amplify or clarify the information presented in this document. These documents are not binding on the content of this volume.

102-CD-001-004	Configuration Management Plan for the ECS Project
193-103-MG3-001	Configuration Management Procedures for the ECS Project
305-CD-004-001≠	Overview of Release A SDPS and CSMS System Design Specification for the ECS Project
305-CD-005-001≠	Release A SDPS Client Subsystem Design Specification for the ECS Project
305-CD-006-001≠	Release A SDPS Interoperability Subsystem Design Specification for the ECS Project
305-CD-007-001≠	Release A SDPS Data Management Subsystem Design Specification for the ECS Project
305-CD-008-001≠	Release A SDPS Data Server Subsystem Design Specification for the ECS Project
305-CD-009-001≠	Release A SDPS Ingest Subsystem Deign Specification [for the ECS Project]
305-CD-010-001≠	Release A SDPS Planning Subsystem Design Specification for the ECS Project
305-CD-011-001≠	Release A SDPS Data Processing Subsystem Design Specification for the ECS Project
305-CD-012-001≠	Release A CSMS Communications Subsystem Design Specification for the ECS Project
305-CD-013-001≠	Release A CSMS Systems Management Subsystem Design Specification for the ECS Project

305-CD-014-001	Release A GSFC DAAC Design Specification for the ECS Project
305-CD-015-001	Release A LaRC DAAC Design Specification for the ECS Project
305-CD-016-001	Release A MSFC DAAC Design Specification for the ECS Project
305-CD-017-001	Release A EDC DAAC Design Specification for the ECS Project
305-CD-018-001≠	Release A Data Dictionary for Subsystem Design Specification for the ECS Project
305-CD-019-001≠	Release A System Monitoring and Coordination Center Design Specification for the ECS Project

2.3.2 Information Documents Not Referenced

The following documents, although not referenced herein and/or not directly applicable, do amplify or clarify the information presented in this document. These documents are not binding on the content of this volume.

104-CD-001-004	Data Management Plan for the ECS Project
193-105-MG3-001	Data Management Procedures for the ECS Project

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3. Release A Integration and Test Overview

This section contains an overview of the approach taken by the Release A Integration and Test organization to ensure complete and thorough testing at the segment and system levels. Included is information concerning the I&T approach, verification activities, and responsibilities.

3.1 Release A I&T Overview

3.1.1 Functional Overview

ECS is comprised of three segments, each comprised of various subsystems. The three segments are the Flight Operations Segment (FOS), Science Data Processing Segment (SDPS) and Communications and Systems Management Segment (CSMS). Each of these segments are decomposed into subsystems and the subsystems are composed of CIs. This document provides the procedures for testing the design and implementation of the CSMS and SDPS CIs and their integration into ECS subsystems for Release A.

This subdocument, Volume 2: SDPS Procedures, focuses on the integration of Release A SDPS subsystems. The objectives of Release A are to provide ECS components to support the TRMM mission; Version 0 Data Migration; EOS-AM-1 and Landsat 7 Interface Testing; and EOS-AM-1 Algorithm Integration and Test.

SDPS TRMM mission support includes ingest of TRMM L0 data; ingest of ancillary data for TRMM product generation; CERES and LIS product generation, archive, and distribution; and TRMM product data management, search, and access capabilities.

Version 0 (V0) data migration includes the ability to transition V0 data sets from V0 to V1; and provide support, data management, search, and access capabilities for these data sets. A subset of V0 data sets is available at Release A. Additional data migration takes place during Release A operations.

EOS-AM-1 interface testing includes testing EDOS/ECS interfaces and ADC/ECS interfaces required for EOS-AM-1 ancillary data. TRMM components are provided by the SDPS Ingest Subsystem. Hardware and software components provide capabilities to exchange messages and transfer data. Message validation and limited data checking is supported. Temporary storage of messages and data is provided to validate the EOS-AM-1 interfaces.

Algorithm Integration and Test includes support to integrate Version 1 science software for EOS-AM-1 instruments into the DAAC. SDPS components to support Algorithm Integration and Test are provided by the Data Processing and Ingest Subsystems. Ingest hardware and software components provide the capabilities to support the interface for Algorithm Package delivery. Data Processing hardware and software components provide the capabilities to validate the

science software operates in the DAAC environment including standards checking, integration with the SDP Toolkit, and execution on the DAAC processing resources.

This document will test the design and implementation of the SDPS CSCI's and their integration into SDPS subsystems. The CSCI's for SDPS at Release A are listed in Table 3-1. Included are CSCI names and SDPS subsystems. A short description of each CSCI is given following Table 3-1. CSMS components are responsible for supporting and providing interoperability and management capabilities for the SDPS as described in Volume 1. Integration of CSMS components with SDPS are also included in the test within this subdocument.

Table 3-1. SDPS Release A CSCIs

CI	Id	Subsystem
Desktop	DESKT	Client
Workbench	WKBCH	Client
Advertising Service	ADSRV	Interoperability
Local Information Manager	LIMGR	Data Management
Data Dictionary	DDICT	Data Management
Document Data Server	DDSRV	Data Server
Science Data Server	SDSRV	Data Server
Storage Management Software	STMGT	Data Server
Data Distribution Services	DDIST	Data Server
Ingest Services	IINGST	Ingest
Production Planning	PLANG	Planning
Processing	PRONG	Processing
Science Data Pre-Processing	DPREP	Processing
Algorithm I&T	AITTL	Processing
Version 0 Interoperability Gateway	GTWAY	Interoperability

Desktop CI–The Desktop CI provides a general framework for organizing and presenting the various application objects (data and programs) with which a user interfaces.

Workbench CI–The Workbench CI provides tools for helping users to access, analyze, and disseminate data to colleagues throughout the scientific community.

Advertising Service CI–The Advertising CI provides the interfaces to support Client defined interactive browsing and searching of advertisements

Local Information Manager CI–The LIM CI utilizes an integrated schema to provide locally optimized access to the data servers at a given site.

Data Dictionary CI–The Data Dictionary CI manages and provides user access to databases containing information about data. The Data Dictionary provides access to definitions, detailed descriptions of data types, attributes, operations, keywords, terms, etc.

Science Data Server CI–The Science Data Server CI provides access to a collection of earth science data and related data. The functions offered by the Science Data Server CI are defined in the Data Server schema. The Data Server makes its data collections and services known to the ECS community by advertising itself to the Advertising Service (also called Advertisements).

Document Data Server CI–The Document Data Server CI provides access to a collection of documents using protocols which are specifically designed for document handling (i.e., HTTP).

Storage Management Software CI–The Storage Management Software CI provides services for storing, accessing, and managing data objects in support of the data servers, using a hierarchy of storage capabilities.

Data Distribution Services CI–The Data Distribution CI provides the Data Server and its Operations users the capability to monitor and control processing for distribution requests.

Ingest Services CI–The Ingest CI is responsible for the receipt of data arriving at a site and the physical placement of data into the site's storage hierarchy.

Production Planning CI–The Production Planning CI supports the site operations staff in developing and optimizing a production plan against available resources, and managing the implementation of the plan.

Processing CI - The Processing CI provides functionality for managing, queuing and executing processing requests on the processing resources at a provider site.

Science Data Pre-Processing CI–The Science Data Pre-Processing CI provides pre-processing for science data, ancillary data, and orbit/attitude data, either as it is enters the system (Ingest) or as it is being staged for use in product generation.

Algorithm I&T CI–The Algorithm Integration and Test CI facilitates the integration of science processing algorithms and user methods into the operational environment of a DAAC.

Gateway CI–The Gateway CI provides bi-directional interoperability with V0 for user authentication, inventory level queries, browse requests and product orders.

3.2 Release I&T Organization Testing Approach

3.2.1 Release A I&T Testing

The Release A I&T organization integrates and verifies SDPS and CSMS CI functionality on an incremental basis. As incremental integration and testing proceeds, larger portions of the segments are assembled. The integration focuses on integrating functionally related components rather than on the structural decomposition achieved through the design process. As such, components from multiple CIs or segments may be integrated and tested early in the integration process. Therefore there is no strict delineation between CI, Segment, or System Integration and

Test. An attempt has been made to delineate SDPS from CSMS and Segment from System Testing based on the emphasis of the requirement verification activities.

As unit testing on software and hardware items is completed, the I&T organization incrementally assembles lower-level functionality into progressively higher levels until a Release is completely integrated and tested. Functional components that are integrated are threads, and the result of combining threads is a build. Functional testing verifies Level 3 and 4 functional requirements.

3.2.2 Build/Thread Methodology

The build/thread concept, which is based on the incremental aggregation of functions, is used to plan I&T activities. A thread is the set of components (software CIs, hardware and data) and operational procedures that implement a function or set of related functions. Threads are tested individually to facilitate Level 4 requirements verification and to isolate software problems. A build is an assemblage of threads to produce a gradual buildup of segment capabilities. This orderly progression of combining lower level software and/or hardware items to form higher level items with broader capability is the basis of CSMS and SDPS Release A integration.

Earlier Threads and Builds focus on demonstration of selected segment functionality and verification of primarily Level 4 requirements and are thus considered segment threads and builds. Later integration activities, primarily builds, demonstrate end-to-end system level functionality and verify primarily Level 3 requirements, thus they are considered system builds.

Build/thread diagrams are developed for each release. The build/thread diagram for Release A is presented in Figure 3.2-1. Threads and builds are defined by examining CIs, Level 4 requirements, the release implementation plan and segment/element design specifications. The Release I&T organization, with support from the development community, logically groups the release into functional categories divided along noticeable boundaries. These categories are the basis for threads. Threads are combined to define builds. Builds include several integrated threads and/or other builds functions. The build/thread diagram for each release acts as a framework for test case definition. From each build and thread on the diagram, test cases are developed. These test cases provide the basis for development of step-by-step test instruction to be documented as test procedures.

Volume 1 of this document contains the test cases for the threads and builds on Figure 3.2-1 that focus on CSMS functionality. These threads and build explicitly integrate and test the functionality specified by most of the CSMS Level 3 and 4 requirements. Some CSMS requirements, such as external interfaces, are mapped to test threads or builds in Volume 2 to improve the efficiency if verification approach.

Volume 2 of this document contains the test cases for the threads and builds on Figure 3.2-1 that focus on SDPS functionality. In addition to the explicit SDPS functionality verified in these threads and builds, they also integrate and test many CSMS components. Explicit integration activities between SDPS and CSMS functional components are indicated by dashed lines and

portions of the SMC and Release A DAAC Builds will be designed to run concurrently. In addition all SDPS threads and builds have implicit integrations with CSMS components, such as CSS communication services, that are not shown on the figure.

Concurrent integration and verification of CSMS components in both the CSMS and SDPS threads and builds ensures these underlying critical components are thoroughly tested and improves system reliability. Isolated testing of CSMS functionality described in Volume 1 provides intensive testing and requirements verification of these service oriented components. Early integration of CSMS components with the SDPS applications that rely on their services reduces integration risk and driver development costs.

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Figure 3.2-1 is not available at this time in electronic format.

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3.3 I&T Test Verification

The following sections define responsibilities and activities of the I&T organization. I&T verification includes definition of verification methods, post test analysis, regression testing, and verification resources.

3.3.1 Verification Methods

The four verification methods used for I&T include: inspection, analysis, demonstration, and test. As defined in the ECS Verification Plan (ECS document number 194-401-VE1-002).

a. - Inspection. The visual, manual examination of the verification item and comparison to the applicable requirement or other compliance documentation, such as engineering drawings.

b. - Analysis. Technical or mathematical evaluation based on calculation, interpolation, or other analytical methods.

c. - Demonstration. Observation of the functional operation of the verification item in a controlled environment to yield qualitative results without the use of elaborate instrumentation or special test equipment.

d. - Test. A procedure or action taken to determine under real or simulated conditions the capabilities, limitations, characteristics, effectiveness, reliability, or suitability of a material, device, system, or method.

Each requirement is verified by one or more of these methods. A requirements matrix mapping Release A segment and system level requirements to Release A test cases, is provided in Appendix A of this document.

3.3.2 Post Test Analysis

Post-test analysis includes data reduction and comparison of actual results against expected results. Post test analysis required for I&T is performed by the I&T organization with support from system engineering or development organizations and the user communities when appropriate. Methods for performing post-test analysis are documented in the Segment/Element Integration and Test Procedures on a test by test basis. Results of post-test analysis is documented in I&T reports. Data, data logs, event logs and any other test output required for post test analysis is captured and stored under CM control.

3.3.3 Regression Testing

Regression testing is supplemental testing performed at any time upon any thread or build during I&T testing to ensure that existing software is not adversely affected by modified or new software. I&T members are responsible for planning, documenting, executing and reporting all regression testing. Automated test tools are used when practical, for regression testing by the I&T organization. This ensures that regression tests duplicate initial test procedures.

For Release A the following changes may result in regression testing:

- software changes
- hardware changes
- operational enhancements
- new versions delivered after the unit level testing

The I&T organization is responsible for reporting any discrepancies encountered during segment regression testing. Discrepancies resulting from any other level of testing which results in modifications at the unit level, will be regression tested by the I&T organization.

4. SDPS Release A Test Descriptions

The following sections identify the segment level threads and builds within the Science and Data Processing Segment for Release A. First, threads are identified. Threads are the aggregation of unit tested components (CSCs, HWCIs, COTS). Each thread demonstrates an SDPS function. Builds are the integration of threads and are identified after each series of threads which make up a build. For each thread and/or build a brief description is given identifying functionality to be tested. Following each description, test cases are identified. These test cases verify segment capabilities allocated to the thread or build. The primary objective of each test case is to demonstrate and evaluate the capabilities of each function as stated in Level 4 requirements.

4.1 Ingest and Archive 1 Tests

The following subsections include the threads and builds identified to support Ingest and Archive 1 testing. Ingest and Archive 1 testing includes the following threads and builds:

- TRMM Ingest I/F Thread
- SDPF Data Insert Thread
- Ingest & Archive 1 Build

4.1.1 TRMM Ingest I/F Thread (TS001)

This thread demonstrates the capability to provide an interface for ingest of data from external TRMM providers. Ingest interface functions include the ability to use an automated electronic network protocol.

4.1.1.1 Test Case 1: TRMM Authentication Request with Valid ID Test (TS001.001) - moved to Electronic Data Transfer Thread

4.1.1.2 Test Case 2: TRMM Authentication Request with Invalid ID Test (TS001.002) - moved to Electronic Data Transfer Thread

4.1.1.3: Test Case 3: TRMM File Validation and Ingest Test (TS001.003)

This test demonstrates the ability to establish a network connection between the SDPF and the ECS at the LaRC and GSFC DAACs for ingest of a series of data collections containing single granules of data. A session is created allowing the SDPF to send DANs. The DANs are received and validated. DAAs are sent to the SDPF. Data Delivery Notices (DDNs) are sent to the data providers to indicate successful transfer of the data. Receipt of the network ingest request, and response to the network ingest request is reported to the Ingest Log.

Test Configuration:

Hardware: Ingest workstation, client host

Software: IngestServer, SessServer, and InReqMgr

Data: Data file to include CERES and LIS L0 data

Tools: Ingest Client driver

Test Input:

Inputs to this test include: DANs, at least one data file for each data type to include CERES and LIS L0 for single file ingest.

Test Output:

Outputs to this test include DAAs which notify the data provider that the DAN is received and validated and DDNs indicating successful transfer of data. Receipt and response to the request is reported to the Ingest Log.

Success Criteria:

A data connection is successfully established allowing DANs to be sent to and received by Ingest software. DAAs and DDNs for each DAN are sent to the SDPF. Receipt of the network ingest request, and response to the network ingest request is successfully reported to the Ingest Log.

Test Procedures:

Test Case ID: TS001.003	
Test Name: TRMM File Validation and Ingest	
Test Steps:	Comments:
1. Logon to the Ingest Server workstation. **><username>** **><password>**	For in house testing the Ingest Server will act as the Ingest Server for all DAACs.
2. Open five xterms.	
3. On the first xterm, bring up the cdsbrowser. **>telnet csse3hp** **><username>** **><password>** **>setenv DISPLAY <terminalname>:0.0** **>cdsbrowser &**	This xterm may be closed after the browser is brought up.
4. Login to the cdsbrowser window **><username>** **><password>**	
5. On the second xterm, invoke the Request Manager executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./InReqMgr**	Request Manager should register itself in the cdsbrowser as: /RelA/Ingest/RequestManager

6. On the third xterm, invoke the Ingest Server executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./IngestServer**	Ingest Server should register itself in the cdsbrowser as: /RelA/Ingest/IngestGroup /RelA/Ingest/IngestServer /RelA/Ingest/cell-profile
7. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./IngestClient**	IngestClient will not register in the cdsbrowser until a session is created.
8. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
9. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
10. On the Ingest Client xterm, send a valid DAN. **>/usr/testa/testdata/<filename>**	S-INS-00010 (Partial Phase 1 - testing for one Data Granule)
11. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log **>cd /usr/local/hislog** **>more IngestLocal.log**	Message should read: DAN message received from client
12. On the IngestClient xterm, verify receipt of DAA. Receipt of short DAA indicates successful validation of DAN.	
13. On the IngestClient xterm, verify receipt of DDN. DDN message indicates the data was transferred and archived successfully. Verify successful DDN message is also noted in the Ingest Log. **>more IngestLocal.log**	S-INS-00060 (j) S-INS-00340 (m)
14. On the IngestClient xterm, send a DDA. **><dan sequence number>**	This should end the client session.
15. Using the cdsbrowser, verify SessionServer(#) entry no longer exists. **>click the update button** **>click on tree**	
16. On the fifth xterm, print the IngestLocal.log **>lp IngestLocal.log**	
17. On the fifth xterm, delete the IngestLocal.log **>rm IngestLocal.log**	cleanup

18. Using the fifth xterm, delete the SessionInfo.txt and DDS files. **>cd /usr/testa/ingest/data** **>rm SessionInfo.txt** **>rm x_xxx_DDNfile**	This files are for warm restart purposes only.
19. Shutdown all Ingest and Client processes in each xterm. **>^Z** **>ps -fe |grep In** **>kill -9 <processid>** **>ps -fe |grep Se** **>kill -9 <processid>**	
20. Log out of dce in each xterm where it was running. **>kdestroy**	cleanup
21. Delete all entries in the cdsbrowser. **>highlight entries under /RelA/Ingest** **>delete entries** **>highlight entries under /RelA/Gateway** **>delete entries**	cleanup
22. Close the cdsbrowser window.	
23. Exit all xterms and then logoff the Ingest workstation.	

4.1.1.4 Test Case 4: TRMM Error Report Ingest Test (TS001.004)

This test demonstrates the ability to recognize and respond to error conditions encountered during ingest of SDPF data. Error testing is performed to include, at the minimum, attempted ingest under the following erroneous conditions: missing required request information.

Test Configuration:

Hardware: ingest workstation, client host

Software: IngestServer, SessServer, and InReqMgr

Data: Invalid data ingest, Invalid CERES and LIS data.

Tools: Ingest Client driver.

Test Input:

Inputs to this test include a series of erroneous data requests.

Test Output:

Outputs to this test include notices or messages to SDPF indicating unsuccessful transfer due to erroneous conditions.

Success Criteria:

Errors are recognized and appropriate status is returned to the data requester.

Test Procedures:

Test Case ID: TS001.004	
Test Name: TRMM Error Report IngestTest	
Test Steps:	Comments:
1. Logon to the Ingest Server workstation. **><username>** **><password>**	For in house testing the Ingest Server will act as the Ingest Server for all DAACs.
2. Open five xterms.	
3. On the first xterm, bring up the cdsbrowser. **>telnet csse3hp** **><username>** **><password>** **>setenv DISPLAY <terminalname>:0.0** **>cdsbrowser &**	This xterm may be closed after the browser is brought up.
4. Login to the cdsbrowser window **><username>** **><password>**	
5. On the second xterm, invoke the Request Manager executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./InReqMgr**	Request Manager should register itself in the cdsbrowser as: /RelA/Ingest/RequestManager
6. On the third xterm, invoke the Ingest Server executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./IngestServer**	Ingest Server should register itself in the cdsbrowser as: /RelA/Ingest/IngestGroup /RelA/Ingest/IngestServer /RelA/Ingest/cell-profile
7. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./IngestClient**	Ingest Client will not register in the cdsbrowser until a session is created.
8. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
9. Using the Ingest Client xterm, verify successful session creation.	Look for the following messages in the xterm: Status from CsIntSpawnServerAndCreateSession: 0 SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
10. On the Ingest Client xterm, send a DAN with a Missing Data type field. **>/usr/testa/testdata/<filename>**	S-INS-00060
11. Verify successful DAN receipt by viewing the IngestClient xterm.	Message should read: Return from extDAN()

12. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates error in validating DAN.	Message on IngestClient xterm should indicate DAN was rejected due to (1) Invalid Data Type.
13. Exit the IngestClient.	
14. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
15. On the fourth xterm, invoke the IngestClient executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
16. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
17. Verify successful session creation by viewing the IngestClient xterm.	Look for the following messages in the xterm: Status from CsIntSpawnServerAndCreateSession: 0 SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
18. On the Ingest Client xterm, send a DAN with no DAN Sequence number field. **>/usr/testa/testdata/<filename>**	S-INS-00060 (i) Partial Phase 1 - testing for (i.) missing required request information
19. Verify successful DAN receipt by viewing the IngestClient xterm.	Message should read: Return from extDAN()
20. On the IngestClient xterm, verify receipt of short DAA. Receipt of short DAA indicates error in validating DAN	Message on IngestClient xterm should indicate DAN was rejected due to (1) Invalid DAN sequence number.
21. Exit the IngestClient.	
22. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
23. On the fourth xterm, invoke the IngestClient executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
24. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
25. Verify successful session creation by viewing the IngestClient xterm.	Look for the following messages in the xterm: Status from CsIntSpawnServerAndCreateSession: 0 SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)

26. On the fourth xterm, send a DAN with missing DDF_FILE_SYSTEM field. **>/usr/testa/testdata/<filename>**	S-INS-00060 (i)
27. Using the fourth xterm, verify successful DAN receipt by viewing the IngestClient xterm.	Message should read: Return from extDAN()
28. On the IngestClient xterm, verify receipt of short DAA. Receipt of short DAA indicates error in validating DAN	Message on IngestClient xterm should indicate DAN was rejected due to (16)No data provider.
29. Exit the IngestClient.	
30. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
31. On the fourth xterm, invoke the IngestClient executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
32. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
33. Verify successful session creation by viewing the IngestClient xterm.	Look for the following messages in the xterm: Status from CsIntSpawnServerAndCreateSession: 0 SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
34. On the Ingest Client xterm, send a DAN with missing Descriptor field. **>/usr/testa/testdata/<filename>**	S-INS-00060 (i)
35. Using the fourth xterm, verify successful DAN receipt by viewing the IngestClient xterm.	Message should read: Return from extDAN()
36. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates error in validating DAN	Message on IngestClient xterm should indicate DAN was rejected due to (3) Invalid Descriptor.
37. Exit the IngestClient.	
38. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
39. On the fourth xterm, invoke the IngestClient executable. **<password>** **>cd /usr/testa/ingest/bin** **>./IngestClient**	
40. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup

41. Verify successful session creation by viewing the IngestClient xterm.	Look for the following messages in the xterm: Status from CsIntSpawnServerAndCreateSession: 0 SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
42. On the Ingest Client xterm, send a DAN with missing File ID field. **>/usr/testa/testdata/<filename>**	S-INS-00060 (i)
43. Using the fourth xterm, verify successful DAN receipt by viewing the IngestClient xterm.	Message should read: Return from extDAN()
44. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates error in validating DAN	Message on IngestClient xterm should indicate DAN was rejected due to (9)Invalid Short File id.
45. Exit the IngestClient.	
46. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
47. On the fourth xterm, invoke the IngestClient executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
48. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
49. Verify successful session creation by viewing the IngestClient xterm.	Look for the following messages in the xterm: Status from CsIntSpawnServerAndCreateSession: 0 SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
50. On the fourth xterm, send a DAN with an error in File Size. **>/usr/testa/testdata/<filename>**	S-INS-00060 (i)
51. Using the fourth xterm, verify successful DAN receipt by viewing the IngestClient xterm.	Message should read: Return from extDAN()
52. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates error in validating DAN	Message on IngestClient xterm should indicate DAN was rejected due to (8)Invalid File Size.
53. Exit the IngestClient.	
54. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	

55. On the fourth xterm, invoke the IngestClient executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
56. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
57. Verify successful session creation by viewing the IngestClient xterm.	Look for the following messages in the xterm: Status from CsIntSpawnServerAndCreateSession: 0 SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
58. On the fourth xterm, send a DAN with missing File Size field. **>/usr/testa/testdata/<filename>**	S-INS-00060 (i)
59. Using the fourth xterm, verify successful DAN receipt by viewing the IngestClient xterm.	Message should read: Return from extDAN()
60. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates error in validating DAN	Message on IngestClient xterm should indicate DAN was rejected due to (8)Invalid File Size.
61. Exit the IngestClient.	
62. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
63. On the fourth xterm, invoke the IngestClient executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
64. On the fourth xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
65. Verify successful session creation by viewing the IngestClient xterm.	Look for the following messages in the xterm: Status from CsIntSpawnServerAndCreateSession: 0 SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
66. On the fourth xterm, send a DAN with missing Directory ID field. **>/usr/testa/testdata/<filename>**	S-INS-00060 (i)
67. Verify successful DAN receipt by viewing the IngestClient xterm.	Message should read: Return from extDAN()
68. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates error in validating DAN	Message on IngestClient xterm should indicate DAN was rejected due to (4)Invalid Directory.

69. Exit the IngestClient.	
70. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
71. Using the fifth xterm, delete the SessionInfo.txt and DDN files. **>cd /usr/testa/ingest/data** **>rm SessionInfo.txt** **>rm x_xxx_DDNfile**	These files are for warm restart purposes only.
72. Shutdown all Ingest and Client processes in each xterm. **>^Z** **>ps -fe |grep In** **>kill -9 <processid>** **>ps -fe |grep Se** **>kill -9 <processid>**	
73. Log out of dce in each xterm where it was running. **>kdestroy**	cleanup
74. Delete all entries in the cdsbrowser. **>highlight entries under /RelA/Ingest** **>delete entries** **>highlight entries under /RelA/Gateway** **>delete entries**	
75. Close the cdsbrowser window.	
76. Exit all xterms and then logoff the Ingest workstation.	

4.1.1.5 Test Case 5: TRMM Error Log Test (TS001.005)

This test demonstrates the ability to recognize and respond to error conditions encountered during ingest of SDPF data. Error testing is performed to include, at the minimum, attempted ingest under the following erroneous conditions: missing required request information. All errors are recorded in an error log.

Test Configuration:

Hardware: ingest workstation, client host

Software: IngestServer, SessServer, and InReqMgr

Data: Invalid data ingest, Invalid CERES and LIS data.

Tools: Ingest Client driver.

Test Input:

Inputs to this test include a series erroneous data requests.

Test Output:

The Ingest Log is updated to record error conditions. Data is displayed for examination.

Success Criteria:

Errors are recognized and appropriate entries are made to the Ingest log. All error messages contain correct and appropriate wording. The Ingest Log is displayed and inspected to verify that log contents reflect ingest activities.

Test Procedures:

Test Case: TS001.005	
Test Name: TRMM Error Reporting	
Test Steps:	Comments:
1. Logon to the Ingest Server workstation. **><username>** **><password>**	For in house testing the Ingest Server will act as the Ingest Server for all DAACs.
2. Open five xterms.	
3. On the first xterm, bring up the cdsbrowser. **>telnet csse3hp** **><username>** **><password>** **> setenv DISPLAY <terminalname>:0.0** **>cdsbrowser &**	This xterm may be closed after the browser is brought up.
4. Login to the cdsbrowser window **><username>** **><password>**	
5. On the second xterm, invoke the Request Manager executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./InReqMgr**	Request Manager should register itself in the cdsbrowser as: /RelA/Ingest/RequestManager
6. On the third xterm, invoke the Ingest Server executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./IngestServer**	Ingest Server should register itself in the cdsbrowser as: /RelA/Ingest/IngestGroup /RelA/Ingest/IngestServer /RelA/Ingest/cell-profile
7. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./IngestClient**	Ingest Client will not register in the cdsbrowser until a session is created.
8. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup

9. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
10. On the Ingest Client xterm, send a DAN containing a missing data type identifier field. **>/usr/testa/testdata/<filename>**	S-INS-00340 (k)
11. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log. **>more IngestLocal.log**	Message should read: DAN message received from client.
12. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates unsuccessful validation of DAN.	
13. On the fifth xterm print the IngestLocal.log. Log should indicate Missing Data Type; Unable to instantiate a inDAN object. **>more IngestLocal.log** **>lp IngestLocal.log**	
14. Exit the IngestClient.	
15. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
16. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
17. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
18. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
19. On the fourth xterm, send a DAN containing an invalid DAN sequence number. **>/usr/testa/testdata/<filename>**	S-INS-00340 (k)
20. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log. **>more IngestLocal.log**	Message should read: DAN message received from client.
21. On the IngestClient xterm, verify receipt of short DAA. Receipt of short DAA indicates unsuccessful validation of DAN.	

22. On the fifth xterm print the IngestLocal.log. Log should indicate Invalid DAN sequence No.; Unable to instantiate a inDan object. **>more IngestLocal.log** **>lp IngestLocal.log**	
23. Exit the IngestClient.	
24. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
25. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
26. On the IngestClient xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
27. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
28. On the fourth xterm, send a DAN containing an error in DAN sequence number. **>/usr/testa/testdata/<filename>**	S-INS-00340 (k)
29. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log. **>more IngestLocal.log**	Message should read: DAN message received from client.
30. On the IngestClient xterm, verify receipt of short DAA. Receipt of short DAA indicates unsuccessful validation of DAN.	Message on the client xterm should indicate DAN was not accepted due to error in DAN sequence number.
31. On the fifth xterm print the IngestLocal.log. Log should indicate Invalid DAN sequence number; Unable to instantiate a inDAN object. **>more IngestLocal.log** **>lp IngestLocal.log**	
32. Exit the IngestClient.	
33. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
34. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
35. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup

36. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
37. On the Ingest Client xterm, send a DAN containing missing DAN_SEQ_NO field. **>/usr/testa/testdata/<filename>**	S-INS-00340 (k)
38. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log. **>more IngestLocal.log**	Message should read: DAN message received from client.
39. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates unsuccessful validation of DAN.	
40. On the fifth xterm print the IngestLocal.log. Log should indicate receipt of Invalid DAN sequence number; Unable to instantiate a InDAN object. **>more IngestLocal.log** **>lp IngestLocal.log**	
41. Exit the IngestClient.	
42. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
43. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
44. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
45. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
46. On the Ingest Client xterm, send a DAN containing missing DDF_FILE_SYSTEM field. **>/usr/testa/testdata/<filename>**	S-INS-00349 (k)
47. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log. **>more IngestLocal.log**	Message should read: DAN message received from client.
48. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates unsuccessful validation of DAN.	

49. On the fifth xterm print the IngestLocal.log. Log should indicate Missing Data Provider; Unable to Instantiate inDAN object. **>more IngestLocal.log** **>lp IngestLocal.log**	
50. Exit the IngestClient.	
51. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
52. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
53. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
54. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
55. On the Ingest Client xterm, send a DAN containing missing descriptor field. **>/usr/testa/testdata/<filename>**	S-INS-00340 (k)
56. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log. **>more IngestLocal.log**	Message should read: DAN message received from client.
57. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates unsuccessful validation of DAN.	
58. On the fifth xterm print the IngestLocal.log. Log should indicate Missing Data Descriptor; Unable to instantiate inDAN object. **>more IngestLocal.log** **>lp IngestLocal.log**	
59. Exit the IngestClient.	
60. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
61. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
62. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup

63. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
64. On the Ingest Client xterm, send a DAN containing missing file id field. **>/usr/testa/testdata/<filename>**	S-INS-00340 (k)
65. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log. **>more IngestLocal.log**	Message should read: DAN message received from client.
66. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates unsuccessful validation of DAN.	
67. On the fifth xterm print the IngestLocal.log. Log should indicate Missing File Id; Unable to Instantiate a InDAN object. **>more IngestLocal.log** **>lp IngestLocal.log**	
68. Exit the IngestClient.	
69. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
70. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
71. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
72. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
73. On the Ingest Client xterm, send a DAN containing an invalid file size. **>/usr/testa/testdata/<filename>**	S-INS-00340 (k)
74. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log. **>more IngestLocal.log**	Message should read: DAN message received from client.
75. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates unsuccessful validation of DAN.	

76. On the fifth xterm print the IngestLocal.log. Log should indicate invalid file size; Unable to instantiate inDAN object. **>more IngestLocal.log** **>lp IngestLocal.log**	
77. Exit the IngestClient.	
78. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
79. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
80. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
81. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
82. On the Ingest Client xterm, send a DAN containing missing file size field. **>/usr/testa/testdata/<filename>**	S-INS-00340 (k)
83. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log. **>more IngestLocal.log**	Message should read: DAN message received from client.
84. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates unsuccessful validation of DAN.	
85. On the fifth xterm print the IngestLocal.log. Log should indicate invalid File Size; Unable to instantiate inDAN object. **>more IngestLocal.log** **>lp IngestLocal.log**	
86. Exit the IngestClient.	
87. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
88. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/bin** **>./IngestClient**	
89. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup

90. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
91. On the Ingest Client xterm, send a DAN containing missing directory id. **>/usr/testa/testdata/<filename>**	S-INS-00340 (k)
92. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log. **>more IngestLocal.log**	Message should read: DAN message received from client.
93. On the IngestClient xterm, verify receipt of long DAA. Receipt of long DAA indicates unsuccessful validation of DAN.	
94. On the fifth xterm print the IngestLocal.log. Log should indicate Missing File directory; Unable to Instantiate inDAN object. **>more IngestLocal.log** **>lp IngestLocal.log**	
95. Exit the IngestClient.	
96. Verify SessionServer(#) has been deleted from the cdsbrowser. **>click the update button** **>click on tree**	
97. Using the fifth xterm, delete the SessionInfo.txt and DDN files. **>cd /usr/testa/ingest/data** **>rm SessionInfo.txt** **>rm x_xxx_DDNfile**	These files are for warm restart purposes only.
98. Shutdown all Ingest and Client processes in each xterm. **>^Z** **>ps -fe |grep In** **>kill -9 <processid>** **>ps -fe |grep Se** **>kill -9 <processid>**	
99. Log out of dce in each xterm where it was running. **>kdestroy**	cleanup
100. Delete all entries in the cdsbrowser. **>highlight entries under /RelA/Ingest** **>delete entries** **>highlight entries under /RelA/Gateway** **>delete entries**	
101. Close the cdsbrowser window.	
102. Exit all xterms and then logoff the Ingest workstation.	

4.1.2 Data Insert Thread (TS002)

This thread demonstrates the capability to insert AVHRR data into the data server. This includes accepting insert requests for data and associated metadata, archiving product data, updating the DBMS with core metadata and returning status.

4.1.2.1 Test Case 1: AVHRR Data Insertion Test (TS002.001)

This test demonstrates the ability to properly insert AVHRR data and associated metadata into the data archive. An insert request is made to place data in temporary storage. The data is archived, and the DBMS is updated with core metadata.

Test Configuration:

Hardware: ingest workstation, client host, (SPRE4SUN),

DSS DBMS Server

Software: IngestServer, SessServer, InReqMgr, and sdsrv

Data: AVHRR

Tools: none

Test Input:

AVHRR data insert requests, and AVHRR data and associated metadata for insertion.

Test Output:

Successful data archive. The data inventory is updated.

Success Criteria:

Each insert request is received and a data request is made for data placement in the archive. All valid data is successfully archived and entered data is entered into the inventory.

Test Procedures:

Test Case ID: TS002.001	
Test Name: AVHRR Data Insertion Test	
Test Steps:	Comments:
1. Login to the Ingest Server workstation. **><username>** **><password>**	For in house testing the Ingest Server will act as the Ingest Server for all DAACs.
2. Open seven xterms.	
3. On the first xterm, bring up the cdsbrowser. **>telnet csse3hp** **><username>** **><password>** **>setenv DISPLAY <hostname>:0.0** **>cdsbrowser &**	This xterm may be closed after the browser is brought up.

4. Login to the cdsbrowser window using the **DCE Login. . .** option from the **Security** pull down menu. **><dce_username>** **><dce_password>**	
5. On the second xterm, invoke the Request Manager executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <dce_username>** **><dce_password>** **>cd /usr/testa/ingest/bin** **>./InReqMgr**	Request Manager should register itself in the cdsbrowser as: /RelA/Ingest/RequestManager
6. On the third xterm, invoke the Ingest Server executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <dce_username>** **><dce_password>** **>cd /usr/testa/ingest/bin** **>./IngestServer**	Ingest Server should register itself in the cdsbrowser as: /RelA/Ingest/IngestGroup /RelA/Ingest/IngestServer /RelA/Ingest/cell-profile
7. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <dce_username>** **><dce_password>** **>cd /usr/testa/ingest/bin** **>./IngestClient**	
8. On the fifth xterm, login to the Data Server workstation and start the Data Server process. **>telnet spre4sun** **><username>** **><password>** **>cd /data2/DSS/bin/sun5** **>source dssrc.rela** **>source ph1_dbrc.csh** **>./sdsrv &**	
9. On the sixth xterm, login to the Data Server workstation to access Sybase. **>telnet spre4sun** **><username>** **><password>**	
10. On the sixth xterm, get the id of last granule inserted. **>cd /vendor/sybase** **>source sybsetup.csh** **>isql -U phase1_role** **>password** **>select * from DsMdIdentifier** **>go**	Note the granule id.
11. On the fifth xterm, clear out all files in the archive. **>cd /data2/DSS/store/archive** **>rm ***	

12. On the Ingest Client xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
13. Using the seventh xterm, verify successful session creation by viewing the IngestLocal.log. **>cd /usr/local/hislog** **>more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
14. On the Ingest Client xterm, send a valid DAN. **>/usr/testa/testdata/<filename>**	
15. Using the seventh xterm, verify successful DAN receipt by viewing the IngestLocal.log **>cd /usr/local/hislog** **>more IngestLocal.log**	Message should read: DAN message received from client
16. On the IngestClient xterm verify receipt of DAA. Receipt of short DAA indicates successful validation of DAN.	
17. Verify insertion of data has been initiated and successful by viewing the InRequestManager xterm.	S-INS-00409 Partial Phase 1 - SDSRV for data type AVHRR
18. On the IngestClient xterm verify receipt of DDN. DDN message indicates the data was transferred successfully.	
19. On the Ingest Client xterm, send a DDA. **><DAN sequence number>**	This should end the client session.
20. Using the cdsbrowser, verify SessionServer(#) entry no longer exists. You must first select the **Update** option from the **Tree** pull-down menu.	
21. On the seventh xterm, print the IngestLocal.log **>cd /usr/local/hislog** **>lp -d<printer> IngestLocal.log**	
22. On the sixth xterm, enter the following to get the id of the last granule that has been inserted into the database: **> select * from DsMdIdentifier** **>go**	Note the granule id. This granule id should be different than the one that was noted previously.
23. On the sixth xterm, enter the following, where xxxx is the granule id obtained in the previous step: **>select * from DsMdGranules where dbID=xxxx** **>go**	Results should contain information pertaining to the inserted data. S-DSS-00080 Partial Phase 1 - for insert of AVHRR data type S-DSS-00020 Partial Phase 1 - for insert service S-DSS-00023 Partial Phase 1 - for insert service S-DSS-00150 Partial Phase 1 - for insert of AVHRR data type

24. On the fifth xterm, verify that the inserted data is in the archive and then delete it. **>cd /data2/DSS/store/archive** **>ls -al** **>rm ***	Data granule found. S-DSS-00020 S-DSS-00023 S-DSS-00080
25. On the sixth xterm, enter the following, where xxxx is the granule id of the inserted data, to clean up the inserted data from the database. **> delete DsMdGranules where dbID=xxxx** **>go** **>select * from DsMdGranules where dbID=xxxx** **>go**	Result of select query should be null.
26. Exit the sixth xterm. **>quit** **>exit** **>exit**	
27. On the fifth xterm, shut down the Data Server process. **>ps -fe |grep sdsrv** **>kill -9 <process id>**	
28. Shut down the fifth xterm. **>exit** **>exit**	
29. Shutdown the Ingest Client and then exit the xterm. **>kdestroy** **>exit** **>exit**	
30. On the seventh xterm, delete the IngestLocal.log **>cd /usr/local/hislog** **>rm IngestLocal.log**	
31. On the seventh xterm, delete the SessionInfo.txt and DDN files, and exit the xterm. **>cd /usr/testa/ingest/data** **>rm SessionInfo.txt** **>rm x_xxx_DDNfile** **>exit**	These files are for warm restart purposes only.
32. On the third xterm, shutdown the Ingest Server and then exit the xterm. **>^Z** **>ps -fe |grep IngestServer** **>kill -9 <process id>** **>kdestroy** **>exit** **>exit**	
33. On the second xterm, shutdown the Request Manager and then exit the xterm. **>^Z** **>ps -fe |grep InReqMgr** **>kill -9 <process id>** **>kdestroy** **>exit** **>exit**	

34. Delete all entries in the cdsbrowser from the /RelA/Gateway and /RelA/Ingest directories using the **Delete Entry** option from the **Actions** pull-down menu. You must highlight the entries before deleting them.	
35. Close the cdsbrowser window using the **Exit** option from the **File** pull-down menu.	
36. Logoff the ingest workstation.	

4.1.3 Ingest & Archive 1 Build (BS001)

Testing is performed to verify data insertion capabilities. This includes insertion request generation and insertion request submission to the data server. This build consist of the following test cases;

BS001.001 - Archiving TRMM CERES Data Test.

BS001.002 - Archiving TRMM LIS Data Test

4.1.3.1 Test Case 1 : Archiving TRMM CERES Data (BS001.001)

This test case is executed to verify the capability for ingest software to interface with the data server for successful insertion of data and metadata into the archive. Ingest software generates an insert request. The insert is accepted by the data server. The data and associated metadata is archived, the DBMS is updated with core metadata and status is returned. Logs are updated to reflect the insert.

Test Configuration:

Hardware: Ingest workstation, client host, (SPRE4SUN),

DSS DBMS Server

Software: IngestServer, SessServer, and InReqMgr, sdsrv

Data: CERES L0

Tools: None

Test Input:

TRMM data insert requests, and TRMM data and associated metadata for insertion.

Test Output:

Successful data archive. The data inventory is updated.

Success Criteria:

Each insert request is received and a data request is made for data placement in the archive. All valid data is successfully archived and entered data is entered into the inventory.

Test Procedures:

Test Case ID: BS001.001	
Test Name: Archiving TRMM CERES Data Test	
Test Steps:	Comments:
1. Logon to the Ingest Server workstation. **> <username>** **> <password>**	For in house testing the Ingest Server will act as the Ingest Server for all DAACs.
2. Open six xterms.	
3. On the first xterm, bring up the cdsbrowser. **>telnet csse3hp** **> <username>** **> <password>** **> setenv DISPLAY <terminalname>:0.0** **>cdsbrowser &**	This xterm may be closed after the browser is brought up.
4. Login to the cdsbrowser window **> <username>** **> <password>**	
5. On the second xterm, invoke the Request Manager executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./InReqMgr**	Request Manager should register itself in the cdsbrowser as: /RelA/Ingest/RequestManager
6. On the third xterm, invoke the Ingest Server executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./IngestServer**	Ingest Server should register itself in the cdsbrowser as: /RelA/Ingest/IngestGroup /RelA/Ingest/IngestServer
7. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./IngestClient**	
8. Using the fifth xterm, open a window for viewing the IngestLocal.log. **> cd /usr/local/hislog** **> more IngestLocal.log**	

9. Start the Data Server process(es). Open a sixth xterm window . **>cd /data2/DSS/bin/sun5** **>source dssrc.rela** **>source ph1_dbrc.csh** **>./sdsrv**	**xhost + (just for spre4sun)** **unsetenv LANG**
10. Open a Sybase window and enter the following where xxxxx is replaced with the granule ID **>cd /vendor/sybase** **>source sybsetup.csh** **>isql -U phase1_role** **>password** **>select * from DsMdGranules where dbID = xxxxx** **>go**	The result should be NULL
11. Clear out all files in the archive. **>cd /data2/DSS/data/archive** **>rm ***	
12. On the fourth xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
13. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **> cd /usr/local/hislog** **> more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)
14. On the fourth xterm, send a valid DAN. **>/usr/testa/testdata/<filename>**	
15. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log **>cd /usr/local/hislog** **>more IngestLocal.log**	Message should read: DAN message received from client
16. On the IngestClient xterm, verify receipt of DAA. Receipt of short DAA indicates successful validation of DAN.	
17. On the IngestClient xterm, verify receipt of DDN. DDN message indicates the data was transferred successfully.	
18. On the IngestClient xterm, send a DDA.	This should end the client session.
19. Using the cdsbrowser, verify SessionServer(#) entry no longer exists. **>click the update button** **>click on tree**	clean up
20. On the fifth xterm, print the IngestLocal.log	

21. In SYBASE window enter the following where xxxxx is replaced with the granule ID: **>select * from DsMdGranules where dbID=xxxx**.	The result should show 1 record.
22. In Data Server xterm window verify that the inserted filename is in the archive: **>ls /data2/DSS/bin/archive**	Data granule found.
23. Clean archive and SYBASE Shut down Ingest Server Processes **>kdestroy** Shut down Data Server	clean up
24. On the fifth xterm, delete the IngestLocal.log **>rm IngestLocal.log**	clean up
25. Using the fifth xterm, delete the SessionInfo.txt file. **>cd /usr/testa/ingest/data** **>rm SessionInfo.txt**	This file is for warm restart purposes only.
26. Delete all entries in the cdsbrowser. **>highlight entries under /RelA/Ingest** **>delete entries** **>highlight entries under /RelA/Gateway** **>delete entries**	clean up
27. Close the cdsbrowser window.	clean up
28. Shutdown all Ingest and Client processes in each xterm. **>^C** **>ps -fe |grep In** **>kill -9 <processid>** **>ps -fe |grep Se** **>kill -9 <processid>**	clean up
29. Log out of dce in each xterm where it was running. **>kdestroy**	clean up
30. Logoff all xterms and then logoff the Ingest Server workstation.	clean up

4.1.3.2 Test Case 2 : Archiving TRMM LIS Data (BS001.002)

This test case is executed to verify the capability for ingest software to interface with the data server for successful insertion of data and metadata into the archive. Ingest software generates an insert request. The insert is accepted by the data server. The insert is accepted by the data server. The data and associated metadata is archived, the DBMS is updated with core metadata and status is returned. Logs are updated to reflect the insert.

Test Configuration:

Hardware: ingest workstation, client host, (SPRE4SUN),

DSS DBMS Server

Software: IngestServer, SessServer, and InReqMgr, sdsrv

Data: LIS L0

Tools: none

Test Input:

TRMM data insert requests, and TRMM data and associated metadata for insertion.

Test Output:

Successful data archive. The data inventory is updated.

Success Criteria:

Each insert request is received and a data request is made for data placement in the archive. All valid data is successfully archived and entered data is entered into the inventory.

Test Procedures:

Test Case ID: BS001.002	
Test Name: Archiving TRMM LIS Data	
	Comments:
1. Logon to the Ingest Server workstation. **> <username>** **> <password>**	For in house testing the Ingest Server will act as the Ingest Server for all DAACs.
2. Open six xterms.	
3. On the first xterm, bring up the cdsbrowser. **>telnet csse3hp** **> <username>** **> <password>** **> setenv DISPLAY <terminalname>:0.0** **>cdsbrowser &**	This xterm may be closed after the browser is brought up.
4. Login to the cdsbrowser window **> <username>** **> <password>**	
5. On the second xterm, invoke the Request Manager executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./InReqMgr**	Request Manager should register itself in the cdsbrowser as: /RelA/Ingest/RequestManager

6. On the third xterm, invoke the Ingest Server executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./IngestServer**	Ingest Server should register itself in the cdsbrowser as: /RelA/Ingest/IngestGroup /RelA/Ingest/IngestServer
7. On the fourth xterm, invoke the Ingest Client executable. **>cd /usr/testa/ingest/data** **>source envsetup** **>dce_login <username> <password>** **>cd /usr/testa/ingest/bin** **>./IngestClient**	
8. Using the fifth xterm, open a window for viewing the IngestLocal.log. **> cd /usr/local/hislog** **> more IngestLocal.log**	
9. Start the Data Server process(es). Open a sixth xterm window . **>cd /data2/DSS/bin/sun5** **>source dssrc.rela** **>source ph1_dbrc.csh** **>./sdsrv**	**xhost + (just for spre4sun)** **unsetenv LANG**
10. Open a Sybase window and enter the following where xxxxx is replaced with the granule ID **>cd /vendor/sybase** **>source sybsetup.csh** **>isql -U phase1_role** **>password** **>select * from DsMdGranules where dbID = xxxxx** **>go**	The result should be NULL
11. Clear out all files in the archive. **>cd /data2/DSS/data/archive** **>rm /data2/DSS/data/archive ***	
12. On the fourth xterm, create a session.	Ingest Client should register itself in the cdsbrowser as: /RelA/Gateway/GWServer /RelA/Gateway/GWGroup
13. Using the fifth xterm, verify successful session creation by viewing the IngestLocal.log. **> cd /usr/local/hislog** **> more IngestLocal.log**	Look for the following messages in the log: CreateSess RPC rcvd from client AddSession -- Save record success SessionServer should register itself in the cdsbrowser as: /RelA/Ingest/SessionServer(#)

14. On the fourth xterm, send a valid DAN. **>/usr/testa/testdata/<filename>**	
15. Using the fifth xterm, verify successful DAN receipt by viewing the IngestLocal.log **>cd /usr/local/hislog** **>more IngestLocal.log**	Message should read: DAN message received from client
16. On the IngestClient xterm, verify receipt of DAA. Receipt of short DAA indicates successful validation of DAN.	
17. On the IngestClient xterm, verify receipt of DDN. DDN message indicates the data was transferred successfully.	
18. On the IngestClient xterm, send a DDA.	This should end the client session.
19. Using the cdsbrowser, verify SessionServer(#) entry no longer exists. **>click the update button** **>click on tree**	clean up
20. On the fifth xterm, print the IngestLocal.log	
21. In SYBASE window enter the following where xxxxx is replaced with the granule ID: **>select * from DsMdGranules where dbID=xxxx**.	The result should show 1 record.
22. In Data Server xterm window verify that the inserted filename is in the archive: **>ls /data2/DSS/bin/archive**	Data granule found.
23. Clean archive and SYBASE Shut down Ingest Server Processes **>kdestroy** Shut down Data Server	clean up
24. On the fifth xterm, delete the IngestLocal.log **>rm IngestLocal.log**	clean up
25. Using the fifth xterm, delete the SessionInfo.txt file. **>cd /usr/testa/ingest/data** **>rm SessionInfo.txt**	This file is for warm restart purposes only.
26. Delete all entries in the cdsbrowser. **>highlight entries under /RelA/Ingest** **>delete entries** **>highlight entries under /RelA/Gateway** **>delete entries**	clean up
27. Close the cdsbrowser window.	clean up

28. Shutdown all Ingest and Client processes in each xterm. **>^C** **>ps -fe |grep In** **>kill -9 <processid>** **>ps -fe |grep Se** **>kill -9 <processid>**	clean up
29. Log out of dce in each xterm where it was running. **>kdestroy**	clean up
30. Logoff all xterms and then logoff the Ingest Server workstation.	clean up

4.2 User Search Services 1

The following subsections include the threads and builds identified to support testing of initial search services. User search services 1 testing includes the following threads and builds:

- Inventory Search 1 (temporal) Thread
- Directory Search Thread
- Browse Request Thread
- Desktop Thread
- Advertising User Access Thread
- User Search Services 1 Build

4.2.1 Inventory Search 1 (temporal) Thread (TS003)

The Inventory Search thread verifies the capability to perform queries of metadata describing granules or aggregations of granules. The Inventory Search provides a uniform set of descriptions of granules from one or more data sets with information required to select and obtain a subset of those granules. The Inventory shall individually describe each granule of EOSDIS data.

4.2.1.1 Test Case 1: Simple Inventory Search Test (TS003.001)

This test demonstrates the ability of the ECS to allow users to perform simple inventory searches. Search criteria will be developed based on user scenarios and will be designed to access the ECS Data Server. Several searches will be performed and will be based on the data available in the data server. Search request will be specific, accessing granules in one data set at a time. All search requests are to be logged.

Test Configuration:

Hardware: CLHW, DMGHW

Software:≠ DmGwDataValue, DmGwDateTime, DmGwErrorResult, DmGwInvESDTReference, DmGwInvQuery, DmGwInvRequests, DmGwInvSearchRequest, DmGwODLAggregate, DmGwODLNonAggregate, DmGwODLParameter, DmGwODLTree, DmGwQuit, DmGwRSTAggregate, DmGwRSTNonAggregate, DmGwDirectoryResult, Query, StringVec, DM`mGwSpatial, DmGwTemporal, DmGwUserInfo, DmGwV0ECSMapper, DmGwVoRequest, RequestDispatcher, main, DmGwDirectoryQuery, V0 Valids Update Process, Data Management DBMS (Sybase), SDSRV Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, V0 Client, Gateway Server.

Data:≠ Data Sever Inventory Database populated with representative V0 and TRMM inventory Data

Tools: The V0 Client will be used to submit the queries in ODL format.

Test Input:

Search scenarios based on available data. Input will include Source/Platform, Sensor, Geophysical Parameters, Processing Level, Dataset Name, Data Center ID, and Temporal Intervals.

Test Output:

A description of granules in the ECS inventory that satisfy the search criteria. Inventory results include: data set name, platform, sensor, geographical coverage, time range and availability of coverage map and browse. Search requests will also be logged.

Success Criteria:

This test is considered successful if each inventory search returns the granule descriptions of the granules that meet the search criteria. All service requests must be logged as well as the termination or successful completion of service requests.

Test Procedures:

Test Case ID: TS003.001	
Test Name: Simple Inventory Search Test	
Test Steps:	Comments:
Log on to an ECS client workstation	
1. Start the V0 Client by entering "xgaea" on the command line.	The client executable (xgaea) is in the /usr/testa/bin directory on the client workstation.
2. Verify the V0 Welcome window is displayed on the screen.	The title of this window is "Welcome".
3. Find the "Search Screen" button on the bottom of the Welcome screen and select it.	

4. Verify the V0 Search Screen is displayed on the screen.	The title of this window is "Search Screen".
5. Find "Search Type" at the top of the Search Screen and select "Inventory" as the search type.	Inventory is the default search type when the client is started.
6. Verify the radio button next to "Inventory" is highlighted.	
7. Enter the search criteria in the designated fields on the search screen: Sensor: AVHRR; Data Center ID: "ECS"; Geographic Area: "Global Search"	
8. Select "Save Search" to save the search criteria.	
9. Verify a "Save Search" window appears on the screen.	
10. Save the search to a file called "INV1".	Note, the file is saved to the User's home directory in a sub directory called "gaea_data".
11. Verify the file "INV1" is saved by opening an xterm window and typing "ls -tl $HOME/gaea_data" on the UNIX command line.	The full file name is INV1.src.
12. Return to the Search Screen and select "Execute Search" at the bottom of the screen.	
13. Verify the "Communication Status" window is displayed on the screen. Verify the search is executing by observing the status on the "Communication Status" window.	The status of the search is shown on the Communication Status window. The time required to perform the search varies based on the availability of the DAAC computers and network activity. If no change in status is observed in this window then the search may be hung. If the search appears to be hung cancel the search in the Communication Status window, return to the Search Screen and try executing the search again.
14. While the search is executing open an xterm window and type the following on the UNIX command line: "cd $HOME/gaea_tmp".	This directory is created by the V0 Client and is used to store system files.
15. Verify a file appears in this directory which has a filename extension of "ODL".	Example, M822680342.odl
16. Using a UNIX utility such as "vi" or "page" display the contents of the ODL file.	Example, "page *.ODL"
17. Verify the contents of the ODL file is the search criteria in ODL format.	For more information on the ODL format see the V0 IMS User's Manual. S-DMS-30360
18. Close the xterm window and return to the "Communication Status" window.	
19. Verify the search is completed. The search is completed when the "Data" button is selectable for a particular DAAC. Also, note the Granule Count found on the "Communication Status" window.	The "Data" button is found on the right side of the "Communication Status" window.
20. Select the "Data" button for ECS data.	
21. Verify the "Inventory Results Screen" appears on the screen.	
22. Verify the number of granules listed is equal to the number of granules reported in the Communication Status window.	Note that the total number of granules may be split across more than one data set. The tester must add the granules for each data set to get the total number of granules reported in the Communication Status window.

23. Set the "Detail" flag to "y" for the first granule.	The "Detail" flag is toggled from "n" to "y" by selecting it with the mouse.
24. Select the first granule.	The granule is selected when the line containing the granule information is highlighted.
25. Select "Detailed Information" "for granules" from the "Go To" pull down menu.	The "Go To" pull down menu is located at the top left of the "Inventory Results Screen".
26. Verify the "Detailed Inventory Results Screen" appears on the screen. Verify the detailed information for the selected granule is displayed. Verify the search results match the search criteria.	
27. Close the "Detailed Inventory Results Screen" and return to the "Inventory Results Screen".	Select "Close" at the bottom of the "Detailed Inventory Results Screen" to close this window.
28. Close the "Inventory Results Screen" and the "Communications Status" windows. Return to the "Search Screen".	
29. Select "Clear Form" from the "Screen Functions" pull down menu to clear all of the fields on the "Search Screen".	The "Screen Functions" pull down menu is located at the top left of the "Search Screen".
30. Select "Retrieve Search" at the bottom of the Search Screen.	
31. Retrieve the previously saved search criteria.	The previously saved search criteria was saved to a file called "INV1".
32. Execute the search and retrieve the Inventory Results for the ECS DAAC.	See steps 13 through 17 for more information.
33. Verify the results in the Inventory Results screen are the same as those previously found.	
34. Close the "Inventory Results Screen" and the "Communication Status" window.	
35. Exit the V0 Client by selecting "Exit IMS" at the bottom of the "Welcome" screen.	

4.2.1.2 Test Case 2: Complex Inventory Search Test (TS003.002)

This test demonstrates the ability of ECS to allow users to perform complex inventory searches. Complex searches consist of a minimum of 5 search selection criteria. The search criteria will be designed to search across multiple data sets and will include ECS and non-ECS data sets. The search will be executed and the data returned will be compared with the expected results. All search requests are to be logged.

Test Configuration:

Hardware: CLHW, DMGHW

Software:≠ DmGwDataValue, DmGwDateTime, DmGwErrorResult, DmGwInvESDTReference, DmGwInvQuery, DmGwInvRequests, DmGwInvSearchRequest, DmGwODLAggregate, DmGwODLNonAggregate, DmGwODLParameter, DmGwODLTree, DmGwQuit, DmGwRSTAggregate, DmGwRSTNonAggregate, DmGwDirectoryResult, Query, StringVec, DM`mGwSpatial, DmGwTemporal, DmGwUserInfo, DmGwV0ECSMapper, DmGwVoRequest, RequestDispatcher, main, DmGwDirectoryQuery, V0 Valids Update Process, Data Management DBMS (Sybase), SDSRV Interface, Earth

Science Object Class Libraries, Basic Structured Class Libraries, V0 Client, Gateway Server.

Data:≠ Data Sever Inventory Database populated with representative V0 and TRMM inventory Data

Tools: The V0 Client will be used to submit the queries in ODL format.

Test Input:

Search scenarios based on available data. Input will include Source/Platform, Sensor, Geophysical Parameters, Processing Level, Dataset Name, Data Center ID, Temporal Intervals.

Test Output:

A description of granules in the ECS inventory that satisfy the search criteria. Inventory results include: data set name, platform, sensor, geographical coverage, time range and availability of coverage map and browse. Search requests will also be logged.

Success Criteria:

This test is considered successful if each inventory search returns the granule descriptions of the granules that meet the search criteria. All service requests must be logged as well as the termination or successful completion of service requests.

Test Procedures:

Test Case ID: TS003.002	
Test Name: Complex Inventory Search Test	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Start the V0 Client by entering "xgaea" on the command line.	The client executable (xgaea) is in the /usr/testa/bin directory on the client workstation.
3. Verify the V0 Welcome window is displayed on the screen.	The title of this window is "Welcome".
4. Find the "Search Screen" button on the bottom of the Welcome screen and select it.	
5. Verify the V0 Search Screen is displayed on the screen.	The title of this window is "Search Screen".
6. Find "Search Type" at the top of the Search Screen and select "Inventory" as the search type.	Inventory is the default search type when the client is started.
7. Verify the radio button next to "Inventory" is highlighted.	

8. Enter the following search criteria in the designated fields on the search screen: Campaign/Project: "NOAA/NASA PATHFINDER"; Source/Platform: NOAA-11; Sensor: AVHRR; Parameters: "RADIANCE"; Processing Level: "3"; Dataset ID: "AVHRR PATHFINDER LAND DAILY MOSAICS"; Data Center ID: "ECS"; Day/Night: Day; Geographic Area: "Global"; Start Date/Time: 1992-04-10; End Date/Time: 1992-04-11	
9. Select "Save Search" to save the search criteria.	
10. Verify a "Save Search" window appears on the screen.	
11. Save the search to a file called "INV2".	Note, the file is saved to the User's home directory in a sub directory called "gaea_data".
12. Select "Execute Search" at the bottom of the Search screen.	
13. Verify the "Communication Status" window is displayed on the screen. Verify the search is executing by observing the status on the "Communication Status" window.	The status of the search is shown on the Communication Status window. The time required to perform the search varies based on the availability of the DAAC computers and network activity. If no change in status is observed in this window then the search may be hung. If the search appears to be hung cancel the search in the Communication Status window, return to the Search Screen and try executing the search again.
14. Verify the search is completed. The search is completed when the "Data" button is selectable for a particular DAAC. Also, note the Granule Count found on the right of the Communication Status window.	The "Data" button is on the right side of the Communication Status window.
15. Select the "Data" button for GSFC data.	
16. Verify the "Inventory Results Screen" appears on the screen.	
17. Verify the number of granules listed is equal to the number of granules reported in the Communication Status window.	
18. Set the "Detail" flag to "y" for the first granule.	
19. Select the first granule.	The granule is selected when the line containing the granule information is highlighted.
20. Select "Detailed Information" "for granules" from the "Go To" pull down menu.	The "Go To" pull down menu is located at the top left of the "Inventory Results Screen".
21. Verify the "Detailed Inventory Results Screen" appears on the screen. Verify the detailed information for the selected granule is displayed.	
22. Close the "Detailed Inventory Results Screen" and return to the "Inventory Results Screen".	Select "Close" at the bottom of the "Detailed Inventory Results Screen" to close this window.
23. Close the "Inventory Results Screen" and the "Communications Status" windows. Return to the "Search Screen".	

24. Select "Clear Form" from the "Screen Functions" pull down menu to clear all of the fields on the "Search Screen".	The "Screen Functions" pull down menu is located at the top left of the "Search Screen".
25. Select "Retrieve Search" at the bottom of the Search Screen.	
26. Retrieve the previously saved search criteria.	The previously saved search criteria was saved to a file called "INV2".
27. Modify the displayed search criteria by clearing the following fields: Campaign/Project, Parameters, Processing Level, Dataset ID, and Data Center ID.	To clear the field select the field and then select "Clear Field" at the bottom of the Search Screen.
28. Save this search criteria as "INV3".	
29. Execute the search.	See steps 13 through 17 for more information.
30. Verify the "Communication Status" screen shows all of the DAACs are being accessed.	
31. Select the "Data" button on the "Communication Status" window for the GSFC DAAC.	
32. Verify the "Inventory Results Screen" appears on the screen with a list of granules available at the GSFC DAAC.	The data sets at the GSFC DAAC are V0 data sets.
33. Close the "Inventory Results Screen" and select the "Data" button for the ECS DAAC.	
34. Verify the "Inventory Results Screen" appears on the screen with a list of granules available at the ECS DAAC.	S-DMS-30540, S-DMS-30360
35. Verify the retrieved granules meet the search criteria.	
36. Close the "Inventory Results Screen" and the "Communication Status" window.	
37. Select "Clear Form" from the "Screen Functions" pull down menu to clear all of the fields on the "Search Screen".	
38. Enter the following search criteria in the appropriate search screen fields. Sensor: "AVHRR"; Data Center ID: "ECS"; Geographic Area: "Global Search".	This purpose of this search is to use a minimum search criteria to retrieve the maximum number of data sets (and granules) from the data server. The number of datasets (and granules) retrieved will be compared with the data available in the data server data base.
39. Verify the "Communications Status" window appears on the screen. Verify the "Communication Status" screen shows a status of "Completed Successfully" when the search is completed. Verify the "Data" push button on the "ECS" status line is highlighted when the search is completed. Note the "Granule Count" for the "ECS" search.	
40. Select the "Data" button on the "ECS" status line.	
41. Verify the "Inventory Results Screen" is displayed on the screen. Verify the total number of granules for each of the "AVHRR" data sets is equal to the "Granule Count" found on the "Communications Status" window.	

42. Retrieve the detailed information for each of the granules returned.	At the time this test plan was written the total number of granules was expected to be small. If the total number of granules becomes significantly large a sample of the data sets may be used.
43. Verify detailed information is provided for each of the selected granules.	
44. Exit the V0 Client by closing all of the Client window and selecting "Exit IMS" at the bottom of the "Welcome" screen.	

4.2.1.3 Test Case 3: Multiple Inventory Search Test (TS003.003)

This test demonstrates the ability of the Gateway software to handle multiple inventory searches. Multiple instances of the V0 Client will be used to generate the multiple search requests. This test will also verify that the Gateway logs the termination or successful completion of all service request.

Test Configuration:

Hardware: CLHW, DMGHW

Software:≠ DmGwDataValue, DmGwDateTime, DmGwErrorResult, DmGwInvESDTReference, DmGwInvQuery, DmGwInvRequests, DmGwInvSearchRequest, DmGwODLAggregate, DmGwODLNonAggregate, DmGwODLParameter, DmGwODLTree, DmGwQuit, DmGwRSTAggregate, DmGwRSTNonAggregate, DmGwDirectoryResult, Query, StringVec, DM`mGwSpatial, DmGwTemporal, DmGwUserInfo, DmGwV0ECSMapper, DmGwVoRequest, RequestDispatcher, main, DmGwDirectoryQuery, V0 Valids Update Process, Data Management DBMS (Sybase), SDSRV Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, V0 Client, Gateway Server.

Data:≠ Data Sever Inventory Database populated with representative V0 and TRMM inventory Data

Tools: The V0 Client will be used to submit the queries in ODL format.

Test Input:

Search scenarios based on available data. Input will include Source/Platform, Sensor, Geophysical Parameters, Processing Level, Dataset Name, Data Center ID, Temporal Intervals.

Test Output:

A description of granules in the ECS inventory that satisfy the search criteria. Inventory results include: data set name, platform, sensor, geographical coverage, time range and availability of coverage map and browse. Search requests will also be logged.

Success Criteria:

This test is considered successful if each inventory search returns the granule descriptions of the granules that meet the search criteria. The Gateway must service all request or display an error message when it can not process the request. All service requests must be logged as well as the termination or successful completion of each service requests.

Test Procedures:

Test Case ID: TS003.003	
Test Name: Multiple Inventory Search Test	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Open an xterm window and start the V0 Client by entering "xgaea" on the command line.	The client executable (xgaea) is in the /usr/testa/bin directory on the client workstation.
3. Verify the V0 Welcome window is displayed on the screen.	The title of this window is "Welcome".
4. Find the "Search Screen" button on the bottom of the Welcome screen and select it.	
5. Verify the V0 Search Screen is displayed on the screen.	The title of this window is "Search Screen".
6. Log on to 2 additional client workstations, using a different user login ID for each client.	It's important to execute each V0 Client using different user login IDs. The V0 Client creates a directory called "gaea_tmp" in the user's home directory, and creates 3 system files. If separate login IDs are not used the system files will be over written by the additional V0 Clients.
7. Start the V0 Client on the additional workstations.	
8. Select the "Search Screen" button to display the Search Screen.	
9. Verify a V0 search screen is displayed on the 3 workstations.	
10. Enter the search criteria in the first Search Screen: Search Type: Inventory	The search criteria will be selected at the time of testing.
11. Enter the search criteria in the second Search Screen: Search Type: Inventory	
12. Enter the search criteria in the third Search Screen: Search Type: Inventory	
13. Simultaneously execute the search on each of the workstations by selecting the "Execute Search" button at the bottom of the Search Screen.	

14. Verify the "Communication Status" window is displayed on the three workstations. Verify the search is executing by observing the status on the "Communication Status" windows.	The status of the search is shown on the Communication Status window. The time required to perform the search varies based on the availability of the DAAC computers and network activity. If no change in status is observed in this window then the search may be hung. If the search appears to be hung cancel the searches in the Communication Status window, return to the Search Screen and try executing the searches again.
15. When the searches are completed note the number of granules reported on the "Communication Status" windows.	The search is completed when the "Data" button is selectable for a particular DAAC. The "Data" button is on the right side of the Communication Status window.
16. Select the "Data" button on each screen for ECS data.	
17. Verify the "Inventory Results Screen" appears on the workstation screens.	
18. Verify the inventory search results match the search criteria selected.	
19. Verify the number of granules listed is equal to the number of granules reported in the Communication Status windows.	
20. Display the gateway log.	The log is an ASCII file. Use a UNIX utility such as "vi" or "page" to view the contents of the log.
21. Verify the log contains the preceding service requests. Verify the log contains the termination of the requests or the successful completion of the service requests.	S-DMS-31010, S-DMS-31040

4.2.2 Directory Search Thread (TS004)

The Directory Search thread demonstrates the ability to provide access to directory information. The directory information consists of a collection of uniform descriptions that summarize the contents of a large number of data sets. The Directory Search uses the Global Change Master Directory (GCMD) as the source of its data. Directory searches are initiated and the results are displayed using a graphical interface.

4.2.2.1 Test Case 1: Directory Search Test (TS004.001)

This test demonstrates the ability of the gateway to convert ODL (Object Description Language) messages to OODCE (Object Oriented Distributed Computing Environment) when executing a Directory Search. Directory information consist of summary information on available data sets such as data set attributes, platforms, temporal coverage, and geographic coverage. Several searches will be performed and will be based on the data available in the data server.

Test Configuration:

Hardware: CLHW, DMGHW

Software: ≠ DmGwDirectoryQuery, DmGwDirectoryResult, DmGwQuery, StringVec, DmGwDataValue, DmGwDataTime, DmGwDirectoryRequest, DmGwErrorResult, DmGwODLAggregate, DmGwODLNonAggregate, DmGwODLParameter, DmGwODLTree, DmGwQuit, DmGwRSTAggregate, DmGwRSTNonAggregate, DmGwSpatial, DmGwTemporal, DmGwUserInfo, DmGwV0ECSMapper, DmGwV0Request

Data: Global Change Master Directory (GCMD)

Tools: The V0 Client will be used to submit the queries in ODL format.

Test Input:

Search scenarios based on available data. Input will include Source/Platform, Sensor, Geophysical Parameters, Processing Level, Dataset Name, Data Center ID, and Temporal Intervals.

Test Output:

Summary information on data sets from the GCMD.

Success Criteria:

This test is considered successful if the Gateway successfully converts the ODL search criteria to OODCE and successfully accesses the GCMD. Summary information on ECS data sets that meet the search criteria are to be displayed.

Test Procedures:

Test Case ID: TS004.001	
Test Name: Directory Search Test	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Open an xterm window and start the V0 Client by entering "xgaea" on the command line.	The client executable (xgaea) is in the /usr/testa/bin directory on the client workstation.
3. Verify the V0 Welcome window is displayed on the screen.	The title of this window is "Welcome".
4. Find the "Search Screen" button on the bottom of the Welcome screen and select it.	
5. Verify the V0 Search Screen is displayed on the screen.	The title of this window is "Search Screen".
6. Enter the following search criteria in the first Search Screen: Search Type: Directory; Sensor: AVHRR; Dataset ID: AVHRR PATHFINDER LAND DAILY MOSAIC; Data Center ID: ECS	
7. Execute the search by selecting the "Execute Search" button at the bottom of the Search Screen.	

8. Verify the "Communication Status" window is displayed on the workstation. Verify the search is executing by observing the status on the "Communication Status" window.	The status of the search is shown on the Communication Status window. The time required to perform the search varies based on the availability of the DAAC computers and network activity. If no change in status is observed in this window then the search may be hung. If the search appears to be hung cancel the search in the Communication Status window, return to the Search Screen and try executing the search again.
9. When the search is completed note the number of granules reported on the "Communication Status" window.	The search is completed when the "Data" button is selectable for a particular DAAC. The "Data" button is on the right side of the Communication Status window.
10. Select the "Data" button for ECS data.	
11. Verify the "Directory Results Screen" appears on the workstation screen.	
12. Verify the directory search results match the search criteria selected.	
13. Select the "Count" button to the left of the first data set displayed.	
14. Select "Detail Directory" at the bottom of the Directory Results Screen.	
15. Verify a detailed description of the selected data set is displayed on the screen.	(S-DMS-30540)
16. For verification of the detailed information perform the following steps.	
17. Using a web browser, enter the following URL to access the Global Change Master Directory: http://gcmd.gsfc.nasa.gov/query1.html	The GCMD Search and Retrieval web page should be displayed.
18. Select the "Search GCMD Database Fields" hyper link displayed on the GCMD Search and Retrieval web page.	The Data Set Information Query web should be displayed.
19. Enter the following information in the displayed query form: Discipline: Earth Sciences; Subdiscipline: Land; "Sensor: Advanced Very High Resol. Rad."; Campaign: "AVHRR PATHFINDER > AVHRR Land Dataset Pr ..."	
20. Select "Query" at the bottom of the Data Set Information Query web page.	When the query is completed the "Master Directory Query Results" web page should be displayed.
21. On the "Master Directory Query Results" web page, select "NOAA/NASA Pathfinder Advanced Very High Resolution Radiometer (AVHRR) Land Data at EOSDIS DAAC".	
22. Verify the displayed information is the same as that found using the Directory Search.	
23. Close the web browser and exit the V0 Client.	

4.2.2.2 Test Case 2: Directory Search Error Test (TS004.002)

This test demonstrates the ability of the Gateway to respond to error conditions encountered during directory searches. Several searches will be performed and will be based on the data available in the data server. Invalid search requests and "null set" searches will be submitted for

which no products meet the specified criteria. Errors should be displayed indicating the search was not successful. Only temporal searches will be submitted.

Test Configuration:

Hardware: CLHW, DMGHW

Software: ≠ DmGwDirectoryQuery, DmGwDirectoryResult, DmGwQuery, StringVec, DmGwDataValue, DmGwDataTime, DmGwDirectoryRequest, DmGwErrorResult, DmGwODLAggregate, DmGwODLNonAggregate, DmGwODLParameter, DmGwODLTree, DmGwQuit, DmGwRSTAggregate, DmGwRSTNonAggregate, DmGwSpatial, DmGwTemporal, DmGwUserInfo, DmGwV0ECSMapper, DmGwV0Request

Data: Global Change Master Directory (GCMD)

Tools: The V0 Client will be used to submit the queries in ODL format.

Test Input:

Invalid searches are submitted. Searches are submitted for which no products in the directory meet the specified criteria.

Test Output:

Error messages are returned for invalid search requests. The null set is returned for searches submitted for which no products in the Inventory meet the specified criteria.

Success Criteria:

The client must display appropriate error messages for searches that are performed but can not be satisfied. All error messages must be complete, accurate and readable.

Test Procedures:

Test Case ID: TS004.002	
Test Name: Directory Search Error Test	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Open an xterm window and start the V0 Client by entering "xgaea" on the command line.	The client executable (xgaea) is in the /usr/testa/bin directory on the client workstation.
3. Verify the V0 Welcome window is displayed on the screen.	The title of this window is "Welcome".
4. Find the "Search Screen" button on the bottom of the Welcome screen and select it.	
5. Verify the V0 Search Screen is displayed on the screen.	The title of this window is "Search Screen".
6. Enter the following search criteria in the first Search Screen: Search Type: Directory; Campaign/Project: ERBE; Source/Platform: NOAA-11; Sensor: AVHRR; Parameters: VEGETATION; Data Center ID: ECS	

7. Execute the search by selecting the "Execute Search" button at the bottom of the Search Screen.	
8. Verify the "Communication Status" window is displayed on the workstation. Verify the search is executing by observing the status on the "Communication Status" window.	The status of the search is shown on the Communication Status window. The time required to perform the search varies based on the availability of the DAAC computers and network activity. If no change in status is observed in this window then the search may be hung. If the search appears to be hung cancel the search in the Communication Status window, return to the Search Screen and try executing the search again.
9. When the search is completed note the number of granules returned. The number of granules returned should be zero. Also, the "See Comments" button should be selectable.	The search is completed when the "See Comments" button is selectable for a particular DAAC. The "See Comments" button is on the right side of the Communication Status window.
10. Select the "See Comments" button for ECS data.	
11. Verify an error message reports that no data is available for the selected search criteria.	
12. Exit the V0 Client.	

4.2.3 Browse Request Thread (TS005)

The Browse Request Thread demonstrates the ability to provide access to browse information via the V0 Search Tool and the gateway software. An inventory search is first performed to identify the data sets that have associated browse products. Browse requests are then initiated and the results are displayed using a graphical interface.

4.2.3.1 Test Case 1: V0 Browse Image Display (TS005.001)

This test demonstrates the ability of the client to allow users to perform V0 inventory searches and display the corresponding granule browse images. The tester will first execute a V0 inventory search. The search criteria will be designed to access the V0 DAACs. When the search results are returned the tester will select granules which contain browse images. The tester will then display the browse images for the selected granules.

Test Configuration:

Hardware: CLHW, DMGHW

Software:≠ DmGwDataValue, DmGwDateTime, DmGwErrorResult, DmGwInvESDTReference, DmGwInvQuery, DmGwInvRequests, DmGwInvSearchRequest, DmGwODLAggregate, DmGwODLNonAggregate, DmGwODLParameter, DmGwODLTree, DmGwQuit, DmGwRSTAggregate, DmGwRSTNonAggregate, DmGwDirectoryResult, Query, StringVec, DM`mGwSpatial, DmGwTemporal, DmGwUserInfo, DmGwV0ECSMapper, DmGwVoRequest, RequestDispatcher, main, DmGwDirectoryQuery, V0 Valids Update Process, Data Management DBMS (Sybase), DmGwBrowseRequest,

DmGwDataValue, DmGwV0BrowseRequest, SDSRV Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, V0 Client, Gateway Server.

Data: V0 data sets which include browse images.

Tools: The V0 Client will be used to submit the queries in ODL format.

Test Input:

Test inputs include search scenarios based on available browse data.

Test Output:

Test output includes inventory results and associated browse images. Browse images will be displayed using the visualization tool.

Success Criteria:

This test is considered successful if the browse image is displayed on the screen for the selected granules when requested. The client must also provide messages to the users indicating the status of the query.

Test Procedures:

Test Case ID: TS005.001	
Test Name: V0 Browse Image Display	
Test Steps:	Comments:
1. Log on to an ECS client workstation	
2. Start the V0 Client by entering "xgaea" on the command line.	The client executable (xgaea) is in the /usr/testa/bin directory on the client workstation.
3. Verify the V0 Welcome window is displayed on the screen.	The title of this window is "Welcome".
4. Find the "Search Screen" button on the bottom of the Welcome screen and select it.	
5. Verify the V0 Search Screen is displayed on the screen.	The title of this window is "Search Screen".
6. Find "Search Type" at the top of the Search Screen and select "Inventory" as the search type.	Inventory is the default search type when the client is started.
7. Verify the radio button next to "Inventory" is highlighted.	
8. Enter the following search criteria in the designated fields on the search screen: Campaign/Project: NOAA/NASA PATHFINDER; Sensor: AVHRR; Data Center ID: GSFC; Dataset ID: AVHRR PATHFINDER LAND 10 DAY MOSAICS; Geographic Area: Global Search	
9. Return to the Search Screen and select "Execute Search" at the bottom of the screen.	

10. Verify the "Communication Status" window is displayed on the screen. Verify the search is executing by observing the status on the "Communication Status" window.	The status of the search is shown on the Communication Status window. The time required to perform the search varies based on the availability of the DAAC computers and network activity. If no change in status is observed in this window then the search may be hung. If the appears to be hung cancel the search in the Communication Status window, return to the Search Screen and try executing the search again.
11. Verify the search is completed. The search is completed when the "Data" button is selectable for a particular DAAC. Also, note the Granule Count found on the "Communication Status" window.	The "Data" button is found on the right side of the "Communication Status" window.
12. Select the "Data" button for ECS data.	
13. Verify the "Inventory Results Screen" appears on the screen.	
14. Verify the number of granules listed is equal to the number of granules reported in the Communication Status window.	
15. Select one of the granules that has a browse image available.	To verify a granule has a browse image check the column labeled "BA", Browse Available. The "BA" column will contain "IB" or "IB/FB" if the browse image is available.
16. Set the Browse flag to "IB" by clicking on the column labeled "B" for the selected granule.	
17. Verify the "B" column for the selected granule contains the value "IB".	
18. Select "Browse" from the "Go To" pull down menu.	The "Go To" pull down menu is located at the top left of the "Inventory Results Screen"
19. Verify the "Communication Status" window appears on the screen.	
20. When the Communication Status window indicates the search is completed successfully, select the "Image" button found at the right of the Communication Status window.	
21. Verify the "Integrated Browse" window appears on the screen with a browse image.	
22. Close the "Integrated Browse" window	Select "Close" at the bottom of the "Integrated Browse" screen to close this window.
23. Close the "Inventory Results Screen" and the "Communications Status" windows. Return to the "Search Screen".	
24. Exit the V0 Client by selecting "Exit IMS" at the bottom of the "Welcome" screen.	

4.2.3.2 Test Case 2: ECS Browse Image Display (TS005.002)

This test demonstrates the ability of the client to allow users to perform ECS inventory searches and display the associated granule browse images. The tester will execute an ECS inventory search. The search criteria will be developed based on the data available in the ECS Data Server. When the search results are returned the tester will select granules which contain browse images. The tester will then display the browse images for the selected granules.

Test Configuration:

Hardware: CLHW, DMGHW

Software:≠ DmGwDataValue, DmGwDateTime, DmGwErrorResult, DmGwInvESDTReference, DmGwInvQuery, DmGwInvRequests, DmGwInvSearchRequest, DmGwODLAggregate, DmGwODLNonAggregate, DmGwODLParameter, DmGwODLTree, DmGwQuit, DmGwRSTAggregate, DmGwRSTNonAggregate, DmGwDirectoryResult, Query, StringVec, DM`mGwSpatial, DmGwTemporal, DmGwUserInfo, DmGwV0ECSMapper, DmGwVoRequest, RequestDispatcher, main, DmGwDirectoryQuery, V0 Valids Update Process, Data Management DBMS (Sybase), DmGwBrowseRequest, DmGwDataValue, DmGwV0BrowseRequest, SDSRV Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, V0 Client, Gateway Server.

Data:≠ Data Sever Inventory Database populated with representative V0 and TRMM inventory Data and associated browse products.

Tools: The V0 Client will be used to submit the queries in ODL format.

Test Input:

Test input includes search scenarios based on available browse data.

Test Output:

Test output includes inventory results and associated browse images. Browse images will be displayed using the visualization tool.

Success Criteria:

This test is considered successful if the browse image is displayed on the screen for the selected granules when requested. The client must also provide messages to the users indicating the status of the query.

Test Procedures:

Test Case ID: TS005.002	
Test Name: V0 Browse Image Display	
Test Steps:	Comments:
1. Log on to an ECS client workstation	
2. Start the V0 Client by entering "xgaea" on the command line.	The client executable (xgaea) is in the /usr/testa/bin directory on the client workstation.
3. Verify the V0 Welcome window is displayed on the screen.	The title of this window is "Welcome".
4. Find the "Search Screen" button on the bottom of the Welcome screen and select it.	
5. Verify the V0 Search Screen is displayed on the screen.	The title of this window is "Search Screen".

6. Find "Search Type" at the top of the Search Screen and select "Inventory" as the search type.	Inventory is the default search type when the client is started.
7. Verify the radio button next to "Inventory" is highlighted.	
8. Enter the following search criteria in the designated fields on the search screen: Sensor: AVHRR; Data Center ID: ECS; Dataset ID: North America 1 km AVHRR 10 day composite NDVI; Geographic Area: Global Search	
9. Return to the Search Screen and select "Execute Search" at the bottom of the screen.	
10. Verify the "Communication Status" window is displayed on the screen. Verify the search is executing by observing the status on the "Communication Status" window.	The status of the search is shown on the Communication Status window. The time required to perform the search varies based on the availability of the DAAC computers and network activity. If no change in status is observed in this window then the search may be hung. If the appears to be hung cancel the search in the Communication Status window, return to the Search Screen and try executing the search again.
11. Verify the search is completed. The search is completed when the "Data" button is selectable for a particular DAAC. Also, note the Granule Count found on the "Communication Status" window.	The "Data" button is found on the right side of the "Communication Status" window.
12. Select the "Data" button for ECS data.	
13. Verify the "Inventory Results Screen" appears on the screen.	S-DMS-30540
14. Verify the number of granules listed is equal to the number of granules reported in the Communication Status window.	
15. Select one of the granules that has a browse image available.	To verify a granule has a browse image check the column labeled "BA", Browse Available. The "BA" column will contain "IB" or "IB/FB" if the browse image is available.
16. Set the Browse flag to "IB" by clicking on the column labeled "B" for the selected granule.	
17. Verify the "B" column for the selected granule contains the value "IB".	
18. Select "Browse" from the "Go To" pull down menu.	The "Go To" pull down menu is located at the top left of the "Inventory Results Screen"
19. Verify the "Communication Status" window appears on the screen.	
20. When the Communication Status window indicates the search is completed successfully, select the "Image" button found at the right of the Communication Status window.	
21. Verify the "Integrated Browse" window appears on the screen with a browse image.	S-DMS-30380 S-DMS-30540
22. Close the "Integrated Browse" window	Select "Close" at the bottom of the "Integrated Browse" screen to close this window.

23. Close the "Inventory Results Screen" and the "Communications Status" windows. Return to the "Search Screen".	
24. Exit the V0 Client by selecting "Exit IMS" at the bottom of the "Welcome" screen.	

4.2.4 Desktop 1 Thread (TS059)

The Desktop 1 thread verifies the initial capabilities of the client to provide a desktop environment. The Desktop provides the capability to organize and present various desktop objects with which an operator/user interacts. The desktop environment includes:

- Applications, containers, and documents (called desktop objects, each with a representative icon).
- Graphical User Interface (GUI) built from a standard widget set and conforms to the ECS User Interface Style Guide.
- Specific operations to manipulate desktop objects (i.e. single/multiple drag and drop, create, open, single/multiple delete/undo delete, add, display, browse, and remove).
- Desktop Manager which manages the desktop objects.

4.2.4.1 Test Case 1: Desktop-GUI Support Test (TS059.001)

This test demonstrates the ability of the ECS Client to provide users with a Graphical User Interface (GUI). The GUI will be built from a standard widget set and conform with the ECS User Interface Style Guide. The client will provide a GUI interface with a multiple window display, buttons and pull down menus. The user will have the capability to move the cursor randomly through the screen. Open and resize the workbench windows. The client shall provide for a standard ordering of menu items. There will be iconic and textual representation of desktop objects. A busy cursor indicator will be initiated for an action taking more than 2 seconds. Desktop object icons will be highlighted when they are selected. A X-window windowing interface will be utilized. The ECS Client will provide users with self-explanatory, meaningful error and help messages. The help information must be able to provide the user with the requested information.

Test Configuration:

Hardware: Client Workstations

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Exercise the Desktop GUI (i.e. interactive interface).

Test Output:

The Desktop GUI is exercised. All interactions and activations work properly.

Success Criteria:

This test is considered successful if the user is able to exercise the Desktop GUI. All the interactions and activations work properly. The GUI is built from a standard widget set and conforms to the ECS User Interface Style Guide.

Test Procedures:

Test Case ID: TS059.001	
Test Name: Desktop-GUI Support Test	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Check the help Information provided by clicking on the menu bar option Help.	CLS-00110
3. Select the different menu bar options (i.e. File, Directory, Tools, Action, and Help) by clicking once on them to see if pull down menus are displayed.	CLS-00020
4. Move cursor randomly through the screen.	CLS-00090
5. Check for the capability to resize the windows.	CLS-01600
6. Display multiple windows.	CLS-00010
7. Check for meaningful error messages for inappropriate operations (i.e. creating two directories with the same name).	CLS-00080
8. Check for standard ordering of menu items.	CLS-00130
9. Check for a user interface built from a standard widget set (i.e. windows, menus, controls, and dialogs).	CLS-00140
10. Click on desktop object icons and check to see whether they highlight.	
11. Check for iconic and textual representation of desktop objects.	CLS-00400 and CLS-00390
12. Check for utilization of a X-windows windowing interface.	CLS-01480
13. Check for a busy cursor indicator (i.e. watch pointer).	
14. Check the desktop user interface for conformation against the ECS Users Interface Style Guide.	CLS-01500
15. Check for the ability to copy ECS services onto the desktop.	CLS-01550

4.2.4.2 Test Case 2: Invoke/Open Desktop Objects and Utilize Single/Multiple 'Drag and Drop' Option (TS059.002)

This test demonstrates the ability of the Desktop to provide users the ability to invoke/open desktop objects and 'drag and drop' these objects into various files and directories.

Test Configuration:

Hardware: Client Workstations

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Select the desktop objects (applications, documents, and containers) to invoke/open. Utilize single/multiple drag and drop functionality for the desktop objects.

Test Output:

The desktop objects selected are invoked/opened and activated. Desktop objects are dragged and dropped to the desired areas.

Success Criteria:

This test is considered successful if the selected desktop objects are invoked/opened and activated. And if single/multiple desktop objects can be dragged and dropped to the desired area.

Test Procedures:

Test Case ID: TS059.002	
Test Name: Invoke/Open Desktop Objects and Utilize Single/Multiple 'Drag and Drop' Option	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Desktop menu screen is displayed with the desktop objects (i.e. containers, documents, and applications).	
3. Select the desktop object to invoke/open by either double clicking on the icon using the left most mouse button (by double clicking a default action will occur, the default for applications is Open, the default for containers is Open In Place, and the default for documents is Open or Animate depending on the file type), or clicking once on the icon using the left most mouse button and then going to the menu bar options and selecting the option Action. A pull down menu is displayed with the option(s) in bold type/highlighted which is/are appropriate for that particular desktop object. This step will be repeated for single and multiple desktop objects.	

4. Verify that the desktop objects clicked on/highlighted (i.e. encircled) are invoked/opened and function correctly.	CLS-00210
5. Then select the desktop object to 'drag and drop' onto the desktop. Steps (5 thru 8) will be repeated with selections of single and multiple desktop objects.	CLS-00250
6. Inorder to 'drag and drop' desktop object onto the desktop, press down on the middle mouse botton and drag the desktop object to the desired area and release the button.	
7. Using the 'drag and drop' option the desktop object have been installed onto the desktop.	CLS-00150, CLS-00160,CLS-00170
8. Activate the desktop object from the desktop and verify that they function correctly.	CLS-00180

4.2.4.3 Test Case 3: Create/Delete a Directory (TS059.003)

This test demonstrates the ability of the Desktop to provide users the ability to create and delete directories. The user can create container (directories) objects but not application and document objects. The user will be able to create a new directory, open the newly created directory, drag and drop desktop objects into the new directory, execute applications from the new directory, delete some files in the new directory and then try to delete the directory an error message will be displayed because directory must be empty before it can be deleted. The user will then delete all the desktop objects in the directory and try to delete the directory again. This time the user will be successful because there are no desktop objects in the directory.

Test Configuration:

Hardware: Client Workstations

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Enter the name of the directory to create in the prompt_popup menu. Drag and drop desktop objects into the newly created directory. Delete the directory with/without desktop objects in the directory.

Test Output:

The directory is created and an iconic and textual representation of the directory is present on the desktop. Desktop objects are successfully dragged and dropped into the new directory. The new directory is successfully deleted when there are no desktop objects in the directory. The new

directory is unable to be deleted, when there are desktop objects in the directory, and an error message is displayed.

Success Criteria:

This test is considered successful if the user is able to create directories and is able to delete directories that have no desktop objects in them and receives an error message when trying to delete directories with desktop objects in them.

Test Procedures:

Test Case ID: TS059.003	
Test Name: Create/Delete a Directory	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. From the Desktop goto the menu bar options and click on the Directory option.	
3. A pull down menu is displayed.	
4. Select the option to Create Directory.	
5. A prompt_popup menu is displayed.	CLS-00190
6. Enter the new directory name (xyz) in the Directory field.	
7. Click on the O.K. button to create a new directory or the Cancel button to cancel the creation of a new directory. Both options will be tested.	CLS-00200
8. Exit the desktop and from the Unix command line, verify by checking the $(HOME)/.ecs directory.	
9. Enter a ls command to list the contents of the .ecs directory, the newly created (xyz) directory is now there.	
10. Once again start up the desktop and verify that directory name (xyz) appears on the desktop, and that directory can be opened by clicking on the iconic representation of the directory.	
11. Then try to 'drag and drop' some desktop objects into the newly created directory.	
12. Then go back to the menu bar options and click on the File option. A pull down menu is displayed with the File options, select the option to Delete Item.	
13. All files within the new directory (xyz) must be deleted before the directory can be deleted, if a file exists in the directory, the user can not delete the directory and an error message is displayed.	
14. A Question Dialog_popup menu is displayed, click on the O.K. button to delete the new directory (xyz) or the Cancel button to cancel the delete. Both options will be tested.	
15. Verify that the new directory (xyz) has been deleted and that the iconic representation of the directory no longer appears on the desktop.	

16. Verify that the iconic representation of the directory as well as the directory itself no longer exists by trying to access it from the Unix command line. For examaple after exiting the desktop, enter cd $(HOME)/.ecs/xyz on the Unix command line. A message is displayed saying: no such file or directory.	

4.2.4.4 Test Case 4: Single/Multiple Deletes and Undo Deletes (TS059.004)

This test demonstrates the ability of the Desktop to provide users the ability to perform single and multiple deletes and undo deletes on desktop objects.

Test Configuration:

Hardware: Client Workstations

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Select the desktop objects to perform single and multiple deletes and undo deletes.

Test Output:

The selected single and multiple desktop objects are deleted and undeleted.

Success Criteria:

This test is considered successful if the selected single and multiple desktop objects can be deleted and undeleted.

Test Procedures:

Test Case ID: TS059.004	
Test Name: Single/Multiple Deletes and Undo Deletes	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. From the Desktop select single/multiple desktop objects (i.e. containers, documents, and applications) to delete by clicking on/highlighting them (i.e. encircling them).	
3. Then goto the menu bar option File.	
4. Click on the File option select the option to Delete Item from the pull down menu.	
5. A Question Dialog_popup menu is displayed, click on the O.K. button to delete or the Cancel button to cancel the delete.	
6. Verify that the single/multiple desktop objects which were clicked on/highlighted (i.e. encircled) are deleted.	

7. Verify that there iconic representations no longer appear on the desktop.	
8. Then go back to the menu bar option File.	
9. Click on the File option and select the option to Undo Delete.	
10. If a single desktop object was deleted previously, it will be undeleted.	
11. If multiple desktop objects were clicked on/highlighted (i.e. encircled) for deletion at 1 level previously, then they will be undeleted.	
12. Verify that the single/multiple desktop objects have been undeleted and there iconic representations appear back on the desktop.	
13. Then try to access the single/multiple undeleted desktop objects by clicking on them and displaying there contents.	

4.2.4.5 Test Case 5: Add/Remove/Browse/Display Continuously Desktop Objects to/from Container Objects (TS059.005)

This test demonstrates the ability of the Desktop to provide users the ability to add, remove, browse, and continuously display Desktop Objects to and from Container Objects.

Test Configuration:

Hardware: Client Workstations

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Select desktop objects to add, remove, browse, and continuously display to/from container objects.

Test Output:

The selected desktop objects are added, removed, browsed and continuously displayed to/from container objects.

Success Criteria:

This test is considered successful if the selected desktop objects are added, removed, browsed and continuously displayed to/from container objects.

Test Procedures:

Test Case ID: TS059.005	
Test Name: Add/Remove/Browse/Display Continuously Desktop Objects to/from Container Objects	

Test Steps:	Comments:
1. Start the ECS Desktop.	
2. From the Desktop select the desktop objects (i.e. containers, documents, and applications) to add by clicking on them and dragging & dropping them into the container object.	
3. From the container object select the desktop object to browse by double clicking on it.	CLS-00330
4. Verify that the desktop object is displayed and can be browsed.	CLS-00370
5. From the container object select another desktop object to display continuously by double clicking on it.	
6. Verify that the desktop object can be displayed on a continuous basis.	CLS-00380
7. From the container object select the desktop object to remove by highlighting it.	
8. Then goto the menu bar option File and select the option to Delete Item.	CLS-00340
9. Verify that the desktop object selected for deletion is deleted and no longer exists in the container object.	

4.2.4.6 Test Case 6: Check For Binding Between Desktop Objects (TS059.006)

This test demonstrates the ability of the Desktop to provide binding between desktop objects. Binding relationship exists between two desktop objects if there is an interdependency.

Test Configuration:

Hardware: Client Workstations

Software: Motif Window Manager

Data: N/A

Tools: None

Test Input:

Drag and drop desktop objects onto other desktop objects to check for binding.

Test Output:

Either the desktop objects will be successfully dragged and dropped onto another desktop object which means the desktop object highlights (i.e. binding relationship exists) or it will not highlight (i.e. no binding relationship exists).

Success Criteria:

This test is considered successful when desktop objects can be dragged and dropped onto other desktop objects if there is a binding relationship between the two objects.

Test Procedures:

Test Case ID: TS059.006	

Test Name: Check For Binding Between Desktop Objects	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Using the middle mouse button click on one of the desktop object (i.e. containers, documents, and applications) and try to drag and drop it onto another desktop object.	
3. If that desktop object highlights, then the desktop object being dragged can be dropped and there is a binding between the two desktop objects. For example you can drag and drop hdf files onto the EOSView application, since hdf files are used by the EOSView application.	CLS-00290 and CLS-00300
4. If that desktop object does not highlight, then the desktop object being dragged can not be dropped and there is no binding between the two desktop objects. For example you can not drag and drop an EOSView application onto the Comment Survey Tool application, since there is no relationship or binding between the two applications.	
5. Verify that only desktop objects can be 'dragged and dropped' onto other desktop objects if there is a binding relationship between the two objects.	

4.2.5 Advertising User Access Thread (TS006)

The Advertising User Access Thread will demonstrate the ability to search, browse, add, and retrieve advertisements. Advertisements will include descriptions of ECS and Non-ECS products and services. These tests demonstrate the ability to provide an interactive user interface for advertising services and provide representation of the services on the user screen. This includes supplying descriptions and information of EOSDIS science data sets and services to users. The functions demonstrated include the ability to access the Advertising Service, perform searches to find a service, review results of the advertising searches and submit advertisements

4.2.5.1 Test Case 1: Advertising Service Descriptions Test (TS006.001)

This test demonstrates the ability of the users to search, browse, and retrieve Advertisements. During this test the user will access Advertisements for ECS and non-ECS data and services. The users will also review the Advertisements for data and services provided by non-ECS systems with which ECS is interoperable.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: ≠ CSS Thread Service, AdvDBMSApplServer, AdvDBMSServer, AdvNavigatingServer

Data: Advertising Service Database

Tools: Mosaic 2.7b1, Netscape 2.0, NCSA HTTPd Server 1.5a

Test Input:

Inputs to this test case include advertising Service search criteria.

Test Output:

Outputs to this test case include advertisements for selected services, providers and products.

Success Criteria:

This test is considered successful if the Advertising Service provides the requested data and service descriptions. Access to data and services descriptions must be provided when requested by the user if the description exist. If no description exists an error message must be displayed indicating the advertisement does not exist..

Test Procedures:

Test Case ID: TS006.001	
Test Name: Advertising Service Descriptions Test	
Test Steps:	Comments:
1. Using a network browser, enter the URL for the Advertising Service home page: **http://ddse1sun:2419**	
2. Verify the " Advertising Service" icon is displayed on the screen	
3. Select the "Advertising Service" icon	
4. Verify the "Advertising Service" home page appears on the screen	
5. Select Advertising Service "Index" hyper link	
6. Verify the "Advertising Service Index" appears on the screen	
7. Select the letter "C" on the index	
8. Verify the "Search Result" window appears on the screen.	
9. Select "Correct ERBE S-4G scanner latitudes/longitudes" service	
10. Verify the Advertising Service returns a "Service Display" containing an advertisement for the "Correct ERBE S-4G scanner latitudes/longitudes" service	S-IOS-00010
11. Select the "Index" button at the bottom of the page	
12. Verify the "Advertising Service Index" appears on the screen	
13. . Select the letter "E" on the index	
14. Select "ERBE S-4G scanner 2.5 - degree regional averages" product	
15. Verify the Advertising Service returns a "Product Display" window containing an advertisement for the "ERBE S-4G scanner 2.5 - degree regional averages" product	S-IOS-00010 S-IOS-00590 Partial: For Phase 1, there is no distinction between advertisements
16. Select the "Search" button at the bottom of the Product Display page	

17. Verify the “Search for Advertisement” window appears on the screen	
18. Enter **EOSDIS** in the "Search for:" field	
19. Select “Any” in the "Search Options"	
20. Select “50” in the "Search Options"	
21. Select “Submit”	
22. Verify the “Search Result” window appears on the screen	S-IOS-00610
23. Select “ERBE S-4G scanner 2.5 - degree regional averages”	
24. Verify the "Guide URL" field contains an EOSDIS address (i.e., "http://eosdis.larc.nasa.gov:1200/dataset_documents/erve.html")	S-IOS-00060 (verified via code inspection and Sybase implementation of SQL) S-IOS-00080 S-IOS-00030 Partial Additional data fields to describe advertised services (i.e. Science Processing Library holdings) will be added in the phase III implementation.
25. Select the “Index” button at the bottom of the page	
26. Select the letter “N” on the index	
27. Verify the “Search Result” window is returned	
28. Select the “North America, 1 Km AVHRR 10-day composite NDVI” product	
29. Verify the displayed advertisement is a description of a USGS (non-ECS) product	S-IOS-00070 S-IOS-00080
30. Verify the “Guide URL” field contains a USGS address	
31. Select the “Home” button at the bottom of the page to return to the Advertising Service home page	

4.2.5.2 Test Case 2: Search and Retrieve Advertisement Test (TS006.002)

This test demonstrates the ability of the user to search and retrieve Advertisements via text search. The user will browse through available advertisement listings, until a desired advertisement is located. The user will also search for advertisements using key words.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: ≠ CSS Thread Service, AdvDBMSApplServer, AdvDBMSServer, AdvNavigatingServer

Data: Advertising Service Database

Tools: Mosaic 2.7b1, Netscape 2.0, NCSA HTTPd Server 1.5a

Test Input:

Inputs to this test case include selection of hyper links on the Advertising Service pages.

Test Output:

Outputs to this test case include advertisements for selected services, providers, and products.

Success Criteria:

This test is considered successful if the user is able to search for various advertisements by entering key words.

Test Procedures:

Test Case ID: TS006.002	
Test Name: Search and Retrieve Advertisement Test	
Test Steps:	Comments:
1. Using a network browser, enter the URL for the Advertising Service: **http://ddse1sun.hitc.com:2419**	
2. Verify the " Advertising Service" icon is displayed on the screen	
3. Select the "Advertising Service" icon	
4. Verify the "Advertisement Service" home page appears on the screen	
5. Select "General Search " from the home page	
6. Verify the Advertising Service "Search for Advertisement" window appears on the screen	
7. Enter **AVHRR** in the "Search for:" field	
8. Select "Any" in the Search Options	
9. Select "50" in the Search Options	
10. Select "Submit" at the bottom of the page	
11. Verify the " Search Result" window is displayed with a listing of available advertisements for AVHRR providers, products and services	S-IOS-00610 S-IOS-00060 (verified via code inspection and Sybase implementation of SQL)
12. Select the "Home" button at the bottom of the page to return to the Advertising Service home page	

4.2.5.3 Test Case 3: NOAA Test (TS006.003)

This test demonstrates the ability of NOAA users to view and submit advertisements. NOAA SAA and Data Center users will search and retrieve advertisements from the ECS Advertising Service. Likewise ECS users will search and retrieve advertisements from the NOAA Data Centers and SAAs. This test will simulate browsing and receiving advertisements from the NOAA Data Centers and NOAA SAAs in the EDF mini DAAC.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: CSS Thread Service, AdvDBMSApplServer, AdvDBMSServer, AdvNavigatingServer

Data: Advertising Service Database

Tools: Mosaic 2.7b1, Netscape 2.0, NCSA HTTPd Server 1.5a

Test Input:

Inputs to this test case include advertising Service search criteria.

Test Output:

Outputs to this test case include advertisements for selected services, providers and products.

Success Criteria:

This test is considered successful if the simulated NOAA Data Center and NOAA SAA users are able to successfully search and retrieve Advertisements from the ECS Advertising Service.

Test Procedures:

Test Case ID: TS006.003	
Test Name: NOAA Test	
Test Steps:	
1. Using a network browser, enter the URL for the ECS Advertising Service: **http://ddse1sun.hitc.com:2419**	
2. Verify the “Advertising Service” icon is displayed on the screen	
3. Select the “Advertising Service” icon	
4. Verify the “Advertising Service” home page appears on the screen	
5. Select the “Index” icon at the bottom of the page	
6. Verify the "Advertising Service Index" page appears on the screen	
7. Select the letter “E” on the index	
8. Verify the “Search Result" page appears on the screen. Verify the displayed results satisfy the search criteria entered above	
9. Select the “ERBE-4G scanner 2.5 - degree regional averages” product	
10. Verify the “Product Display” page appears on the screen with a description of the “ERBE-4G scanner 2.5 - degree regional averages” product	S-IOS-00830
11. Select the “Submit Ad” button at the bottom of the page	
12. Select “Product” as the Type	
13. Select “Other” as the Organization/Mission	
14. Enter **NOAA Test** in the Title	
15. Enter **http://hpcc.noaa.gov** in the URL field	
16. Enter **Test** in the Description field	
17. Enter **Test A** in the Organization Name field	
18. Enter **Leslie** in the First field	
19. Enter **Y** in the Middle field	
20. Enter **Cooper** in the Last field	
21. Enter **lcooper@eos.hitc.com** in the Email field	
22. Enter **301-925-0362** in the Phone field	
23. Enter **301-000-0000** in the Fax field	
24. Enter **1616 Anytown, USA** in the Address field	
25. Select the “Submit" button	

26. Verify the “Submission Result” page is displayed stating the advertisement was submitted.	S-IOS-00840 S-IOS-00850
27. Select the “Search” button at the bottom of the screen	
28. Verify the “Search for Advertisement” page is displayed on the screen	
29. Enter **NOAA Test** in the "Search for:" field	
30. Select the "Submit" Advertisement button	
31. Verify the Search Result window is returned with a listing of providers, products or services for "NOAA Test"	
32. Select the "noaa test" product from the displayed products list	
33. Verify the "Product Display" page is displayed on the screen with information on the "noaa test" product	
34. Select the “Home” button at the bottom of the page to return to the Advertising Service home page	

4.2.5.4 Test Case 4: Submitting an Advertisement (TS006.004)

This test demonstrates the ability of the user to submit advertisements to the ECS Advertising Service. The user will submit an advertisement to the ECS Advertising Service. Once the user submits the advertisement, notification will be received by the user stating the submission results.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: ≠ CSS Thread Service, AdvDBMSApplServer, AdvDBMSServer, AdvNavigatingServer

Data: Advertising Service Database

Tools: Mosaic 2.7b1, Netscape 2.0, NCSA HTTPd Server 1.5a

Test Input:

Inputs to this test case includes user name, Internet address, Organization/Mission name, Phone number, Address, Fax number, Advertisement type, Title, URL, Protocol, and Description.

Test Output:

Outputs for this test case consist of notification that the submitted advertisement was received.

Success Criteria:

This test is considered successful if the user is allowed to submit an advertisement.

Test Procedures:

Test Case ID: TS006.004	
Test Name: Submitting an Advertisement	
Test Steps:	Comments

1. Using a network browser, enter the URL for the Advertising Service: **http://ddse1sun.hitc.com**	
2. Verify the " Advertising Service" is icon is displayed on the screen	
3. Select the "Advertising Service" icon	
4. Verify the "Advertising Service" home page appears on the screen	
5. Select "Advertisement Submission Form" from the home page	
6. Verify the "Submit Advertisement" page appears on the screen	
7. Select "Product" in the "Type" field	
8. Select "EOS " in the Organization/Mission field	
9. Enter **Submit Ad** in the Title	
10. Enter **http:// edhs1.gsfc.nasa.gov/** in the URL field	
11. Enter **Test** in the Description field	
12. Enter **Test A** in the Organization Name field	
13. Enter **Leslie** in the First field	
14. Enter **Y** in the Middle field	
15. Enter **Cooper** in the Last field	
16. Enter **lcooper@eos.hitc.com** in the Email field	
17. Enter **301-925-0362** in the Phone field	
18. Enter **301-000-0000** in the Fax field	
19. Enter **1616 Anytown, USA** in the Address field	
20. Select the "Submit" button at the bottom of the page	
21. Verify the "Submission Result" page is displayed stating the advertisement was submitted.	S-IOS-00230 Partial implementation. The capability to modify and delete advertisements will be in the phase III implementation.
22. Select the "Home" button at the bottom of the page to return to the Advertising Service home page	

4.2.6 User Search Services Build (BS003)

Testing is performed to verify the capability to execute search requests using advertising services support. The functions demonstrated include the ability to activate the advertising interface, perform searches to find a service, and review results of the advertising searches. Using the results received from the advertising queries, inventory and directory searches are performed. This Build consist of the following test cases;

BS003.001 - Advertisement and Inventory Search Test

BS003.002 - Advertisement and Null Inventory Search Test

BS003.003 - Invalid Advertisement and Inventory Search Test

BS003.004 - Advertisement and Directory Search Test

BS003.005 - Advertisement and Null Directory Search Test

BS003.006 - Invalid Advertisement and Directory Search Test

4.2.6.1 Test Case 1: Advertisement and Inventory Search Test (BS003.001)

This test demonstrates the ability of the Client to provide user access to advertisements. Then using the results from the advertisement search the tester will initiate inventory searches. The tester will begin by logging in. The tester will execute the Advertising Service. The tester will use the advertising service to search, browse, and retrieve data. Upon receiving a results set, the tester will use the results to perform inventory searches using the V0 Client. Only temporal searches will be conducted

Test Configuration:

Hardware: Client Workstation, Advertising DBMS Server.

Software:≠ AdvDBMSApplServer, AdvDBMSServer, AdvhttpServer, Advertising Client Tool, Desktop Manager, Data Server Interface, AdvWAISServer.

Data: Advertising Service Database, Data Server Inventory Database

Tools: The V0 Client will be used as a driver to test the Gateway

(Inventory/Directory Search).

Test Input:

Advertisement selections, Inventory Search Requests

Test Output:

Advertisement descriptions, access to advertised services, inventory search results.

Success Criteria:

This test is considered successful if the tester is able to successfully login, initiate the advertising service, and receive appropriate result sets to advertising queries and inventory searches. Result sets will be examined to determine if the correct response was received when compared to the query input.

Test Procedures:

Test Case ID: BS003.001	
Test Name: Advertisement and Inventory Search Test	
Test Steps:	Comments:
1. Logon to an EDF client workstation .	
2. Startup the ECS Desktop.	Startup the desk top by entering "EcsDesktop". It resides in directory "/usr/testa/bin". IMS-0100, IMS-0120, IMS-0150, IMS-0160, IMS-1380
3. The desktop menu screen will display the desktop applications object icons.	
4. Select the 'ADVERTISING SERVICES' application icon.	

5. The Advertisement Services Home Page will be displayed.	
6. From this screen select the 'SEARCH' option button located at the bottom of the screen.	IMS-0030, IMS-0220, IMS-0330, IMS-0410, IMS 0430, IMS-0510, IMS-0550, IMS-0600
7. The 'SEARCH Advertising Services' screen will be displayed. In the "Search for" box enter the sensor name "AVHRR".	This is a valid sensor for which there is legitimate data in the advertising database and in the ECS V0 Client database
8. Click on the "Submit" search button to initiate the search.	
9. The products search results screen will be displayed showing a set of several products which satisfy the selection criteria.	
10. From this screen click a specific data product.	
11. The detailed 'PRODUCT Advertisement' will be displayed with the detailed information on the product. Make note of the parameters for this data product.	
12. Exit the Advertisement Service. Manually bring up the Release A V0 Client Tool.	The tool resides in the directory "/ecs/formal/V0_Client/Client/bin/sun5". The setup and execute file will be run at startup entitled "xgaea"
13. The ECS V0 Client Tool's Welcome Page will be displayed.	The title of the window is "Welcome"
14. Select the 'SEARCH' option from this screen.	
15. The Search Screen will be displayed.	The title of this window is "Search Screen"
16. Fill in the relevant search criteria associated with the dataset product found in the network browser. Select the 'INVENTORY' search option button.	This will be a temporal search. Include in addition to the beginning and ending dates from the network advertising product results, the Center Id set to "ECS"and the Sensor Id set to "AVHRR".
17. Select the 'SEARCH SAVE' option to save the search criteria for possible further use or modification.	The file is saved to the User's Home directory in a sub directory called "gaea_data". The full filename should be BS0301.src . This file may be opened for verification by opening an xterm window and typing "ls -tl $HOME/gaea_data" on the command line.
18. Select the 'EXECUTE' search option at the bottom of the screen.	
19. A Communications Status Window will be displayed. It contains the status of the relevant data located at various DAACs. Select the 'DATA' option to display the Inventory Search Results screen for data from the ECS.	The "Data" button is found on the right of the "Communications Status " windows' status line for the ECS.
20. From this screen select the 'DETAIL' option to display the details on a specific granule.	
21. The Detail Search Request screen will be displayed showing dataset details.	
22. Verify that the datasets and data set information selected from the advertisement services are the same as those presented in the inventory search.	
23. Exit the V0 Client Tool by selecting the "Exit IMS" at the bottom of the "Welcome" screen.	
24. Logoff of the workstation.	

4.2.6.2 Test Case 2: Advertisement and Null Inventory Search Test (BS003.002)

This test demonstrates the ability of the V0 Client to provide the appropriate response to a search request submitted which produces a search result with no data found. The tester will begin by logging in as a new user. The tester will execute the Advertising Service from the Desk Top. The tester will input search parameters which are known to produce a null result set. Only temporal searches will be conducted.

Test Configuration:

Hardware: Client Workstation, Advertising DBMS Server.

Software:≠ AdvDBMSApplServer, AdvDBMSServer, AdvhttpServer, Advertising Client Tool, Desktop Manager, Data Server Interface.

Data: Advertising Service Database, Data Server Inventory Database

Tools:≠ The V0 Client will be used as a driver to test the Gateway (Inventory/Directory Search).

Test Input:

Advertisement selections, Inventory Search Requests

Test Output:

Advertisement descriptions, access to advertised services, inventory search results.

Success Criteria:

This test is considered successful if the tester is able to successfully login, initiate the advertising service, and receive appropriate result sets to advertising queries and response appropriately to inventory search queries. Result sets will be examined to determine if the correct response was received when compared to the query input.

Test Procedures:

Test Case ID: BS003.002	
Test Name: Advertisement and Null Inventory Search Test	
Test Steps:	Comments:
1. Logon to an EDF client workstation .	
2. Startup the ECS Desktop.	Startup the desk top by entering "EcsDesktop". It resides in directory "/usr/testa/bin". IMS-0100, IMS-0120, IMS-0150, IMS-0160, IMS-1380
3. The desktop menu screen will display the desktop applications object icons.	
4. Select the 'ADVERTISING SERVICES' application icon.	
5. The Advertisement Services Home Page will be displayed.	

6. From this screen select the 'SEARCH' option button locate at the bottom of the screen	IMS-0030, IMS-0220, IMS-0330, IMS-0410, IMS 0430, IMS-0510, IMS-0550, IMS-0600
7. The 'SEARCH Advertising Services' screen will be displayed. In the "Search for" box enter the sensor name "AVHRR".	This is a valid sensor for which there is legitimate data in the advertising database and in the ECS V0 Client database
8. Select the 'PRODUCTS' option from the screen.	
9. The products search results screen will be displayed showing a set of several products which satisfy the selection criteria.	
10. From this screen select/or click a specific data product.	
11. The detailed 'PRODUCT Advertisement' will be displayed.	
12. Exit the Advertisement Service. Manually bring up the Release A V0 Client Tool.	The tool resides in the directory "/ecs/formal/V0_Client/Client/bin/sun5". The setup and execute file script file entitled "xgaea" will be run at startup
13. The ECS V0 Client Tool's Welcome Page will be displayed.	The title of the window is "Welcome".
14. Select the 'SEARCH' option from this screen.	
15. The Search Screen will be displayed.	The title of this window is the "Search Screen".
16. Enter invalid search criteria not associated with the dataset product found in the network browser. Select the 'INVENTORY' search option button.	This will be a temporal search. Use the beginning and ending dates from the network advertising product results. For this test enter sensor as "AVRHH".
17. Select the 'SEARCH SAVE' option to save the search criteria for possible further use or modification.	The file is saved to the User's Home directory in a sub directory called "gaea_data". The full filename should be BS0302.src. This file may be opened for verification by typing "ls -tl $HOME/gaea_data on the command line.
18. Select the 'EXECUTE' search option.	
19. A Communications Status Window will be displayed. Click on the comments option to see what the error message.	
20. Exit the V0 Client Tool by selecting the "Exit IMS" at the bottom of the "Welcome" window.	
21. Logoff of the workstation.	

4.2.6.3 Test Case 3: Invalid Advertisement and Inventory Search Test (BS003.003)

This test demonstrates the ability of the Advertisement Services to respond in an appropriate manner to invalid search parameters. The test will begin by logging in and executing the Advertising Service and submitting a search request, entering invalid search parameters. This test demonstrates the ability to display appropriate, clear error messages when invalid data is entered. Only temporal searches will be attempted.

Test Configuration:

Hardware: Client workstation, Advertising DBMS Server,

Software:≠ AdvDBMSApplServer,AdvDBMSServer,AdvWAISServer, AdvhttpServer, Advertising Client Tool, Desktop Manager, Data Server Interface.

Data: Advertising Service Database, Data Server Inventory Database

Tools:≠ The V0 Client will be used as a driver to test the Gateway (Inventory/Directory Search)

Test Input:

Invalid search parameters for both the Advertisement Service and the V0 Client.

Test Output:

Appropriate error messages

Success Criteria:

This test is considered successful if the tester is able to successfully login, initiate the advertising service, and receive appropriate error messages to invalid advertising queries and inventory searches. Error messages will be examined to determine if the correct response was received when compared to the query input.

Test Procedures:

Test Case ID: BS003.003	
Test Name: Invalid Advertisement and Inventory Search Test	
Test Steps:	Comments:
1. Logon to an EDF client workstation .	
2. Startup the ECS Desktop.	Startup the desk top by entering "EcsDesktop". It resides in directory "/usr/testa/bin". IMS-0100, IMS-0120, IMS-0150, IMS-0160, IMS-1380.
3. The desktop menu screen will display the desktop applications object icons.	
4. Select the 'ADVERTISING SERVICES' application icon.	
5. The Advertisement Services Home Page will be displayed.	
6. From this screen select the 'SEARCH' option button located at the bottom of the screen.	IMS-0030, IMS-0220, IMS-0330, IMS-0410, IMS 0430, IMS-0510, IMS-0550, IMS-0600
7. The 'SEARCH Advertising Services' screen will be displayed. In the "Search for" box enter an invalid name for a sensor (i.e. VARE).	
8. Select the "Submit" search option from the screen.	
9. The search results screen will be displayed showing under the "Product" heading the error message "No record found that satisfies this criteria".	
10. Go back one screen and re-enter the sensor identifier as "AVHRR".	
11. Again select the "Submit" search option.	
12. The detailed 'PRODUCT Advertisement' screen will be displayed with the correct dataset information.	

13. Exit the Advertisement Service. Manually bring up the Release A V0 Client Tool.	The tool resides in the directory "/ecs/formal/V0_Client/Client/bin/sun5". The setup and execute file entitled "xgaea" at startup.
14. The ECS V0 Client Tool's Welcome Page will be displayed.	The title of the window is "Welcome".
15. Select the 'SEARCH' option from this screen.	
16. The Search Screen will be displayed.	The title of this window is "Search Screen".
17. Select the 'INVENTORY' search option button.	This will be a temporal search. For this test enter erroneous dates (i.e. Dates in reverse order).
18. Select the 'SEARCH SAVE' option to save the search criteria for possible further use or modification.	The file is saved to the User's Home directory in a sub directory called "gaea_data". The full filename should be BS0303.src. This file may be opened for verification by typing "ls -tl $HOME/gaea_data on the command line.
19. Select the 'EXECUTE' search option.	
20. A Communications Status Window will be displayed.	
21. Select the comments option to bring up the error message.	
22. Exit the V0 Client Tool.	
23. Logoff of the workstation.	

4.2.6.4 Test Case 4: Advertisement and Directory Search Test (BS003.004)

This test demonstrates the ability of the Client to provide user access to advertisements. Then using the results from the advertisement search the tester will initiate directory searches. The tester will begin by logging in. The tester will execute the Advertising Service from the Desktop. The tester will use the advertising service to search, browse, and retrieve data. Upon receiving a results set, the tester will use the results to perform directory searches. Only temporal searches will be conducted.

Test Configuration:

Hardware: Client workstation, Advertising DBMS Server.

Software:≠ AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, AdvhttpServer, Advertising Client Tool, Desktop Manager, Data Server Interface.

Data: Advertising Service Database, Data Server Inventory Database.

Tools:≠ The V0 Client will be used as a driver to test the Gateway (Inventory/Directory Search).

Test Input:

Advertisement selections, Directory Search Requests.

Test Output:

Advertisement descriptions, access to advertised services, directory search results.

Success Criteria:

This test is considered successful if the tester is able to successfully login, initiate the advertising service and receive appropriate result sets from advertising. The tester will use the results from the result set to perform directory searches on the V0 Client Directory search result sets will be examined to determine if the correct response was received when compared to the query input.

Test Procedures:

Test Case ID: BS003.004	
Test Name: Advertisement and Directory Search Test	
Test Steps:	Comments:
1. Logon to an EDF client workstation .	
2. Startup the ECS Desktop.	Startup the desk top by entering "EcsDesktop". It resides in directory "/usr/testa/bin". IMS-0100, IMS-0120, IMS-0150, IMS-0160, IMS-1380
3. The desktop menu screen will display the desktop applications object icons.	
4. Select the 'ADVERTISING SERVICES' application icon.	
5. The Advertisement Services Home Page will be displayed.	
6. From this screen select 'SEARCH' option button located at the bottom of the screen.	IMS-0030, IMS-0220, IMS-0330, IMS-0410, IMS 0430, IMS-0510, IMS-0550, IMS-0600
7. The 'SEARCH Advertising Services' screen will be displayed. In the "Search for" box enter the sensor name "AVHRR".	
8. Click on the "Submit" search button to initiate the search.	
9. The products search results screen will be displayed showing a set of several products which satisfy the selection criteria.	
10. From this screen select/or click a specific data product.	
11. The detailed 'PRODUCT Advertisement' will be displayed.	
12. Exit the Advertisement Service. Manually bring up the Release A V0 Client Tool.	The tool resides in the directory "/ecs/formal/V0_Client/Client/bin/sun5". The setup and execute file script file entitled "xgaea" will be run at startup
13. The ECS V0 Client Tool's Welcome Page will be displayed.	
14. Select the 'SEARCH' option from this screen.	
15. The Search Screen will be displayed.	
16. Fill in the relevant search criteria associated with the dataset product found in the network browser. Select the 'DIRECTORY' search option button.	This will be a temporal search. Use the beginning and ending dates from the network advertising product results.

17. Select the 'SEARCH SAVE' option to save the search criteria for possible further use or modification.	The file is saved to the User's Home directory in a sub directory called "gaea_data". The full filename should be BS0304.src. This file may be opened for verification by typing "ls -tl $HOME/gaea_data on the command line
18. Select the 'EXECUTE' search option.	
19. A Communications Status Window will be displayed. It contains the statuses of the relevant data located at various DAACs.	The "Data" button is found on the right of the "Communications Status " window.
20. Select the 'DATA' option for a particular DAAC to display the Directory Search Results screen.	
21. From this screen select the 'DETAIL' option to display the details on a specific dataset.	
22. The Detail Directory Search Request screen will be displayed showing dataset details.	
23. Verify that the datasets and data set information selected from the advertisement services are the same as those presented in the Directory search.	
24. Exit the V0 Client Tool.	
25. Logoff of the workstation.	

4.2.6.5 Test Case 5: Advertisement and Null Directory Search Test (BS003.005)

This test demonstrates the ability of the V0 Client to provide the appropriate response to a search request submitted which produces a search result with no data found. The tester will begin by logging into the desktop. The tester will execute the Advertising Service. The tester will input search parameters which are known to produce a null result set. Only temporal searches will be conducted.

Test Configuration:

Hardware: workstation, Advertising DBMS Server,

Software:≠ AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, AdvhttpServer, Advertising Client Tool, Desktop Manager, Data Server Interface.

Data: Advertising Service Database, V0 Client Database.

Tools:≠ The V0 Client will be used as a driver to test the Gateway (Inventory/Directory Search).

Test Input:

Advertisement selections, Directory Search Requests.

Test Output:

Advertisement descriptions, access to advertised services, Directory search results.

Success Criteria:

This test is considered successful if the tester is able to successfully login, initiate the advertising service, and receive appropriate result sets to advertising queries. By modifying the parameters and directory searches. Result sets will be examined to determine if the correct response was received when compared to the query input.

Test Procedures:

Test Case ID: BS003.005	
Test Name: Advertisement and Null Directory Search Test	
Test Steps:	Comments:
1. Logon to an EDF client workstation .	
2. Startup the ECS Desktop.	Startup the desk top by entering "EcsDesktop". It resides in directory "/usr/testa/bin". IMS-0100, IMS-0120, IMS-0150, IMS-0160, IMS-1380
3. The desktop menu screen will display the desktop applications object icons.	
4. Select the 'ADVERTISING SERVICES' application icon.	
5. The Advertisement Services Home Page will be displayed.	IMS-0030, IMS-0220, IMS-0330, IMS-0410, IMS 0430, IMS-0510, IMS-0550, IMS-0600
6. From this screen select 'SEARCH' option. Based on predefined 'ATTRIBUTES' or on values attained from the 'INDEX' screen that the user would like to examine.	
7. The 'SEARCH Advertising Services' screen will be displayed.	
8. Select the 'PRODUCTS' option from the screen.	
9. The products search results screen will be displayed showing a set of several products which satisfy the selection criteria.	
10. From this screen select/or click a specific data product.	
11. The detailed 'PRODUCT Advertisement' will be displayed.	
12. Exit the Advertisement Service. Manually bring up the Release A V0 Client Tool.	The tool resides in the directory "/ecs/formal/V0_Client/Client/bin/sun5". The setup and execute file will be run at startup entitled "xgaea"
13. The ECS V0 Client Tool's Welcome Page will be displayed.	
14. Select the 'SEARCH' option from this screen.	
15. The Search Screen will be displayed.	
16. Fill in with invalid search criteria not associated with the dataset product found in the network browser. Select the 'DIRECTORY' search option button.	This will be a temporal search. Use beginning and ending dates not associated with the network advertising product results.
17. Select the 'SEARCH SAVE' option to save the search criteria for possible further use or modification.	
18. Select the 'EXECUTE' search option.	

19. A Communications Status Window will be displayed. It contains the statuses of the relevant data located at various DAACs. It should display a Directory Not Found error message.	
20. Select the 'DATA' option for a particular DAAC to display the Directory Search Results screen.	
21. From this screen select the 'DETAIL' option to display the details on a specific dataset.	
22. The Detail Directory Search Request screen will be displayed showing dataset details.	
23. Verify that the datasets and data set information selected from the advertisement services are the same as those presented in the Directory search.	
24. Exit the V0 Client Tool.	
25. Logoff of the workstation.	

4.2.6.6 Test Case 6: Invalid Advertisement and Directory Search Test (BS003.006)

This test demonstrates the ability to respond in an appropriate manner to invalid search parameters. The tester will begin by logging in as a new user. The tester will execute the Advertising Service and submit an directory search request, entering invalid search parameters for both queries. This test demonstrates the ability to display appropriate, clear error messages when invalid data is entered. Only temporal searches will be conducted.

Test Configuration:

Hardware: Client workstation, Advertising DBMS Server,

Software:≠ AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, AdvhttpServer, Advertising Client Tool, Desktop Manager, Data Server Interface.

Data: Advertising Services Database, Data Server Inventory Database

Tools:≠ The V0 Client will be used as a driver to test the Gateway (Inventory/Directory Search).

Test Input:

Valid search parameters for the Advertising query and Invalid search parameters for directory search

Test Output:

Appropriate error messages

Success Criteria:

This test is considered successful if the tester is able to successfully login, initiate the advertising service, and receive appropriate error messages to invalid advertising queries and invalid

directory searches. Error messages will be examined to determine if the correct response was received when compared to the query input.

Test Procedures:

Test Case ID: BS003.006	
Test Name: Invalid Advertisement and Directory Search Test	
Test Steps:	Comments:
1. Logon to an EDF client workstation .	
2. Startup the ECS Desktop.	Startup the desk top by entering "EcsDesktop". It resides in directory "/usr/testa/bin". IMS-0100, IMS-0120, IMS-0150, IMS-0160, IMS-1380
3. The desktop menu screen will display the desktop applications object icons.	
4. Select the 'ADVERTISING SERVICES' application icon.	
5. The Advertisement Services Home Page will be displayed.	
6. From this screen select 'SEARCH' option.	IMS-0030, IMS-0220, IMS-0330, IMS-0410, IMS-0430, IMS-0510, IMS-0550, IMS-0600
7. The 'SEARCH Advertising Services' screen will be displayed.	
8. Select the 'PRODUCTS' option from the screen.	
9. The products search results screen will be displayed showing a "Product Not found" message error should be displayed.	This step verifies that the advertisement selection failure occurred. The next few steps will retrace the process using valid data.
10. Go back to the Advertisement Home Services Home screen, enter the correct parameters and again select the "SEARCH" option.	
11. The 'SEARCH Advertising Services' screen will be displayed.	
12. Select the 'PRODUCTS' option from the screen.	
13. From this screen select/or click a specific data product .	
14. The detailed 'PRODUCT Advertisement' will be displayed.	
15. Exit the Advertisement Service. Manually bring up the Release A V0 Client Tool.	The tool resides in the directory "/ecs/formal/V0_Client/Client/bin/sun5". The setup and execute file will be run at startup entitled "xgaea"
16. The ECS V0 Client Tool's Welcome Page will be displayed.	
17. Select the 'SEARCH' option from this screen.	
18. The Search Screen will be displayed.	
19. Fill in the search criteria with invalid parameters. Select the 'DIRECTORY' search option button.	The next few steps will verify that an appropriate message will be displayed for an invalid dataset request.
20. Select the 'SEARCH SAVE' option to save the search criteria for possible further use or modification.	The file is saved to the User's Home directory in a sub directory called "gaea_data". The full filename should be BS0302.src. This file may be opened for verification by typing "ls -tl $HOME/gaea_data on the command line.
21. Select the 'EXECUTE' the search option.	

22. A Communications Status Window will be displayed. A message stating that no data was not found.	
23. Go back to the V0 Client Tool's Welcome Page	
24. Fill in the relevant search criteria associated with the dataset product found in the network browser. Select the 'DIRECTORY' search option button.	This time use the valid beginning and ending dates from the network advertising product results.
25. Select the 'SEARCH SAVE' option to save the search criteria for possible further use or modification.	
26. Select the 'EXECUTE' the search option.	
27. A Communications Status Window will be displayed. It contains the statuses of the relevant data located at various DAACs.	
28. Select the 'DATA' option for a particular DAAC to display the Directory Search Results screen.	
29. From this screen select the 'DETAIL' option to display the details on a specific dataset.	
30. The Detail Directory Search Request screen will be displayed showing dataset details.	
31. Verify that the datasets and data set information selected from the advertisement services are the same as those presented in the Directory search.	
32. Exit the V0 Client Tool.	
33. Logoff of the workstation.	

4.3 Planning and Processing 1 Tests

Planning and Processing 1 tests consist of the following threads and builds:

- DPR Generation 1 Thread (TS008)
- FDF Ephemeris Preprocessing Thread (TS010)
- Job Management/COTS 1 Thread (TS011)
- PGE Execution 1 Thread (TS060)
- Resource Management Thread (TS061)
- Data Management Thread (TS062)
- PDPS Build 1 Thread (BS004)

4.3.1 DPR Generation 1 Thread (TS008)

The Production Request Editor application allows the user to create production requests that describe the data products to be produced. The application only allows the addition of Production Requests for Phase 1. The ability to modify and delete Production Requests will follow in subsequent phases, as will the ability to submit production requests. When invoked, the production request editor creates a production request and corresponding Data Processing Requests (DPRs). As a result, single or multiple DPRs are created. There is currently no

integration between the Planning subsystem and the Processing subsystem, therefore no DPRs are submitted for processing.

4.3.1.1 Test Case 1: Generate a Data Processing Request (TS008.001)

This test verifies the actions associated with generating a data processing request.

Test Configuration:

Hardware: PLNHW (SUN Sparc 20/50)

Software: Sybase, PLANG database

Data:≠ The following PLANG database tables must be pre-loaded with data from the AHWG: PGE_MASTER, PGE_DETAIL_TIME, DATA_TYPE_LIST_EXPLOSION, INPUT_DATA_SPECS, OUTPUT_DATA_YIELD, DATA_SOURCE_MASTER, DATA_TYPE_MASTER, ROUTINE_ARRIVAL

Tools:≠ Production Request Editor driver (pr_req_ed), Database query script (check_plangit.sql)

Test Input:

PR Start/Stop Date, PR Start/Stop Time, Product/PGE/User ID, PR Priority, User Parameter ID/Value.

Test Output:

All of the input data will be placed into the proper tables of the PDPS database. One or more Data Processing Requests will be created in the Planning database.

Success Criteria:

This test will be considered successful when the Production Request and its associated DPRs have been created in the PDPS database.

Test Procedures:

Test Case ID: TS008.001	
Test Name: Generate a Data Processing Request	
Test Steps:	Comments:
1. Login to the Planning Workstation .	
2. Verify that the PDPS Planning database is up by typing "**ps -ef | grep sybase**" at the prompt.	The resulting search should show the Sybase server up.
3. Open another window by depressing the right mouse button, selecting Programs and then selecting Terminal.	This window will be used to directly access the data via isql.
4. Enter Sybase by typing "**isql -U <db_username>**".	
5. Type your db_password when prompted.	

6. At the sql prompt, type "**use plang_it**", hit carriage return and then type "**go**".	Every sql command must be terminated by typing 'go'.
7. To run the PRE driver, go to the main window and type: "**pr_req_ed <server_type> <server_name> <db_username> <db_password> <database_name>**" on one line.	In order to make this step short, alias the command in your .cshrc file.
8. Enter the PR Start Date.	Any date/time combination is valid.
9. Enter the PR Start Time.	
10. Enter the PR Stop Date.	
11. Enter the PR Stop Time.	
12. Enter the Product ID, PGE ID, and the User ID.	S-PLS-00010
13. Enter a PR Priority.	S-PLS-00005
14. Enter the Number of User Parameters.	
15. Enter User Parameter ID and User Parameter Value for each user parameter.	
16. The driver will display the parameters from the database that correspond to the above entered PR.	
17. The driver will explode the PR into one or more DPRs depending upon the duration of the run.	S-PLS-00020 One DPR per day is produced.
18. The contents of the appropriate database tables can be queried by typing "**isql -U <username> -i/usr/testa/test/check_plangit.sql -o<output_filename>**". Enter database password when prompted.	This Sybase script queries the database tables and writes the results to an output file.
19. The output file can then be printed by typing "**lp -d <destination> <filename>**" or viewed by typing "**more <filename>**".	
20. The output file contains database dumps of the following tables: * PRODUCTION_REQUEST * PRODUCTION_REQUEST_PARAMETERS * DATA_PROCESSING_REQUEST	
21. Activate the isql window by clicking on it.	
22. Type "**select * from DATA_TYPE_GRANULE**" to verify that this table contains data granule information.	S-PLS-00460 (Partial) This requirement will be revisited in Phase 2 to check for valid data granule information.
23. Type "**select * from PGE_MASTER**" to view detailed information about PGEs.	S-PLS-00400 (Partial) This requirement will be revisited in Phase 2 to check for valid data PGE information.

4.3.2 FDF Ephemeris Preprocessing Thread (TS010)

The Flight Dynamics Facility (FDF) is the primary source of orbit ephemeris data. Orbit data is acquired from both the platform ancillary data packets downlinked in the telemetry computed on-board the TRMM spacecraft and FDF. Because the on-board orbit data is not of sufficient accuracy to be used in scientific processing, the daily definitive orbit product generated by FDF will be the official source of TRMM orbit data used in the processing of TRMM-platform CERES and LIS Level 0 data.

FDF data in its original form is unacceptable to services within ECS, and therefore requires preprocessing. The preprocessing of FDF data modifies the original data format to the format a

PGE is expecting in the PDPS system. These modifications performed during the preprocessing stage do not alter or modify the orbit data's scientific content, but converts it to a format known to the PDPS system.

The purpose of this thread is to verify the capability of TRMM ephemeris preprocessing to accept and convert FDF orbit ephemeris data into native and HDF formats that are acceptable to PGE processing. The SDP toolkit tools for computing time/day conversions are used in preprocessing of FDF data. Rogue-wave is used for HDF format conversions.

4.3.2.1 Test Case 1: Preprocess Valid FDF Orbit Ephemeris Data (TS010.001)

This test verifies the capability to reformat a FDF supplied orbit ephemeris dataset into two formats; native format of host hardware (binary format) and HDF format (facilitates portability). Associated metadata shall be produced.

Test Configuration:

Hardware: SPRHW and peripherals

Software: FDF Ephemeris Pre-processor (DpPrMakeTrmmEphemeris.cxx)

Data: Valid FDF Orbit Ephemeris datasets (TrmmFdfEphemeris.complete)

Tools: SDP toolkit :Time date utilities (for time/date translations).

Namely: PGS_TD_TAItoGAST,

PGS_TD_ASCIItime_AtoB,

PGS_TD_TAItoUTC,

PGS_TD_UTCtoTAI)

Custom Test Drivers (TrmmFdfEphemerisTestDriver)

Unix Diff Utility

Custom Dump Utility (DumpEphemeris.cxx)

Rogue Wave (tools.h++ and db_tools.h, used for hdf format conversion)

Test Inputs:

The input to this test are a simulated FDF Ephemeris Dataset (for TRMM) and baselined data outputs used for comparing program outputs against.

Test Output:

Outputs from this test include: TRMM orbit binary data reformatted in the native format of the host hardware, TRMM orbit data reformatted in HDF-EOS format and a difference file produced from comparing the actual program outputs to the established baselines.

Success Criteria:

This test will be deemed successful when input of a FDF ephemeris dataset to the FDF Ephemeris Dataset preprocessor, yields 2 verified orbit data files; 1) native format of host hardware and 2) HDF-EOS format. Verification of the output files is proven when no differences are found between baseline files and the test output files.

Test Procedures:

Test Case ID: TS010.001	
Test Name: Preprocess Valid FDF Orbit Ephemeris Data	
Test Steps:	Comments:
1. Receive TRMM ancillary data into the Processing subsystem.	data input required: FDF Ephemeris Dataset for TRMM (aka binary Ephem format file) input file used: TrmmFdfEphemeris.complete
2. Invoke the Preprocessing Test Driver > **cd /usr/testa/IT/tools/FDF** > **TrmmFdfEphemerisTestDriver.new**	TrmmFdfEphemerisTestDriver.new is the modified FDF Ephemeris Preprocessor Test Driver used to invoke the DpPrMakeTrmmEphemeris executable. The DpPrMakeTrmmEphemeris executable reformats the orbit ephemeris data input into two files with hdf format (*.hdf) and native format of the host hardware (*.nat) . This executable also compares the output messages produced from this run against the comparable baseline file.
3. Specify the dataset for processing at the test driver prompt: Input name of input file: **TrmmFdfEphemeris.complete**	Test Data input file : TrmmFdfEphemeris.complete TrmmFdfEphemeris.complete is a valid orbit ephemeris file
4. Specify the prefix for the output file at the test driver prompt: (Input name of output file:)or <ret> to use the default > ***<the filename you select>*** or **<ret>** for the default	Default output filenames are : <*input file name*>.hdf <*input file name*>. nat <i*nput file name*>.result
5. Verify that the appropriate output files are produced: > **ls -la /usr/testa/IT/testdata/FDF/output**	There should be 3 files appearing in the directory: TrmmFdfEphemeris.complete.hdf TrmmFdfEphemeris.complete.nat TrmmFdfEphemeris.complete.result Requirements satisfied: S-DPS-30700 S-DPS-30740 (Partial implementation, will be fully verified in phase 2) S-DPS-30760 (Partial implementation, will be fully verified in phase 2) S-DPS-31020 (partial implementation)
6. Compare the data outputs with baseline output files by monitoring the program output to the screen.	No differences (other than file name) should be seen. The developer supplied test driver produces a *.result file. The test driver issues a unix diff command which reports any differences that are logged between the baseline file output messages and the *.result file messages.

7. Confirm that the hdf file content and the native file content are the same.	Use the developer supplied dump utility that reads and compares *.nat and *.hdf files record by record.
8. Invoke the Dump utility: > **cd /usr/testa/IT/testdata/FDF/output** > **/usr/testa/IT/tools/FDF/DumpEphemeris TrmmFdfEphemeris.complete > fdfcomplete.log**	No differences should be found (except the filename). Compares the *.hdf and *.nat files record by record and writes the output to the specified log file.
9. Verify that the Dump Utility does not flag any errors by reviewing the log file >**more fdfcomplete.log**	Prints the log file contents to the screen

4.3.2.2 Test Case 2: Preprocess Invalid FDF Ephemeris Data (TS010.002)

This test demonstrates the ability to identify a FDF ephemeris dataset that is not in the format expected by the FDF Ephemeris data pre-processor and to produce error messages regarding this condition.

Test Configuration:

Hardware: SPRHW and peripherals

Software: FDF Ephemeris Pre-processor (DpPrMakeTrmmEphemeris.cxx)

Data: Invalid FDF Orbit Ephemeris datasets

Tools: SDP toolkit :Time date utilities (for time/date translations).

Namely: PGS_TD_TAItoGAST,

PGS_TD_ASCIItime_AtoB,

PGS_TD_TAItoUTC,

PGS_TD_UTCtoTAI)

Custom Test Drivers (TrmmFdfEphemerisTestDriver)

Unix Diff Utility

Custom Dump Utility (DumpEphemeris.cxx)

Rogue Wave (tools.h++ and db_tools.h, used for hdf conversion)

Test Inputs:

The input to this test is a corrupted simulated FDF Ephemeris Dataset. The various forms of the corrupted dataset will include (but are not limited to) 1) an empty file, 2) a non-FDF format file, 3) a single header file, 4) a 2 header file, and 5) a file with no sentinel record.

Test Output:

Outputs from this test should consist of error messages indicating that the ephemeris file supplied to the FDF ephemeris dataset pre-processor is of an unidentifiable/unacceptable format.

Success Criteria:

This test will be deemed successful when input of a corrupt/unidentifiable FDF ephemeris dataset to the FDF Ephemeris Dataset preprocessor, yields an error message indicating that the input file is corrupt or not in the expected format.

Test Procedures:

Test Case ID: TS010.002	
Test Name: Preprocess Invalid FDF Ephemeris Data	
Test Steps:	Comments:
1. Receive TRMM ancillary data into the Processing subsystem.	data input required: a corrupt FDF Ephemeris Dataset for TRMM aka binary Ephem format file
2. Invoke the Preprocessing Test Driver > **cd /usr/testa/IT/tools/FDF** > **TrmmFdfEphemerisTestDriver.new**	TrmmFdfEphemerisTestDriver is the FDF Ephemeris Preprocessor Test Driver used to invoke the DpPrMakeTrmmEphemeris executable. The DpPrMakeTrmmEphemeris executable reformats the orbit ephemeris data input into two files with hdf format (*.hdf) and native format of the host hardware (*.nat) . This executable also compares the output messages produced from this run against the comparable baseline file.
3. Specify the dataset for processing at the test Driver prompt: (Input name of input file:) Use each of the following datasets (in separate runs): > **TrmmFdfEphemeris.no_sentinel** > **TrmmFdfEphemeris.non_fdf** > **TrmmFdfEphemeris.first_header** > **TrmmFdfEphemeris.both_headers** > **TrmmFdfEphemeris.null**	Test Data Suite: (Various Invalid orbit Ephemeris files): FdfEphemeris.no_sentinel : a dataset whose header has no sentinel record. TrmmFdfEphemeris.non_fdf: a dataset whose header is not in the specified FDF format. TrmmFdfEphemeris.first_header: a dataset that only has one header (partial dataset) TrmmFdfEphemeris.both_headers: a dataset that has both headers but no data following (partial dataset) TrmmFdfEphemeris.null: an empty file
4. Specify the prefix for the output file at the test driver prompt: (Input name of output file:)or <ret> to use the default > ***<input file .selected>*** or **<ret>** for default	Default output filenames are : <*input file name*>.hdf <*input file name*>.nat <*input file name*>.result
5. Verify that the appropriate output files are produced: > **ls -la /usr/testa/IT/testdata/FDF/output**	There should be 3 files appearing in the directory for each input file used. <*input data file*>.hdf <*input data file*>.nat <*input data file*>.result Requirements satisfied: S-DPS-30700 S-DPS-30740 (Partial implementation, will be fully verified in phase 2) S-DPS-30760 (Partial implementation, will be fully verified in phase 2) S-DPS-31020 (partial implementation)

6. Compare the data outputs produced with the baseline output files by viewing the program output to the screen	No differences (other than file name) should be reported. The developer supplied test driver produces a *.result file. The test driver issues a unix diff command which reports any differences that are logged between the baseline file output messages and the output messages received from this run. (*.result file messages)
7. Verify that the *.result file for each run contains an appropriate error message for the invalid input file by viewing all the *.result files. > **cd /usr/testa/IT/testdata/FDF/output** > **more *<input file selected>*.result**	Examples of appropriate error messages: EOF found before sentinel flag Error reading second header flag Error reading first header record

4.3.2.3 Test Case 3: Format Verification of Reformatted FDF Orbit Ephemeris Data (TS010.003)

This test verifies that the FDF Ephemeris data preprocessor produces an HDF orbit file and a binary file (in the format of the native host hardware) in the formats expected by the SDP toolkit. The formats of the file as well as their contents will be verified by this test. The file contents are made available to the SDP toolkit for metadata items.

Test Configuration:

Hardware: SPRHW and peripherals

Software: FDF Ephemeris Pre-processor (DpPrMakeTrmmEphemeris.cxx)

Data: Valid reformatted HDF Orbit Ephemeris file (TrmmFdfEphemeris.complete.hdf)

Tools: EOSView, HDF "vshow" utility, Mosaic Scientific Data-Brows-o-rama

Test Input:

The inputs to this test are reformatted HDF FDF orbit ephemeris data files that were produced as output from the DpPrMakeTrmmEphemeris executable in Test Case 1 (TS010.001).

Test Output:

Outputs from this test should consist of utility messages that display file formatting and field contents.

Success Criteria:

This test will be deemed successful when input of a reformatted FDF ephemeris dataset to the utilities, yields a printout of the expected file format and contents.

Test Procedures:

Test Case ID: TS010.003	
Test Name: Format Verification of Reformatted FDF Orbit Ephemeris Data	
Test Steps:	Comments:
1. Receive valid reformatted FDF Ephemeris orbit data for format verification.	data input required: Valid HDF file : Input file used: TrmmFDFEphemeris.complete.hdf
2. Invoke the HDF "vshow" utility. >**cd /usr/testa/IT/tools/FDF** >**vshow /usr/testa/IT/testdata/FDF/output/TrmmFdfEphemeris.complete.hdf**	You should receive a listing of the file format
3. Verify that the HDF file is in the documented format . Visually compare the file format produced by "vshow" with the documented file format.	See document titled: "EOSDIS Spacecraft Ephemeris and Attitude Data Specification: Contents and Structure, A Requirements Document, Jan 17, 1996 , (DRAFT), Author: Peter Noerdlinger, page 4, (Ephemeris Record Standard) Requirements satisfied: S-DPS-30700 S-DPS-30740 (Partial implementation, will be fully verified in phase 2) S-DPS-30760 (Partial implementation, will be fully verified in phase 2) S-DPS-31020 (partial implementation)
4. Verify that the contents of each field in the record format via the EOSView Utility. >**setenv DISPLAY <*local machineaddress*>:0.0** >**cd /home/nwoodson/bin/SUN5/eosview/** >**EOSView**	An EOSView - Main Window should appear
5. From the EOSView - Main Window , Select the **FILE>OPEN** options from the menu bar	
6. Set your filter to the hdf output file directory location by entering '**/home/nwoodson/FDF/*'** in the filter window and **<ret>**.	
7. Select the TrmmFdfEphemeris.complete.hdf file by double clicking on the filename in the Files window.	An EOSView - TrmmEphemeris.complete.hdf window should appear with these 3 Vdatas listed: Ephemeris Header HDF Vdata Ephemeris Dataset HDF Vdata Ephemeris Orbit Metadata
8. View the contents of a Vdata by double clicking on a Vdata title.	A new window will appear for each Vdata you double click on. This window will indicate the field contents the chosen Vdata.
9. Verify that the fields contain valid data by inspection.	

10. Verify that the number of records specified in the first vdata exist in the second vdata by double clicking on the second vdata and verifying that there is an entry for all the records indicated in the first vdata.	You should find a record entry for each of the 12961 records

4.3.3 Job Management/COTS 1 Thread (TS011)

The Production Planner (Operations Personnel) is responsible for the creation of candidate production plans. These plans provide predicted views of science data production based on certain criteria, such as resource availability schedules and different standard production priorities. Once the Production Planner decides on the best candidate plan, this candidate plan is activated.

A section of this active plan, known as the daily job schedule, will be fed into the AutoSys database at the beginning of the day. These jobs are the jobs which will be processed for a particular day. Currently, all Data Processing Requests are immediately made visible to the Processing CI where they are kept in a "HELD" state until all data dependencies are fulfilled. Upon meeting of all dependencies, the job is released for execution by the Planning CI.

This thread tests the ability of the AutoSys COTS package to create, modify(update) and delete Data Processing Request job boxes and their corresponding jobs. Currently there is no interface linkage between the Planning and Processing CIs therefore the passing of status messages between the two CIs cannot be tested. Additionally, this thread will test the AutoSys GUI for appropriate responsiveness to user-supplied actions. It should be emphasized that the AutoSys GUI should not be used when processing DPRs as the software is designed to do this.

4.3.3.1 Test Case 1: DPR Job Creation (TS011.001)

This test verifies the steps associated with creating a Data Processing Request job box.

Test Configuration:

Hardware: SPRHW (SunSparc 20)

Software: Processing subsystem, AutoSys, Scheduler, Data Manager

Data: DPR Start Time, DPR ID, PGE ID, DPR Priority

Tools: SchedTest test driver

Test Input:

A Data Processing Request.

Test Output:

One job box containing six jobs corresponding to a DPR.

Display of job box and its corresponding jobs in the AutoSys database.

Success Criteria:

This test will be considered successful when the DPR jobs can be created in the AutoSys database.

Test Procedures:

Test Case ID: TS011.001	
Test Nme: DPR Job Creation	
Test Steps:	Comments:
1. Login to the Job Management workstation.	
2. With the mouse click the up arrow on the desktop window and select "**Terminal**" or click the left mouse button and select "**Programs**" and then "**Terminal**" to bring up a terminal window.	
3. At the prompt enter: '**source /vendor/autotree2/autouser/autosys.csh.spre4sun**' to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. At the prompt enter: '**cd /usr/testa/bin**' to set directory to the Release A test directory.	This directory contains the Release A test drivers.
5. At the command line, type '**autocons &**' to start the AutoSys Ops Console.	This is helpful to see what is happening as processing of the driver proceeds.
6. Click on the highlighted yellow Freeze Frame button to unselect it.	
7. At the command line in the terminal window, type '**SchedTest**' to start the Scheduler driver.	
8. Type option 1 to Create a DPR job.	
9. Enter the DPR Id, PGE Id, DPR Priority, and the DPR Start Time.	S-DPS-20400 (Partial) This requirement will be fully verified in Phase 2.
10. When the DPR is created, it is expanded into six jobs within AutoSys.	Watch the operator console window to view the jobs being created.
11. Open another window by depressing the right mouse button, selecting Programs and then selecting Terminal.	This window will be used to view DPR job boxes directly within the AutoSys database.
12. At the prompt enter: '**source /vendor/autotree2/autouser/autosys.csh.spre4sun**' to source the AutoSys environment config file.	
13. To verify that the DPR job box and its associated jobs are in AutoSys, type '**autorep -J <jobname>**' or '**autorep -J ALL -q**' at the command line to view the contents of the database.	
14. The job boxes are queued according to priority when job activation occurs.	S-DPS-20500 The AutoSys Ops Console does not show the job boxes queued according to priority. This is more readily verified when the job boxes are activated.

4.3.3.2 Test Case 2: DPR Job Deletion (Inactive Job) (TS011.002)

This test verifies the steps associated with deleting a Data Processing Request job box that is currently inactive (not executing).

Test Configuration:

Hardware: SPRHW (SunSparc 20)

Software: Processing subsystem, AutoSys, Scheduler, Data Manager

Data: DPR ID

Tools: SchedTest test driver

Test Input:

An inactive Data Processing Request.

Test Output:

None.

Success Criteria:

This test will be considered successful when the inactive DPR can be deleted from the AutoSys database.

Test Procedures:

Test Case ID: TS011.002	
Test Name: DPR Job Deletion (Inactive Job)	
Test Steps:	Comments:
1. Login to the Job Management workstation.	
2. With the mouse click the up arrow on the desktop window and select "**Terminal**" or click the left mouse button and select "**Programs**" and then "**Terminal**" to bring up a terminal window.	
3. At the prompt enter: '**source /vendor/autotree2/autouser/autosys.csh.spre4sun**' to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. At the prompt enter: '**cd /usr/testa/bin**' to set directory to the Release A test directory.	This directory contains the Release A test drivers.
5. At the command line, type '**autocons &**' to start the AutoSys Ops Console.	This is helpful to see what is happening as processing of the driver proceeds.
6. Click on the highlighted yellow Freeze Frame to unselect it.	
7. At the command line in the terminal window, type '**SchedTest**' to start the Scheduler driver.	
8. Type option 4 to Cancel a DPR job box.	S-DPS-20330
9. Enter the DPR Id.	The DPR Id should be of a valid, inactive job in the AutoSys database.
10. The DPR job box and its associated jobs are removed from the AutoSys database.	Watch the operator console window to view the jobs being removed.
11. To verify that the DPR job box and its associated jobs have been removed from AutoSys, go to the AutoSys database window and type '**autorep -J <jobname>**' or '**autorep -J ALL -q**' to view the contents of the AutoSys database.	May want to limit the use of the ALL parameter when the database contains many job boxes.

12. Type option 1 to Create a DPR job.	These two steps will prepare the AutoSys database for the next test case.
13. Enter the DPR Id, PGE Id, DPR Priority, and the DPR Start Time.	

4.3.3.3 Test Case 3: DPR Job Deletion (Active Job) (TS011.003)

This test verifies the steps associated with deleting an active Data Processing Request job box.

Test Configuration:

Hardware: SPRHW (SunSparc 20)

Software: Processing subsystem, AutoSys, Scheduler, Data Manager

Data: DPR ID

Tools: SchedTest driver

Test Input:

An active Data Processing Request job box.

Test Output:

None.

Success Criteria:

This test will be considered successful when an active DPR job box and it associated jobs can be deleted from the AutoSys database.

Test Procedures:

Test Case ID: TS011.003	
Test Name: DPR Job Deletion (Active Job)	
Test Steps:	Comments:
1. Login to the Job Management workstation.	
2. With the mouse click the up arrow on the desktop window and select "**Terminal**" or click the left mouse button and select "**Programs**" and then "**Terminal**" to bring up a terminal window.	
3. At the prompt enter: 's**ource /vendor/autotree2/autouser/autosys.csh.spre4sun**' to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. At the prompt enter: '**cd /usr/testa/bin**' to set directory to the Release A test directory.	This directory contains the Release A test drivers.
5. At the command line, type '**autocons &**' to start the AutoSys operator console.	This is helpful to see what is happening as processing of the driver proceeds.
6. Click on the highlighted yellow Freeze Frame to unselect it.	
7. At the command line, type '**SchedTest**' to start the Scheduler driver.	
8. Type option 3 to Release a DPR.	This will cause the DPR to being processing.

9. Enter the DPR Id, PGE Id, DPR Start Time, and the DPR Priority.	The Activity Console will indicate that the DPR job box has been activated.
10. Type option 4 to Cancel the DPR released in step 9.	S-DPS-20330
11. Enter the DPR Id.	The DPR Id should be of a valid, active job in the AutoSys database.
12. The DPR job box and its associated jobs are removed from the AutoSys database.	Watch the operator console window to view the jobs being removed.
13. To verify that the DPR and its associated jobs have been removed from AutoSys, type '**autorep -J <jobname>**' or '**autorep -J ALL -q**' to view the contents of the database. This will return: '**Invalid job name.**'	May want to limit the use of the ALL parameter when the database gets large.
14. Type option 1 to Create a DPR job.	These two steps will prepare the AutoSys database for the next test case.
15. Enter the DPR Id, PGE Id, DPR Priority, and the DPR Start Time.	

4.3.3.4 Test Case 4: DPR Job Modification (TS011.004)

This test verifies the steps associated with modifying a Data Processing Request job box. Phase 1 implementation only allows the modification of priority and start time.

Test Configuration:

Hardware: SPRHW (SunSparc 20)

Software: Processing subsystem, AutoSys, Scheduler, Data Manager

Data: DPR ID, DPR PGE ID, DPR Priority, DPR Start Time

Tools: SchedTest test driver

Test Input:

A Data Processing Request job box.

Test Output:

Display of job box and corresponding jobs within the AutoSys database.

Success Criteria:

This test will be considered successful when the DPR can be modified.

Test Procedures:

Test Case ID: TS011.004	
Test Name: DPR Job Modification	
Test Steps:	Comments:
1. Login to the Job Management workstation.	
2. With the mouse click the up arrow on the desktop window and select "**Terminal**" or click the left mouse button and select "**Programs**" and then "**Terminal**" to bring up a terminal window.	

3. At the prompt enter: '**source /vendor/autotree2/autouser/autosys.csh.spre4sun**' to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. At the prompt enter: '**cd /usr/testa/bin**' to set directory to the Release A test directory.	This directory contains the Release A test drivers.
5. At the command line, type '**autocons &**' to start the AutoSys Ops Console.	This is helpful to see what is happening as processing of the driver proceeds.
6. Click on the highlighted yellow Freeze Frame to unselect it.	
7. At the command line in the terminal window, type '**SchedTest**' to start the Scheduler driver.	
8. Type option 2 to Update a DPR job.	
9. Enter the DPR Id, PGE Id, DPR Priority and an updated Start Time.	
10. Verify within the AutoSys Activity Console that the DPR Start Time has been modified.	

4.3.3.5 Test Case 5: AutoSys GUI COTS Test - Control Panel Menu (TS011.005)

This test performs the steps associated with verifying the Control Panel menu of the AutoSys software package.

Test Configuration:

Hardware: SPRHW (SunSparc 20)

Software: Processing subsystem, AutoSys

Data: None

Tools: AutoSys GUI

Test Input:

User-supplied actions.

Test Output:

Pop-ups and messages from the AutoSys GUI.

Success Criteria:

This test will be considered successful when all attempted AutoSys-related commands are accomplished.

Test Procedures:

Test Case ID: TS011.005	
Test Name: AutoSys GUI COTS Test - Control Panel Menu	
Test Steps:	Comments:
1. Login to the Job Management workstation.	

2. With the mouse click the up arrow on the desktop window and select "**Terminal**" or click the left mouse button and select "**Programs**" and then "**Terminal**" to bring up a terminal window.	
3. At the prompt enter: '**source /vendor/autotree2/autouser/autosys.csh.spre4sun**' to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. At the prompt enter: '**cd /usr/testa/bin**' to set directory to the Release A test directory.	This directory contains the Release A test drivers.
5. At the command line, type '**autosc &**' to start the AutoSys Control Panel.	The AutoSys GUI pop-up should appear. The AutoSys GUI will not be directly used to create/modify/delete DPRs.
6. There are six buttons on the AutoSys GUI Control Panel.	There is no need to specifically test each pop-up since they will be tested in subsequent cases.
7. Test the Ops Console button verifying that, when selected, the AutoSys Ops Console window appears. Exit when done.	
8. Test the Job Definition button verifying that, when selected, the AutoSys Job Definition window appears. Exit when done.	
9. Test the Calendars button verifying that, when selected, the AutoSys Calendar window appears. Exit when done.	
10. Test the Monitor/Browser button verifying that, when selected, the AutoSys Monitor/Browser window appears. Exit when done.	
11. Test the HostScape button verifying that, when selected, the AutoSys HostScape window appears. Exit when done.	
12. Test the JobScape button verifying that, when selected, the AutoSys JobScape window appears. Exit when done.	
13. Test the TimeScape button verifying that, when selected, the AutoSys TimeScape window appears. Exit when done.	
14. Finally, test the Exit button to exit the AutoSys GUI Control Panel.	

4.3.3.6 Test Case 6: AutoSys GUI Test - Job Definition Dialog (TS011.006)

This test performs the steps associated with verifying the Job Definition box in the AutoSys software package.

Test Configuration:

Hardware: SPRHW and peripherals

Software: Processing subsystem, AutoSys, Scheduler, Data Manager

Data:≠ DPR ID, DPR PGE ID, DPR start time, DPR stop time, DPR duration and other DPR attributes

Tools: AutoSys GUI

Test Input:

User-supplied actions. AutoSys should be populated with job boxes.

Test Output:

Pop-up windows and messages from the AutoSys COTS package.

Success Criteria:

This test will be considered successful when all attempted AutoSys-related commands are accomplished without errors.

Test Procedures:

Test Case ID: TS011.006	
Test Name: AutoSys GUI Test - Job Definition Dialog	
Test Steps:	Comments:
1. Login to the Job Management workstation.	
2. With the mouse click the up arrow on the desktop window and select "**Terminal**" or click the left mouse button and select "**Programs**" and then "**Terminal**" to bring up a terminal window.	
3. At the prompt enter: '**source /vendor/autotree2/autouser/autosys.csh.spre4sun**' to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. At the prompt enter: '**cd /usr/testa/bin**' to set directory to the Release A test directory.	This directory contains the Release A test drivers.
5. Invoke the AutoSys GUI by typing '**autosc &**' at the command line. The GUI Control Panel appears.	The AutoSys GUI will not be directly used to create/modify/delete DPRs.
6. Select the Job Definition button. The Job Definition box will appear.	The Job Definition box is used to define AutoSys jobs.
7. There are five buttons at the top of the box: Clear, Delete, Save, Adv Features, and Exit.	
8. Test the Clear button. It is used to clear the dialog without affecting the database.	
9. Test the Delete button. It is used to delete the currently displayed job from the database.	
10. Test the Save button. It is used for storing the displayed job in the database and then clearing the dialog. Either the pre-existing job is saved or a new one is created.	
11. Test the Adv Features button. It is used for most but the simplest AutoSys job definitions.	
12. Exit the Job Definition dialog.	

4.3.3.7 Test Case 7: AutoSys GUI Test - Ops Console Dialog (TS011.007)

This test performs the steps associated with verifying the Ops Console box in the AutoSys software package.

Test Configuration:

Hardware: SPRHW and peripherals

Software: Processing subsystem, AutoSys, Scheduler, Data Manager

Data:≠ DPR ID, DPR PGE ID, DPR start time, DPR stop time, DPR duration and other DPR attributes

Tools: AutoSys GUI

Test Input:

User-supplied actions. AutoSys should be populated with job boxes.

Test Output:

Pop-up windows and messages from the AutoSys COTS package.

Success Criteria:

This test will be considered successful when all attempted AutoSys-related commands are accomplished without errors.

Test Procedures:

Test Case ID: TS011.007	
Test Name: AutoSys GUI Test - Ops Console Dialog	
Test Steps:	Comments:
1. Login to the Job Management workstation.	
2. With the mouse click the up arrow on the desktop window and select "**Terminal**" or click the left mouse button and select "**Programs**" and then "**Terminal**" to bring up a terminal window.	
3. At the prompt enter: '**source /vendor/autotree2/autouser/autosys.csh.spre4sun**' to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. At the prompt enter: '**cd /usr/testa/bin**' to set directory to the Release A test directory.	This directory contains the Release A test drivers.
5. Invoke the AutoSys GUI by typing '**autosc &**' at the command line. The GUI Control Panel appears.	The AutoSys GUI will not be directly used to create/modify/delete DPRs.
6. Select the Ops Console button. The Ops Console box will appear.	The Ops Console box is used to monitor AutoSys jobs.
7. There are three regions within the Ops Console: Job List, Currently Selected Job, and Action Area.	
8. Test the Job List region by selecting any job listed.	
9. The Currently Selected Job region will now display the job selected in step 8.	
10. The Action Area can be tested by: starting a job, killing a job, forcing a job to start, placing a job on hold, taking a job off hold	This is not the appropriate manner in which to perform these commands. The software performs these commands via the 'Glue' software so as to minimize the effects of the COTS package.
11. Finally, test the Exit button to exit the Ops Console box.	

4.3.4 PGE Execution 1 Thread (TS060)

A PGE is defined as any processing job that requires Data Processing subsystem resources. A PGE can define different types of processing: science software, quality assurance, or science pre∞ processing. If there are standard types of processing jobs that are performed periodically, these jobs are planned and submitted to Processing from Planning. Most PGEs will be defined as science software PGEs. PGE Execution pertains to the preparation and post-processing activities to support the execution of the PGE. These activities include the following:

- Staging the executables and binaries which define the PGE, if required.
- Creating the Process Control File (PCF) used to support the PGE. PCF contains input and output data information.
- Preparing the Production History File (PHF) to be destaged (inserted) into the Science Data Service CSCI with the science data products. The Production History File will contain information used as inputs to the PGE (the Data Processing Request information) as well as resource utilization information.
- Deallocation of resources at the completion of data destaging.

The primary function of phase 1 is to build the communication between PGE Execution and the PDPS database. Execution Management is to confirm that its persistent objects are maintained when inserted into the database table and when retrieved from the database table.

4.3.4.1 Test Case 1: PGE Execution Test (TS060.001)

This test verifies the PDPS database interface's insertion of objects into the appropriate database table after the construction of a PGE. This test verifies storing and retrieving PGE persistent objects in the PGE table. This test also verifies that a prototype of a PCF and UNIX profile are created after the execution of a PGE and the objects are stored in the PCF table of the PDPS database.

Test Configuration:

Hardware: SPRHW (SunSparc 20)

Software: Execution Manager, PDPS database interface, DpPrPge

Data: PGE attributes

Tools: PgeDriver (Driver to construct PGE)

Test Input:

DPR Id, PGE ID, PGE host name, PGE state, PGE command, PGE environment, PGE shell

Test Output:

A row is inserted in the PGE table for the objects constructed. PCF and UNIX Profile are created and each file has a record that is inserted and maintained in the PCF table.

Test Success Criteria:

This test is considered successful if the PGE object is inserted into the PGE table. It is also successful if the prototypes of the PCF and UNIX Profile are created and updated in the PCF table after PGE execution. Additionally it will be considered successful when objects can be retrieved from the PDPS database.

Test Procedures:

Test Case ID: TS060.001	
Test Name: PGE Execution Test	
Test Steps:	Comments:
1. Login to the PGE Execution workstation	
2. At the command line type **setenv PCF_LOCATION '/usr/testa/IT/tools/PDPS/testdata'**	This sets the location variable (PCF_LOCATION) to a directory in the test environment
3. Invoke PGE Execution test driver by entering at command line: > **cd /usr/testa/IT/tools** > **PgeDriver**	Driver to construct PGE
4. Enter prompted data to start driver: Database user name, password, database name, database server name	Database name - **prong_it** Database server name - **spre4sun_srvr**
5. Enter data for the prompted fields to construct a PGE object: DprId, PGE ID, PGE host name	Information used as alternate constructor default values are returned.
6. Open a new window and connect to the database by entering: **'isql -U[username] -P[password]'**; **<return>** from the command line.	
7. Verify that a successful connection was made and that a sql command line is present	
8. Open PDPS database by entering: **'use prong_it'; <return>** from the sql command line	**prong_it** is the name of the PDPS Processing database in the test environment.
9. Enter **'go'; <return>**	This should be done after every sql command to display results on screen.
10. Enter '**Select * from PGE'** ; **<return>** Enter '**go**'; **<return>**	Database queried to retrieve a PGE record from the table and the results are displayed on the screen.
11. Verify the PGE record was inserted in the database	DPR ID and P GE ID from step 4.
12. Return to main the window	
13. Prepare for PGE execution by entering prompted data: PGE command, PGE environment, PGE shell	
14. Invoke PGE execution and verify that the files were created and inserted successfully	Partial implementation of requirements S-DPS-21120 and S-DPS-21130. Fully verified in phase 3.
15. Return to database window	

16. Enter **'Select * from PCF'** ; **<return>** Enter '**go**'; **<return>**	Database queried to retrieve PCF record from the PCF table and the results are displayed on the screen.
17. Verify that the PCF records of the two files created were inserted in the database	Files created from step 13.
18. Return to main window and exit driver by entering **'n'** to continue	

4.3.4.2 Test Case 2: Creation and Update of a PCF or Profile Test (TS060.002)

This test verifies the creation of a PCF or profile and that the objects are inserted in the PCF table of the PDPS database. This test also verifies that the location of the PCF or profile is maintained and the ability exists to update and move the file from one location to another in the database.

Test Configuration:

Hardware: SPRHW (SunSparc 20)

Software: Execution Manager, PDPS Database Interface, DpPrPcf

Data: PCF attributes

Tools: PcfDriver

Test Input:

DPR Id, PGE Id, location, type, permission

Test Output:

A PCF record of the file information is inserted in the PCF table.

Also the new location is updated in the database if is changed.

Test Success Criteria:

The test is considered successful if the PCF or profile is created and saved in the PCF table. Additionally, any updates are submitted to the PCF table if made.

Test Procedures:

Test Case ID: TS060.002	
Test Name: Creation and Update of PCF or Profile Test	
Test Steps:	Comments:
1. Login to the PGE Execution workstation	
2. Invoke PCF test driver by entering: > **cd /usr/testa/IT/tools** > **PcfDriver**	
3. Enter prompted data to start driver: Database user name, password, database name, database server name	Database name - **prong_it** Database server name - **spre4sun_srvr**

4. Enter prompted data: DPR Id, PGE ID	Make sure that the DPR Id and PGE Id exist in the PGE table and a PCF file has not been created.
5. Enter location, type, permission	Enter- 0 for PCF and 1 for Profile; location - '**usr/testa/IT/tools/PDPS/testdata'**
6. Verify that the file was created at the location entered at step 4	Partial implementation of requirements S-DPS-21120 and S-DPS-21130. Fully verified in phase 3.
7. Open new window and connect to database by entering: **'isql -U[username] -P[password]'; <return>**	
8. Verify a successful connection and a sql command line	
9. Open PDPS database by entering from the sql command line: **'use prong_it'; <return>**	**prong_it** is the name of the PDPS database in the test environment.
10. Enter **'go'; <return>**	This should be done after every sql command to display results on screen.
11. Enter **'Select * from PCF'** ; **<return>** Enter **'go'; <return>**	Database queried to retrieve PCF record from table and results are displayed on the screen.
12. Enter **'y'** to move to new location	
13. Enter new location: **'usr/testa/IT/tools/PDPS'**	
14. Verify that the file was moved to a new location successfully	The message from the driver should indicate this.
15. Return to database window	
16. Enter **'Select * from PCF'** ; **<return>** Enter **'go'; <return>**	Database queried to retrieve PCF record from table and results are displayed on the screen.
17. Return to the main window	
18. Exit driver by entering **'<ctrl> c'**	

4.3.4.3 Test Case 3: Database and Location Change of Science Software Test (TS060.003)

This test verifies that the objects of science software are constructed and that they are inserted in the EXECUTABLE table of the PDPS database. This test also verifies that the locations of the science software are maintained and confirms the ability to move software from one location to another within the database. The assumption is made that the new location is available in Resource Management for now and that the stage operation has been performed in the PGE class.

Test Configuration:

Hardware: SPRHW (SunSparc 20)

Software: Execution Manager, PDPS Database Interface, DpPrExecutable

Data: Executable and location attributes

Tools: ExecDriver

Test Input:

Layer, executable name, location, target, permission, and shell; PGE Id

Test Output:

An executable object is constructed and a record of the file information is inserted and the new location updated, if changed, in the EXECUTABLE table.

Test Success Criteria:

The test is considered successful if the executable object is constructed and successfully moved to a new location and updated in the EXECUTABLE table.

Test Procedures:

Test Case ID: TS060.003	
Test Name: Database and Location Change of Science Software Test	
Test Steps:	Comments:
1. Login to the PGE Execution workstation	
2. Invoke Executable test driver by entering at command line: > **cd /usr/testa/IT/tools** > **ExecDriver**	
3. Enter prompted data to start driver: Database user name, password, database name, database server name	Database name - **prong_it** Database server name - **spre4sun_srvr**
4. Open a new window and enter **'cd 'usr/testa/IT/tools/PDPS/testdata' ; <return>;** Enter **'ls'; <return>**	Verify that a file exists at the processing test directory and note of the file name.
5. Enter **'y'** when prompted to construct a default executable	Default constructor info will be displayed on screen.
6. Enter prompted data: Layer, name, location, target, permission, shell	Filename and location from step 3.
7. Enter PGE ID and verify insertion was complete	Make sure that the PGE Id exists in the PGE table.
8. Open a new window and connect to the database by entering from the command line: **'isql -U[username] -P[password]'; <return>**	
9. Verify a successful connection and a sql command line	
10. Open PDPS database by entering: **'use prong_it'; <return>** at the sql command line	**prong_it** is the name of the PDPS database in the IT environment.
11. Enter **'go'; <return>**	This should be done after every sql command to display results on screen.
12. Enter **'Select * from EXECUTABLE'** ; **<return>** Enter **'go'; <return>**	Database queries the EXECUTABLE table and results from the query are displayed on the screen.
13. Verify that the record was inserted into the EXECUTABLE table with the location entered from step 5	Results of the query are displayed on the screen.
14. Return to main window	
15. Enter **'y'** when prompted to move executable to new location	
16. Enter new location: **'usr/testa/IT/tools/PDPS'**	
17. Return to window of opened PDPS database	
18. Enter **'Select * from EXECUTABLE'** ; **<return>** Enter **'go'; <return>**	Database queries the EXECUTABLE table and results from the query are displayed on the screen.

19. Verify that the EXECUTABLE table was updated with the new location from step 15	
20. Return to main window	
21. Exit driver by entering **'<ctrl> c'**	

4.3.4.4 Test Case 4: Database Interface Referential Integrity(RI) Test (TS060.004)

This test verifies the referential integrity (RI) of the PDPS database. Values for the key fields PGEID and DPRID must be in the PGE table in order to be inserted into the PCF and EXECUTABLE tables.

Test Configuration:

Hardware: SPRHW (SunSparc 20)

Software: Execution Manager, DpPrExecutable, PDPS database

Data: PGE attributes and executable attributes

Tools: PcfDriver, ExecDriver

Test Input:

DprId, PGEId

Test Output:

A row inserted into the PCF or EXECUTABLE table if the PGEID and DPRID exist in the PGE table for a PGE.

Test Success Criteria:

This test is successful if a row is inserted into the PCF or EXECUTABLE table when values for the PGEID and DPRID are in the PGE table. The insertion is denied if the PGEID and DPRID are not in the PGE table.

Test Procedures:

Test Case ID: TS060.004	
Test Name: Database Interface Referential Integrity (RI) Test	
Test Steps:	Comments:
1. Open new window and connect to database by entering from the command line: **'isql -U**<*username*> **-P**<*password*>**'; <return>**	
2. Verify a successful connection and a sql command line	
3. Open the PDPS database by typing from the sql command line: **'use prong_it'; <return>**	**prong_it** is the name of the PDPS database in the test environment.
4. Enter **'go'; <return>**	This should be done after every sql command to display results on screen.
5. Enter **'Select * from PGE'** ; **<return>** Enter **'go'; <return>**	Query the PGE table to determine what PGE Ids and DPR Ids are there.

6. Run **PcfDriver** and enter prompted data to start driver	
7. Enter prompted information making sure that you use a PGE Id and DPR Id that are not in the PGE table	
8. Verify that an error is returned indicating that you cannot insert this record into the PCF table because the PGE Id and DPR Id are not in the PGE table	
9. Enter **'y'** to continue	
10. Repeat step 7 but use a PGE Id and DPR Id that are in the PGE table	
11. Enter **'Select * from PCF'** ; **<return>** Enter **'go'; <return>**	Database is queried to retrieve a record from the PCF table and display it on screen.
12. Verify that the PCF record was inserted into the PCF table	
13. Return to main window	
14. Exit driver by entering **'<ctrl> c'**	
15. Run **ExecDriver** and enter prompted data to start driver	
16. Repeat steps 7-14 using the EXECUTABLE table	

4.3.5 Resource Management (TS061)

Resource Management supports the management of science processing resources. It provides mappings of logical resources to physical resources and allows the Processing CSCI to manage, control and monitor science processing resources being used to support science data production.

The primary function of phase 1 is to build the communication interface between the PDPS Database and the Resource Management objects: string, computer, disk partition, and disk allocation. The RSC_STRING table contains virtual machine objects in memory. The RSC_COMPUTER table represents computer hardware that is used for science software processing. The RSC_DISK_PARTITION table contains attributes that manage file system device objects in memory and activities for controlling the use of disk resources. And the RSC_DISK_ALLOCATION table stores attributes that manage disk file objects in memory and usage and maintains the integrity of storage allocations and deallocations.

Resource Management is used to confirm that its persistent objects are maintained when inserted into the Resource Management tables and retrieved from the tables. The objects are not modified as a result of being retrieved from the database tables. With every insertion of a record into the appropriate resource table, a corresponding entry will be inserted into the Resource Master table. This relationship does not pertain to disk allocation objects since they are not derived objects of the Resource class.

4.3.5.1 Test Case 1: Insertion of Resource Management Objects into Database Test (TS061.001)

This test verifies the PDPS' database interface with Resource Management objects by Resource Management's insertion of the objects into the RSC_STRING, RSC_COMPUTER,

RSC_DISK_PARTITION, and RSC_DISK_ALLOCATION tables. This test also verifies that objects can be retrieved from the PDPS database.

Test Configuration:

Hardware: SPRHW (SunSparc 20)

Software:≠ Sybase, PDPS database interface, DpPrString, DpPrComputer, DpPrDiskPartition, DpPrDiskAllocation, DpPrResource

Data: Attributes of string, computer, disk partition, and disk allocation objects

Tools:≠ RMDriver (Connects to the PDPS database and create objects from the input file and loads them into the PDPS database)

Test Input:

Resource type- S (String), C (Computer), P (Disk Partition), A (Disk Allocation)

String attributes- String name

Computer attributes- Computer name, memory size, processors

Disk partition attributes- Device name

Disk allocation attributes- Allocation path, data processing request ID, allocation size

Test Output:

A row is inserted in the RSC_STRING, RSC_COMPUTER, RSC_DISK_PARTITION, and RSC_DISK_ALLOCATION tables of the PDPS database for each record created by the resource manager's constructed objects.

Test Success Criteria:

This test will be considered successful when the records created by the objects are inserted into the Resource Manager tables and those records can be queried and viewed from the PDPS database.

Test Procedures:

Test Case ID: TS061.001	
Test Name: Insertion of Resource Manager Objects into Database Test	
Test Steps:	Comments:
1. Login to the Resource Manager workstation	
2. Invoke Resource Manager test driver by typing at command line: > **cd /usr/testa/IT/tools** > **RMDriver**	
3. Enter prompted data to start driver: Database user name, password, database name, database server name	Database name - **prong_it** Database server name - **spre4sun_srvr**

4. Enter **'S'; <return>**	S for string resource type
5. Enter prompted data: string name	
6. Enter **'C'; <return>**	C for computer resource type
7. Enter prompted data: computer name, memory size, processor	
8. Enter **'P'; <return>**	P for disk partition resource type
9. Enter prompted data: device name	
10. Enter **'A'; <return>**	A for disk allocation resource type
11. Enter prompted data: allocation path, request id, allocation size	Allocation path, data processing request ID, allocation size
12. Open new window and connect to database by typing: **'isql -U[username] -P[password]'; <return>** from the command line	
13. Open PDPS database by typing: **'use prong_it'; <return>** from the command line	
14. Enter '**go'; <return>**	This should be done after every SQL command to display results on screen
15. Enter **'Select * from RSC_STRING'; <return>** Enter **'go'; <return>**	Database queried to retrieve RSC_STRING record from the database
16. Enter **'Select * from RSC_COMPUTER'; <return>** Enter **'go'; <return>**	Database queried to retrieve RSC_COMPUTER record from the database
17. Enter **'Select * from RSC_DISK_PARTITION'; <return>** Enter **'go'; <return>**	Database queried to retrieve RSC_DISK_PARTITION record from the database
18. Enter **'Select * from RSC_DISK_ALLOCATION'; <return>** Enter **'go'; <return>**	Database queried to retrieve record from the RSC_DISK_ALLOCATION table
19. Return to main window	
20. Exit driver by entering **'<ctrl> c'**	

4.3.5.2 Test Case 2: Insertion into the Resource Master Table Test (TS061.002)

This test verifies that a corresponding entry is inserted into the RESOURCE_MASTER table with every insertion of a record in the RSC_STRING, RSC_COMPUTER and RSC_DISK_PARTITION tables.

Test Configuration:

Hardware: SPRHW (SunSparc 20)

Software:≠ Sybase, PDPS database interface, DpPrString, DpPrComputer, DpPrDiskPartition, DpPrResource

Data: Attributes of string, computer and disk partition resource objects

Tools:≠ RMDriver (Connects to the PDPS database and create objects from the input file and loads those objects into the PDPS database)

Test Input:

Resource type- S (String), C (Computer), P (Disk Partition), A (Disk Allocation)

String attributes- String name

Computer attributes- Computer name, memory size, processors

Disk partition attributes- Device name

Disk allocation attributes- Allocation path, data processing request ID, allocation size

Test Output:

A corresponding row is inserted in the RESOURCE_MASTER table for every record inserted in the RSC_STRING , RSC_COMPUTER and RSC_DISK_PARTITION tables of the PDPS database.

Test Success Criteria:

This test is considered successful if the records created by the string and computer objects are inserted in the correct tables and the corresponding row is inserted into the RESOURCE_MASTER table. Also the row inserted into the master table can be queried and viewed from the PDPS database.

Test Procedures:

Test Case ID: TS061.002	
Test Name: Insertion into RESOURCE_MASTER Table Test	
Test Steps:	Comments:
1. Login to the Resource Manager workstation	
2. Invoke Resource Manager test driver by typing at command line: > **cd /usr/testa/IT/tools** > **RMDriver**	
3. Enter prompted data to start driver: Database user name, password, database name, database server name	Database name - **prong_it** Database server name - **spre4sun_srvr**
4. Enter **'S'; <return>**	Enter S for string resource type
5. Enter prompted data: string name	
6. Enter **'C'; <return>**	Enter C for computer resource type
7. Enter prompted data: computer name, memory size, processor	
8. Enter **'P'; <return>**	Enter P for disk partition resource type
9. Enter prompted data: device name	
10. Enter **'A'; <return>**	Enter A for disk allocation resource type
11. Enter prompted data: allocation path, request id, allocation size	Allocation path, data processing request ID, allocation size
12. Open new window and connect to database by typing: **'isql -U[username] -P[password]'; <return>** from the command line	
13. Open PDPS database by typing: **'use prong_it'; <return>** from the command line	
14. Enter '**go'; <return>**	This should be done after every SQL command to display results on screen
15. Enter **'Select * from RESOURCE_MASTER'; <return>** Enter **'go'; <return>**	Database queried to retrieve record from RESOURCE_MASTER table

16. Verify that a corresponding entry was inserted in the RESOURCE_MASTER table for each RSC_STRING, RSC_COMPUTER, and RSC_DISK_PARTION record inserted	Key fields string name, computer name, and device name entered in previous steps should exist in table
17. Return to main window	
18. Exit driver by entering **'<ctrl> c'**	

4.3.6 Data Management Thread (TS062)

Data Management is used to manage the flow of science data to and from science processing resources. This includes the communication mechanisms needed to interface with the Science Data Server CSCI and the Ingest CSCI.

This application manages the staging, destaging, and retention of data on Science Processing Hardware resources. The interface to the Science Data Server CSCI to stage (acquire) and destage (insert) data is provided by this application. This is a distinct application which is initiated as a precursor job for a PGE. This job is initiated by AutoSys when the dependencies defined for this job have been met. This application interfaces with the PDPS database to retain persistent data on what data currently resides on Science Processing Hardware Resources.

Phase 1 functionality will only test the ability to interface with the PDPS database; performing insertions, deletions, modifications, and queries in the DATA_MAP table.

4.3.6.1 Test Case 1: Insert Data into the DATA_MAP Table (TS062.001)

This test verifies the steps associated with inserting data to the DATA_MAP table.

Test Configuration:

Hardware: SPRHW (Sun Sparc 20)

Software: PDPS Database, Sybase

Data:≠ Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine

Tools: Data Manager test driver (DMdriver)

Test Input:

Data map attributes and values corresponding to the table fields.

Test Output:

A row with data inserted with the input parameters.

Success Criteria:

Data will be inserted into the corresponding fields with the specified values.

Test Procedures:

Test Case ID: TS062.001	
Test Name: Insert Data to the DATA_MAP Table	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Type '**ps -ef | grep sybase**' to verify that the Sybase server is up and running.	
3. Change directory to the Release A bin directory by typing "**cd /usr/testa/bin**".	
4. At the command line, type '**DMdriver**' to start the Data Management driver.	
5. Enter your DB username, DB password, DB server name, and the PRONG DB name when requested.	You will get a message saying Successfully Connected to the prong_IT database.
6. You will be prompted to select a range of items. Enter '**I**' to insert an object into the DATA_MAP table.	
7. You will be prompted to enter information for each of the following fields: UR_ID, LOCATION, NUMBER_OF_USAGE, STATUS, and MACHINE.	Valid values for STATUS are 0, 1, or 2.
8. After you have provided the above information and pressed enter, the driver will then return the row that was inserted into the database.	
9. Create another terminal window by depressing the right mouse button, selecting Programs and then selecting Terminal.	
10. To access the Processing database, enter "**isql -U <db_username>**" and enter you password.	
11. Type "**use prong_it**", hit enter, then type "**go**".	
12. To check that the object was inserted, you can manually select the row from the DATA_MAP table by typing "**select * from DATA_MAP**".	

4.3.6.2 Test Case 2: Select Data from the DATA_MAP Table (TS062.002)

This test verifies the steps associated with selecting data from the DATA_MAP table.

Test Configuration:

Hardware: SPRHW (Sun Sparc 20)

Software: PDPS Database, Sybase

Data:≠ Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine

Tools: Data Manger test driver (DMdriver)

Test Input:

Data map attributes corresponding to the table fields.

Test Output:

A selected row from the PDPS database based on the input parameters.

Success Criteria:

A row will be selected with data matching the input criteria.

Test Procedures:

Test Case ID: TS062.002	
Test Name: Select Data from the DATA_MAP Table	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Type '**ps -ef | grep sybase**' to verify that the Sybase server is up and running.	
3. At the command line, type '**DMdriver**' to start the Data Management driver.	
4. You will be prompted to select a range of items. Enter '**S**' to select objects from the database.	
5. You will be prompted to enter a field name as the first search criteria. The possible values are DATA_MAP_UR_ID, DATA_MAP_LOCATION, NUMBER_OF_USAGE, DATA_MAP_STATUS, and DATA_MAP_MACHINE. Enter one of these.	
6. You will be prompted to enter a field value. The value can be a character or an integer depending on the column chosen.	
7. The driver will then return with a row or a list of rows that match the select criteria.	
8. To check that all valid matching rows were selected, you can search the database manually with the same select criteria.	

4.3.6.3 Test Case 3: Update Data in the DATA_MAP Table (TS062.003)

This test verifies the steps associated with updating data in the DATA_MAP table. Updating data in the database refers to updating more than one record at a time.

NOTE: This functionality is not consistent with object-oriented programming and will be removed in the Phase 2 delivery of the software.

Test Configuration:

Hardware: SPRHW (Sun Sparc 20)

Software: PDPS Database, Sybase

Data:≠ Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine

Tools: Data Manager test driver (DMdriver)

Test Input:

Data map attributes and values corresponding to the table fields.

Test Output:

A successful or unsuccessful confirmation message.

Success Criteria:

Multiple records will be updated in the database.

Test Procedures:

Test Case ID: TS062.003	
Test Name: Update Data in the DATA_MAP Table	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Type '**ps -ef | grep sybase**' to verify that the Sybase server is up and running.	
3. At the command line, type '**DMdriver**' to start the Data Management driver.	
4. You will be prompted to select a range of items. Enter '**U**' to update an object into the database.	
5. You will be prompted to enter the field that should be updated. Enter one of the non-primary key fields.	
6. You will be prompted to enter the value for the above field.	
7. You will be prompted to enter the search field. Enter either of the two primary key fields.	
8. You will then be prompted to enter a value for the search field.	
9. The driver will return a confirmation message listing the row(s) that was(were) updated.	
10. To check that the information was updated into the database, you can manually select the row(s) from the database.	

4.3.6.4 Test Case 4: Update an Object in the DATA_MAP Table (TS062.004)

This test verifies the steps associated with updating an object in the DATA_MAP table. In the object-oriented framework, one and only one object will be updated as a result of this operation.

Test Configuration:

Hardware: SPRHW (Sun Sparc 20)

Software: PDPS Database, Sybase

Data:≠ Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine

Tools: Data Manager test driver (DMdriver)

Test Input:

Data map attributes and values corresponding to the table fields.

Test Output:

A confirmation message stating the successful/unsuccessful update of an object.

Success Criteria:

A single row will be updated in the database.

Test Procedures:

Test Case ID: TS062.004	
Test Name: Update an Object in the DATA_MAP Table	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Type '**ps -ef | grep sybase**' to verify that the Sybase server is up and running.	
3. At the command line, type '**DMdriver**' to start the Data Management driver.	
4. You will be prompted to select a range of items. Enter '**O**' to update an object in the database.	
5. You will be prompted to enter the field that should be updated. The possible values are LOCATION, USAGE, STATUS and MACHINE.	
6. You will be prompted to enter the new value for the above field.	
7. You will be prompted to enter the search field. Enter of the primary key fields DATA_MAP_ID or DATA_MAP_UR_ID.	
8. You will then be prompted to enter a value for the search field.	
9. After you have provided the above information and pressed enter, the driver will return the first row updated that matched the search criteria in the database.	
10. To check that the information was updated into the database, you can manually select the row from the database.	

4.3.6.5 Test Case 5: Delete an Object from the DATA_MAP Table (TS062.005)

This test verifies the steps associated with deleting an object in the DATA_MAP table. In the object-oriented framework, one and only one object will be deleted as a result of this operation.

Test Configuration:

Hardware: SPRHW (Sun Sparc 20)

Software: PDPS Database, Sybase

Data:≠ Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine

Tools: Data Manager test driver (DMdriver)

Test Input:

Data map attributes and values corresponding to the table fields.

Test Output:

A confirmation message stating the successful/unsuccessful deletion of an object.

Success Criteria:

A row will be deleted in the database.

Test Procedures:

Test Case ID: TS062.005	
Test Name: Delete an Object from the DATA_MAP Table	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Type '**ps -ef | grep sybase**' to verify that the Sybase server is up and running.	
3. At the command line, type '**DMdriver**' to start the Data Management driver.	
4. You will be prompted to select a range of items. Enter '**D**' to delete an object in the database.	
5. You will be prompted to enter the field to delete. Enter DATA_MAP_UR_ID.	
6. You will be prompted to enter the value for the above field.	
7. After you have provided the above information and pressed enter, the driver will return the row deleted from the database.	
8. To check that the information was deleted from the database, you can manually query the database and see if the object exists.	

4.3.6.6 Test Case 6: Select a Row(s) in the DATA_MAP Table (TS062.006)

This test verifies the steps associated with selecting a row(s) in the DATA_MAP table.

Test Configuration:

Hardware: SPRHW (Sun Sparc 20)

Software: PDPS Database, Sybase

Data:≠ Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine

Tools: Data Manager test driver (DMdriver)

Test Input:

Data map attributes and values corresponding to the table fields.

Test Output:

A confirmation message stating the successful/unsuccessful selection of a row(s).

Success Criteria:

A row(s) will be selected in the database.

Test Procedures:

Test Case ID: TS062.006	
Test Name: Select a Row(s) in the DATA_MAP Table	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Type '**ps -ef | grep sybase**' to verify that the Sybase server is up and running.	
3. At the command line, type '**DMdriver**' to start the Data Management driver.	
4. You will be prompted to select a range of items. Enter '**R**' to select rows in the database.	
5. You will be prompted to enter the field to select. Enter any of the fields.	
6. You will be prompted to enter the value for the above field.	
7. After you have provided the above information and pressed enter, the driver will return the rows selected from the database.	
8. To check that the information was selected correctly, you can manually query the database.	

4.3.7 Planning and Processing 1 Build (BS004)

The Planning subsystem is responsible for supporting operation staff in managing the data production activities at a site. The Planning subsystem assists the operations staff in performing two major functions:

- defining the data processing tasks to be performed at a site; and
- generating efficient plans for the scheduling of those tasks.

In addition the Planning subsystem is responsible for coordinating the production with the Data Server and Data Processing subsystems to achieve a highly automated production subsystem.

The Data Processing Subsystem is the collection of hardware and software components which are responsible for the management of the data processing resources at the provider site. These management responsibilities can be divided into the following general functional areas:

a. Managing the generation of Data Products and the operational environment used to produce those products.

b. Providing an Algorithm Integration and Test Environment for the introduction of science software into the EOSDIS environment.

This build will test the integration of the following PDPS Phase 1 threads:

DPR Generation 1
Job Management/COTS
Resource Management
PGE Execution 1
Data Management

The extent of the test will be limited to simultaneously running the test drivers and concurrently accessing the PDPS database because there is no integrative functionality between the Planning and Processing subsystems for Phase 1.

4.3.7.1 Test Case 1: Multiple Concurrent Database Access (BS004.001)

This build test lists the steps involved to test multiple and concurrent accesses of the PDPS database.

Test Configuration:

Hardware: PLNHW (SunSparc 20/50), SPRHW (SunSparc 20/71)

Software:≠ PDPS Database, Sybase, AutoSys, Resource Planner, Scheduler, Data Manager, Execution Manager, DpPrPge, DpPrString, DpPrResource

Data:≠ Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine, Production Request Start Date, Production Request Start Time, Production Request Stop Date, Production Request Stop Time, Product ID, PGE ID, User ID, Production Request Priority, User Parameter, User Parameter ID, User Parameter Value, DPR start time, stop time, DPR ID, DPR PGE ID, PGE attributes, DpPrString objects

Tools:≠ Data Manager test driver, Production Request Editor driver, SchedTest test driver, PGE driver (driver to construct a PGE), DpPrRMdriver.cxx

Test Input:

Data map attributes corresponding to the table fields for Data Management.

String name for Resource Management.

DprId, PgeID, PGE host name, PGE state, PGE command, PGE environment, PGE shell from PGE Execution 1.

A DPR for Job Management.

PR Start/Stop Date, PR Start/Stop Time, Product/PGE/User ID, PR Priority, User Parameter ID/Value for DPR Generation 1.

Test Output:

From PGE Execution 1: A row is inserted in the PGE table for the objects constructed. In addition, a PCF and UNIX Profile are created and each file created has a record that is inserted and maintained in the PCF table.

From Job Management: Seven jobs corresponding to a DPR in the AutoSys database and an AutoSys report showing the creation of the DPR.

From DPR Generation 1: All of the above input will be placed into the proper tables of the PDPS database and Data Processing Requests will exist in the DATA_PROCESSING_REQUEST table of the PDPS database.

Success Criteria:

This build test will be considered successful when all of the steps can be performed concurrently and verified to have been recorded within the PDPS database.

Test Procedures:

Test Case ID: BS004.001	
Test Name: Multiple Concurrent Database Access	
Test Steps:	Comments:
1. Login to the Processing client workstation.	
2. Login to the Planning client workstation.	
3. Make sure that the PDPS database is up prior to starting this test.	
4. On the PRONG client, open a terminal window by depressing the right mouse button and selecting Programs and then Terminal.	This brings up the Data Management window.
5. In that window type '**DMdriver**' to start the Data Management driver.	
6. Enter your db_username, db_password, db_servername, and the database_name when prompted.	
7. On the PLANG client, open a terminal window by depressing the right mouse button and selecting Programs and then Terminal.	This brings up the Production Request Editor window.
8. On the PLANG client, type '**pr_req_ed**' to start the Production Request Editor driver.	
9. Enter the PR start and stop dates, start and stop times, product id, PGE id, and user id, PR priority, # of user parameters, and the user parameter id and value.	
10. On the PRONG client, open a terminal window by depressing the right mouse button and selecting Programs and then Terminal.	This brings up the Job Management window.
11. Within that window type '**source /vendor/autotree2/autouser/autosys.csh.spre4sun**' to source the AutoSys configuration file.	
12. Now type '**autocons &**' to start the AutoSys Activity Console.	The AutoSys Activity Console will appear. This is helpful to see what is happening within AutoSys as the driver proceeds.

13. Depress the yellow Freeze Frame button to unselect it.	
14. In the Job Management window type '**SchedTest**' to start the Scheduler driver.	
15. On the PRONG client, open a terminal window by depressing the right mouse button and selecting Programs and then Terminal.	This brings up the PGE Execution window.
16. Within that window type '**PGEDriver**' to create a PGE object in the database.	
17. On the PRONG client, open a terminal window by depressing the right mouse button and selecting Programs and then Terminal.	This brings up the Resource Manager window.
18. Within that window type '**RMDriver**' to start the Resource Management driver.	
19. You should have five windows open on the PRONG client workstation and one window open on the PLANG client workstation.	PRONG: Job Management, Data Management, Resource Management and PGE Execution. PLANG: Production Request Editor.
20. Click on the Job Management window and select option 1 to create a DPR.	Steps 20-26 should be attempted to simultaneously access the database.
21. Input the DPR Id, PGE Id, DPR Priority and the DPR start time.	
22. Click on the Resource Management window and input a resource type and string name.	
23. Click on the PGE Execution window and enter DPR Id, PGE Id and a host name.	
24. Click on the Data Management window and type '**I**' to insert an object into the DATA_MAP table.	
25. Enter values for the ur_id, location, number of usage, status and machine.	Valid values for status can be 0, 1 or 2.
26. The driver will then display the row that was inserted into the DATA_MAP table.	
27. All transactions should progress smoothly with each driver accessing the database as needed.	
28. Additional concurrent database commands may be performed within these windows prior to shutting the processes down.	
29. Click on the Data Management window and type '**x**' to stop the driver. Then type '**exit'** to logout.	Shutdown the Data Management process.
30. Click on the Resource Management window and type **ctrl-c** to stop the driver. Then type '**exit**' to logout.	Shutdown the Resource Management process.
31. Click on the PGE execution window. At the prompt "*Do you want to continue:*" type '**no**' to stop the driver. Then type '**exit**' to logout.	Shutdown the PGE Execution process.
32. Click on the AutoSys Activity Console and press the Exit button.	
33. Click on the Job Management window and select option '**0**' to stop the driver. Then type '**exit**' to logout.	Shutdown the Job Management process.
34. The goal within this build was to access the database concurrently with all of the above activities.	

4.4 Ingest and Archive 2 Tests

The following subsections include the threads and builds identified to support Ingest and Archive 2 testing. Ingest and Archive 2 testing includes the following threads and builds:

- Metadata Extraction 1 Thread
- Electronic Data Transfer Thread
- Ingest and Archive 2 Build

4.4.1 Metadata Extraction 1 Thread (TS013)

This thread demonstrates the capability to extract metadata from selected ancillary data received from NESDIS, NMC and SDPF. Tests include:

TS013.001 NESDIS Metadata Extraction Test

TS013.002 SDPF Metadata Extraction Test

4.4.1.1 Test Case 1: NESDIS Metadata Extraction Test (TS013.001)

This test demonstrates the ability to extract metadata from data received for data ingest. All data received from an external interface must provide enough information so metadata can be extracted. This test verifies the capability to perform an automatic check of data, when metadata is or is not provided with data for ingest, to determine if proper and complete information is provided so metadata can be generated. Data used to execute this test includes Aerosol Weekly data. Upon arrival of data for ingest, the data is automatically checked to determine if metadata can be extracted. If the validation is successful, metadata is extracted. Metadata items generated include: a unique granule id, date and time of storage, data volume, physical location of data, data check status and unique format identifiers. If the validation is unsuccessful, a status message is sent to the requester and the Error Log is updated. The ECS Ingest GUI is used to monitor the ingest and processing of the data. Error testing includes: missing metadata parameters and out of range parameters which cause validation to fail.

Test Configuration:

Hardware: Workstation, Client Host, Working Storage.

Software:≠ Ingest Client Interface CSC, Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Operator Ingest Interface CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC.

Data: Aerosol Weekly data set

Tools: None.

Test Input:

Ingest requests including data for metadata extraction. Valid and invalid requests are submitted for ingest.

Test Output:

Ingest requests are monitored using the ECS Ingest GUI. Status messages are displayed to the screen. The Error Log and Ingest History GUI are updated to reflect metadata validation errors.

Success Criteria:

Appropriate status messages are displayed for successful metadata validation and unsuccessful validation. Ingest requests which do not pass metadata checks are recorded in the Ingest Error Log and the Ingest History GUI.

Test Procedures:

Test Case ID: TS013.001	
Test Name: NESDIS Metadata Extraction	
Test Steps:	Comments:
1. Logon to the Ingest Workstation > <username> > <password>	
2. Open an xterm and use this xterm to start a NESDIS xterm, a RequestManager xterm, and a GUI xterm. >xterm -T NESDIS & >xterm -T RequestManager & > xterm -T GUI & >exit	
3. On the NESDIS xterm place a data file into the poll directory. > cp /usr/testa/testdata/<filename> /usr/testa/testdata/poll	Repeat test for Aerosol Weekly and Vegetation Index data types.
4. On the Ingest Server xterm start the Ingest process(es) if they are not currently running. > cd /usr/testa/ingest/data > source envsetup > dce_login <username> > <dce password> > cd /usr/testa/ingest/bin > ./InReqMgr >& Event Log &	
5. On the Ingest Driver xterm, start the driver processes if they are not currently running. > cd /usr/testa/ingest/bin > source envset > dce_login <username> > <dce password> > ./sess	

6. On the Ingest GUI xterm, invoke the initial ECS Ingest GUI. > cd /usr/testa/ingest/data > source envsetup > cd /usr/testa/ingest/bin > setenv DISPLAY <terminal>:0.0 > ./InGUISession & > exit	
7. Using the initial ECS Ingest GUI, invoke the Ingest Monitor GUI. > click Monitor/Control	
8. Monitor requests submitted by NESDIS. > click Data Provider >Choose NESDIS > Choose Graphical/Text view	
9. On the NESDIS xterm start the NESDIS polling process. >./IngestPolling No NESDIS <poll-directory> AFIELD <NESDIS_hostname> &	
10. Use the ECS Ingest GUI Interface to monitor the ingest and archive process.	
11. When the ECS GUI Interface indicates that a file has been ingested and processed, proceed with the next step.	
12. Using the Initial ECS GUI Interface, invoke the History GUI. > click History	The History GUI will provide information on the processed request.
13. Enter Search Criteria for Request.	
14. Verify data has been ingested and Metadata successfully extracted. > double-click on appropriate Request ID	
15. On the Ingest Workstation, open an xterm to view the Event Log.	
16. View the Event Log for successful validation of Metadata information.	
17. On the Ingest Workstation view the extracted Metadata. > cd <directory name> > more <filename>	Preprocessed Metadata is stored in this directory before being copied to Storage Management.
18. Using the NESDIS xterm, delete the data file from the NESDIS polling directory. > cd /usr /testa/testdata/poll > rm <filename>	

19. On the NESDIS xterm place a data file, containing missing metadata parameters into the poll directory. > cp /usr/testa/testdata/<filename> /usr/testa/testdata/poll	Metadata Parameters include: Southbounding Latitude, Northbounding Latitude, Eastbounding Longitude, and Westbounding Longitude. Repeat for Vegetation Index and Aerosol Weekly data types missing various parameters.
20. On the ECS Ingest GUI Interface select the Monitor/Control function.	
21. Monitor requests submitted by NESDIS. > click Data Provider > choose NESDIS	
22. On the RequestManager xterm start the NESDIS polling process > ./IngestPolling No NESDIS <poll-directory> AFIELD <NESDIS_hostname> &	
23. Use the ECS Ingest GUI Interface to monitor the ingest and archive process.	
24. When the ECS GUI Interface indicates that a file has been ingested and processed, proceed with the next step.	
25. Using the Initial ECS GUI Interface, invoke the History GUI. > click History	The History GUI will provide information on the processed request.
26. Enter Search Criteria for Request.	
27. Verify data has been ingested and Metadata not extracted due to missing required parameters. > double-click on appropriate Request ID	
28. On the Ingest Workstation, open an xterm to view the Event Log.	
29. View the Event Log for unsuccessful validation of Metadata information due to missing required metadata parameters.	
30. Exit the GUI Interfaces and terminate all GUI processes. > ^z > ps -fe |grep In > kill -9 <process id> > kdestroy > exit	
31. On the Request Manager xterm, terminate the Ingest processes and exit the xterm. > ^z > ps -fe |grep In > kill -9 <process id> > kdestroy > exit	cleanup

32. Delete all files which may reside in the temporary storage directory > cd <directory name> > rm *	cleanup
33. Delete the Event Log	cleanup
34. Delete all data files then exit the NESDIS xterm. > cd /usr/testa/testdata/poll > rm * > exit	
35. Logoff the Ingest Workstation.	S-INS-00340P, S-INS-00404P

4.4.1.2 Test Case 2: SDPF Metadata Extraction Test (TS013.002)

This test demonstrates the ability to extract metadata from data received for data ingest. All data received from an external interface must provide enough information so metadata can be extracted. This test verifies the capability to perform an automatic check of data, when metadata is or is not provided with data for ingest, to determine if proper and complete information is provided so metadata can be generated. Data used to execute this test includes CERES and LIS level-zero data. Upon arrival of data for ingest, the data is automatically checked to determine if metadata can be extracted. If validation is successful, metadata is extracted. Metadata items generated include: a unique granule id, date and time of storage, data volume, physical location of data, data check status and unique format identifiers. If the validation is unsuccessful, a status message to sent to the requester and the Error Log is updated. The ECS Ingest GUI is used to monitor the ingest and processing of the data. Error testing includes, at a minimum: missing metadata parameters, and out of range parameters which cause validation to fail. This test uses the electronic ingest protocol.

Test Configuration:

Hardware: Workstation, Client Host, Working Storage.

Software:≠ Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Operator Ingest Interface CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC.

Data: SDPF data sets

Tools: None.

Test Input:

Ingest requests (electronic network) including data for metadata generation. Valid and invalid requests are submitted for ingest.

Test Output:

Ingest requests are monitored using the ECS Ingest GUI. Status messages are displayed to screen. The Error Log and Ingest History GUI are updated to reflect all metadata validation errors.

Success Criteria:

Appropriate status messages are displayed for successful metadata validation and unsuccessful validation. Ingest requests which do not pass metadata checks are recorded in the Ingest Error Log and the Ingest History GUI.

Test Procedures:

Test Case ID: TS013.002	
Test Name: SDPF Metadata Extraction	
Test Steps:	Comments:
1. Logon to the Ingest Workstation > <username> > <password>	
2. Open an xterm and use this xterm to start an IngestDriver xterm, an IngestServer xterm and an IngestGUI xterm. > xterm -T IngestDriver & > xterm -T IngestServer & > xterm -T IngestGUI & > exit	
3. On the Ingest Server xterm start the Ingest process(es) if they are not currently running. > cd /usr/testa/ingest/data > source envsetup > dce_login <username> > <dce password> > cd /usr/testa/ingest/bin > ./InReqMgr >& Event Log &	
4. On the Ingest Driver xterm, start the driver processes if they are not currently running. > cd /usr/testa/ingest/bin > source envset > dce_login <username> > <dce password> > ./sess	

5. On the Ingest GUI xterm, invoke the initial ECS Ingest GUI. > cd /usr/testa/ingest/data > source envsetup > cd /usr/testa/ingest/bin > setenv DISPLAY <terminal>:0.0 > ./InGUISession & > exit	
6. Using the initial ECS Ingest GUI, invoke the Ingest Monitor GUI. > click Monitor/Control	
7. Monitor the Ingest and Processing of the request using the Ingest Monitor GUI. > choose Data Provider > choose Text View	
8. On the Ingest Driver xterm create an Ingest Session. > 1 > <enter session id> > Auto	Note start time.
9. On the Ingest Driver xterm send a DAN containing L0 data. > /usr/testa/testdata/<filename>	CERES and LIS L0 data should be used.
10. On the Ingest Driver xterm confirm receipt of the DAA.	The DAA indicates that the DAN was accepted.
11. On the Ingest Driver xterm confirm receipt of the DDN.	The DDN indicates that the data was ingested and archived successfully.
12. On the Ingest Driver xterm send the DDA and then shutdown the Ingest Client simulator. > 2 > <request id>	Note stop time.
13. On the Ingest Server xterm print out the Event Log.	Verify receipt and confirmation of DAN(s) entry in the Log.
14. Using the initial ECS Ingest GUI, invoke the Ingest History GUI. > click History Log	
15. Enter Search criteria for Ingest Request into the GUI	
16. Verify request was successfully ingested, processed and archived.	
17. On the Ingest Server xterm, view the Event Log for successful validation of Metadata message. > cd /usr/testa/ingest/bin > more Event Log	
18. On the Ingest Driver xterm create an Ingest Session. > 1 > <enter session id> > Auto	Note start time.

19. On the Ingest Driver xterm send a DAN containing SDPF Data with Missing Required Metadata Information. > /usr/testa/testdata/<filename>	SDPF Data includes CERES and LIS level-zero data. Missing required Metadata Information includes: Project, Data_Type, Start_Date, Stop_Date, and Data_Version. DANs should be sent missing each of the listed parameters.
20. On the Ingest Driver xterm confirm receipt of the DAA.	The DAA should indicate that the DAN was rejected due to Missing Required Metadata Parameters..
21. On the Ingest Server xterm print out the Event Log.	Verify receipt and confirmation of DAN(s) entry in the Log.
22. Using the initial ECS Ingest GUI invoke the Ingest History GUI. >click History	
23. Enter Search Criteria for the Request	
24. Validate all ingest and preprocessing errors were recorded in the History GUI. > double-click on appropriate Ingest Request ID	
25. Exit all GUIs and terminate the GUI processes. > select Close > ^z (in GUI xterm) > ps -fe |grep InGUISession > kill -9 <process id> > exit	
26. On the Ingest Driver xterm, shut down the Ingest Driver and exit the xterm. > 3 > kdestroy > exit	
27. On the Ingest Server xterm shutdown the Ingest Server process(es) and exit the Ingest Server xterm. > ^z > ps -fe |grep In > kill -9 <process id> > kdestroy > exit	
28. Exit all xterms and logoff the Ingest Workstation	S-INS-00340P, S-INS-00404P

4.4.2 Electronic Data Transfer Thread (TS015)

This thread demonstrates the capability to transfer data from accessible network locations to support automated network interfaces. This includes working storage I/O access and providing status displays.

TS015.001 SDPF Ingest and Archive Test

TS015.002 TRMM SDPF Ingest and Archive Error Log Test

TS015.003 Ingest History Log Test

TS015.004 Automated Electronic Network Ingest Priority Test

TS015.005 Ingest GUI Verification - Monitor/Control Test

4.4.2.1 Test Case 1: SDPF Ingest and Archive Test (TS015.001)

This test demonstrates the ability to ingest and archive TRMM (CERES and LIS level zero) data from the SDPF into an ECS DAAC, including collections containing single granules of data. The SDPF sends an Authentication Request to the ECS. The ECS verifies the Authentication Request as from a valid source and a connection is established allowing the SDPF to send Data Availability Notices (DANs). The DANs are received and validated and Data Availability Acknowledgments (DAAs) are sent to the SDPF. Upon validation of the DANs, the data is retrieved from the SDPF via FTP. The data is preprocessed including metadata extraction. The data and associated metadata are archived and the DBMS is updated with core metadata. Data Delivery Notices (DDNs) are sent to the SDPF to indicate ingest and archive status. The ECS Ingest GUI Interface is used to monitor the ingest and processing of data. During the ingest and archive process, information is logged in the Event Log. The ECS History GUI is used to display status of completed ingest requests.

Test Configuration:

Hardware:≠ Ingest Server, SDPF Ingest Client host, Science Data Server, Working Storage, Archive Storage

Software: INGST CI, SDSRV CI, STMGT CI

Data: SDPF data sets including: TRMM CERES and LIS L0 data

Tools: SDPF Ingest Client simulator

Test Input:

Inputs to this test include: Two DANs, one DAN containing one granule of CERES L0 data and the other DAN containing one granule of LIS L0 data.

Test Output:

Outputs to this test include DAAs and DDNs displayed on the SDPF Ingest Client host. Printouts of the Event Log, displays of the Ingest Monitor and Ingest History GUIs, listings of the archive directories, and responses to SQL queries.

Success Criteria:

A data connection is successfully established allowing the SDPF to send DANs to the ECS DAAC. DAAs for each DAN are sent to the SDPF. For each DAN, the data and metadata are successfully transferred, preprocessed and placed in the Science Data Server database and archive. DDNs are sent to the SDPF. Receipt of the network ingest request, and response to the

network ingest request are successfully reported to the Event Log. Completed history of the ingest request may be viewed in the Ingest History Log.

Test Procedures:

Test Case ID: TS015.001	
Test Name: SDPF Ingest and Archive Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation. > <username> > <password>	For in house testing the Ingest workstation will simulate all DAACs.
2. Open an xterm and use this xterm to start an IngestDriver xterm, an IngestServer xterm an, IngestGUI xterm, and a DataServer xterm. > xterm -T IngestDriver & > xterm -T IngestServer & > xterm -T IngestGUI & > xterm DataServer & > exit	
3. On the Ingest Server xterm start the Ingest process(es) if they are not currently running. > cd /usr/testa/ingest/data > source envsetup > dce_login <username> > <dce password> > cd /usr/testa/ingest/bin > ./InReqMgr >& Event Log &	
4. On the Ingest Driver xterm, start the driver processes if they are not currently running. > cd /usr/testa/ingest/bin > source envset > dce_login <username> > <dce password> > ./sess	
5. On the Ingest GUI xterm, invoke the initial ECS Ingest GUI. > cd /usr/testa/ingest/data > source envsetup > cd /usr/testa/ingest/bin > setenv DISPLAY <terminal>:0.0 > ./InGUISession & > exit	
6. Using the initial ECS Ingest GUI, invoke the Ingest Monitor GUI. > click Monitor/Control	
7. Monitor the Ingest and Processing of the request using the Ingest Monitor GUI. > choose Data Provider > choose Text View	

8. On the Data Server xterm, invoke the Data Server processes. > cd /data/dataserver/bin/sun5 > source dbrc.csh > source dssrc.csh > ./sdsrv &	
9. On the Ingest Driver xterm create an Ingest Session. > 1 > <enter session id> > Auto	Note start time.
10. On the Ingest Driver xterm send a DAN containing CERES L0 data. > /usr/testa/testdata/<filename>	
11. On the Ingest Driver xterm confirm receipt of the DAA.	The DAA indicates that the DAN was accepted.
12. On the Ingest Driver xterm confirm receipt of the DDN.	The DDN indicates that the data was ingested and archived successfully.
13. On the Ingest Driver xterm send the DDA and then shutdown the Ingest Client simulator. > 2 > <request id>	Note stop time.
14. On the Ingest Server xterm print out the Event Log.	Verify receipt and confirmation of DAN(s) entry in the Log.
15. Using the initial ECS Ingest GUI, invoke the Ingest History GUI. > click History Log	
16. Enter Search criteria for Ingest Request into the GUI	
17. Verify request was successfully ingested, processed and archived.	
18. On the Data Server xterm print out a list of the archive storage directory.	The listing of the archive storage directory contains all files identified in the DAN.
19. On the Data Server xterm use SQL queries to verify that the Science Data Server database has been updated with Metadata.	The SQL queries return information pertaining to the data in the DAN.
20. Using the initial ECS Ingest GUI, invoke the Ingest Monitor GUI. > click Monitor/Control	
21. Monitor the Ingest and Processing of the request using the Ingest Monitor GUI.	
22. On the Ingest Driver xterm create a new ingest session. > 1 > <enter session id> > Auto	Note start time.
23. On the Ingest Driver xterm send a DAN containing LIS L0 data.	

24. On the Ingest Driver xterm confirm receipt of the DAA.	The DAA indicates that the DAN was accepted.
25. On the Ingest Driver xterm confirm receipt of the DDN.	The DDN indicates that the data was ingested and archived successfully.
26. On the Ingest Driver xterm send the DDA and then shutdown the Ingest Client simulator. > 2 > <request id>	Note stop time.
27. On the Ingest Server xterm print out the Event Log.	Verify receipt and confirmation of DAN(s) entry in the Log.
28. On the Ingest Server xterm delete the Event Log.	cleanup
29. Using the initial ECS Ingest GUI, invoke the Ingest History GUI. > click History Log	
30. Enter Search criteria for Ingest Request	
31. Verify request was successfully ingested, processed and archived.	
32. On the Data Server xterm print out a list of the archive storage directory.	The listing of the archive storage directory contains all files identified in the DAN.
33. On the Data Server xterm use SQL queries to verify that the Science Data Server database has been updated with Metadata.	The SQL queries return information pertaining to the data in the DAN.
34. Exit the Ingest Driver xterm. > 3 > kdestroy > exit	
35. Exit all GUIs and terminate the GUI processes. > select Close > ^z (in GUI xterm) > ps -fe |grep InGUISession > kill -9 <process id> > exit	
36. On the Ingest Server xterm shutdown the Ingest Server process(es) and exit the Ingest Server xterm. > ^z > ps -fe |grep In > kill -9 <process id> > kdestroy > exit	
37. On the Data Server xterm shutdown the Science Data Server process(es) and exit the Data Server xterm.	
38. Compare the data that was ingested in steps 11 and 28 above with the respective data that was archived.	The CERES and LIS data that was archived compares favorably with the respective data before it was ingested.
39. Logout of the Ingest workstation.	S-DSS-00023P, S-INS-00325, S-INS-00410, S-INS-00430, S-INS-00480

4.4.2.2 Test Case 2: TRMM SDPF Ingest and Archive Error Log Test (TS015.002)

This test demonstrates the ability to recognize and respond to error conditions encountered during ingest of data from the SDPF. Err or testing is performed to include attempted ingest under the following erroneous conditions: file transfer failure, file size discrepancies, missing required metadata, metadata parameters out of range, and the inability to transfer data within the specified time window. All errors are recorded in an Event Log.

Test Configuration:

Hardware:≠ Ingest Server, SDPF Ingest Client host, Science Data Server, Working Storage, Archive Storage

Software: INGST CI, SDSRV CI, STMGT CI, MSS Event Log CI

Data: Valid and Invalid DANs, Invalid CERES and LIS data.

Tools: SDPF Ingest Client simulator

Test Input:

Inputs to this test include a series of erroneous data requests. All error conditions stated in this test description are tested.

Test Output:

Messages that thoroughly identify the error encountered are displayed to the user and written to the Event Log. DAAs and DDNs are displayed on the SDPF Ingest Client host.

Success Criteria:

Errors are recognized and appropriate entries are made to the Event Log. All error messages contain correct and appropriate wording. The Event Log is displayed and inspected to verify that log contents reflects ingest activities.

Test Procedures:

Test Case ID: TS015.002	
Test Name: TRMM SDPF Ingest and Archive Error Log Tests	
Test Steps:	Comments:
1. Logon to the Ingest workstation. > <username> > <password>	For in house testing the Ingest Workstation will simulate all DAACs.

2. Open an xterm and use this xterm to start an IngestDriver xterm, an IngestServer xterm, and an IngestGUI xterm. > xterm -T IngestDriver & > xterm -T IngestServer & > xterm -T IngestGUI & > exit	
3. On the Ingest Server xterm start the Ingest process(es) if they are not currently running. > cd /usr/testa/ingest/data > source envsetup > dce_login <username> > <dce password> > cd /usr/testa/ingest/bin > ./InReqMgr >& Event Log &	
4. On the Ingest Driver xterm, start the driver processes if they are not currently running. > cd /usr/testa/ingest/bin > source envset > dce_login <username> > <dce password> > ./sess	
5. On the Ingest GUI xterm, invoke the initial ECS Ingest GUI. > cd /usr/testa/ingest/data > source envsetup > cd /usr/testa/ingest/bin > setenv DISPLAY <terminal>:0.0 > ./InGUISession & > exit	
6. Using the initial ECS Ingest GUI, invoke the Ingest Monitor GUI. > click Monitor/Control	
7. Monitor the Ingest and Processing of the request using the Ingest Monitor GUI. > choose Data Provider > choose Text View	
8. On the Ingest Driver xterm create an Ingest Session. > 1 > <enter session id> > Auto	
9. On the Ingest Driver xterm send a DAN containing an invalid Data Type Identifier. > /usr/testa/testdata/<filename>	
10. On the Ingest Driver xterm confirm receipt of the DAA.	The DAA indicates an Invalid Data Type disposition.

11. On the Ingest Server xterm print out the Event Log.	The Event Log contains an entry stating a DAN with an Invalid Data Type was received.
12. On the Ingest Driver xterm create an Ingest Session. > 1 > <enter session id> > Auto	
13. On the Ingest Driver xterm send a DAN containing missing required request information. > /usr/testa/testdata/<filename>	Missing Required Request Information includes No Data Type, Invalid DAN Sequence Number, No DAN Sequence Number, No DDF File System, No Descriptor, No File ID, Invalid File Size, No File Size, and No Directory ID. Send a DAN for each of these cases.
14. On the Ingest Driver xterm confirm receipt of the DAA.	The DAA should indicate a missing required request information disposition.
15. On the Ingest Server xterm print out the Event Log.	The Event Log contains an entry stating a DAN with missing required request information was received.
16. On the Ingest Driver xterm create an Ingest Session. > 1 > <enter session id> > Auto	
17. On the Ingest Driver xterm send a DAN containing data filenames that do not exist. > /usr/testa/testdata/<filename>	
18. On the Ingest Driver xterm confirm receipt of the DAA.	The DAA indicates an Invalid File Type disposition.
19. On the Ingest Client print out the Event Log.	The Event Log contains entry stating that there were FTP errors: files not found.
20. On the Ingest Driver xterm create an Ingest Session. > 1 > <enter session id> > Auto	
21. On the Ingest Driver xterm send a DAN containing file size discrepancies. > /usr/testa/testdata/<filename>	
22. On the Ingest Driver xterm confirm receipt of the DAA.	The DAA indicates file size discrepancies.
23. On the Ingest Server print out the Event Log.	The Event Log contains an entry stating file size discrepancies in the DAN.
24. On the Ingest Driver xterm create an Ingest Session. > 1 > <enter session id> > Auto	

25. On the IngestClient xterm send a DAN containing missing required Metadata. > /usr/testa/testdata/<filename>	Required Metadata Parameters for CERES/LIS data include: Project, Data Type, Start/Stop Date and Data Version.
26. On the Ingest Client xterm confirm receipt of the DAA.	The DAA indicates missing required Metadata parameters.
27. On the Ingest Client print out the Event Log.	The Event Log contains an entry stating there was Missing Required Metadata.
28. On the Ingest Driver xterm create an Ingest Session. > 1 > <enter session id> > Auto	
29. On the Ingest Driver xterm, send a valid DAN containing SDPF data. > /usr/testa/testdata/<filename>	This DAN is sent to show previous errors do not cause a valid request to not be processed.
30. On the Ingest Driver xterm, confirm receipt of the DAA.	The DAA indicates the DAN was accepted.
31. On the Ingest Driver xterm confirm receipt of the DDN.	The DDN indicates that the data was ingested and archived successfully.
32. On the Ingest Driver xterm, send a DDA.	
33. On the Ingest Client print out the Event Log.	The Event Log contains entries which reflect successful ingest and archival of data.
34. On the Ingest Driver xterm create an Ingest Session. > 1 > <enter session id> > Auto	
35. On the Ingest Driver xterm send a DAN containing Metadata Parameters out of range. > /usr/testa/testdata/<filename>	
36. On the Ingest Driver xterm confirm receipt of the DAA.	The DAA indicates Metadata Parameters out of range.
37. On the Ingest Client print out the Event Log and delete it.	The Event Log contains entries stating there Metadata Parameters out of range.
38. Exit the Ingest Driver xterm. > 3 > kdestroy > exit	
39. Exit all GUIs and terminate the GUI processes. > select Close > ^z (in GUI xterm) > ps -fe |grep InGUISession > kill -9 <process id> > exit	

40. On the Ingest Server xterm shutdown the Ingest Server process(es) and exit the Ingest Server xterm. > ^z > ps -fe |grep In > kill -9 <process id> > kdestroy > exit	
41. Logoff all xterms.	
42. Exit the Ingest Server Workstation.	S-DSS-00023P S-INS-00325, S-INS-00340P, S-INS-00410, S-INS-00430, S-INS-00480

4.4.2.3 Test Case 3: Ingest History Log Test (TS015.003)

This test demonstrates the ability to display the Ingest History Log. The Ingest History Log records information on each received Ingest Request including: ingest start/stop dates and times, ingest request identifier, external data provider, final service request status, data type identifiers, ingest data volume, number of data sets, number of data files. For this test the information that was inserted into the Ingest DBMS during execution of Test Case 1 (TS015.001) will be viewed. Different views of the log are displayed according to selectable parameters: ingest start/stop dates and times, external data providers, data type and final request status.

Test Configuration:

Hardware: Ingest Server workstation

Software: Operator Ingest Interface CSC, Ingest DBMS CSC.

Data: None.

Tools: None.

Test Input:

Ingest DBMS information inserted during execution of Test Case 1 (TS015.001).

Test Output:

The Ingest History Log is displayed according to selected parameters.

Success Criteria:

Results of all data ingest requests are recorded in the Ingest History Log. The log is displayed to verify that all information is recorded for each Ingest Request submitted during execution of Test Case 1 (TS015.001). The log is viewed according to all selectable parameters. Each view is examined to verify accurate contents.

Test Procedures:

Test Case ID: TS015.003	
Test Name: Ingest History Log Test	
Test Steps:t	Comments:
1. Logon to the Ingest Workstation.	For in house testing the EDF DAAC Ingest Server will act as the Ingest Server for all DAACs.
2. Open an xterm and start up the ECS Ingest GUI Interface. > cd /usr/testa/ingest/bin > source envset > dce_login <username> > <dce password> > ./sess	
3. On the ECS Ingest GUI Interface select the History Log function.	
4. On the History Log GUI Interface enter the times noted from Test Case 1, step 9 and step 13 into the Start Date/Time and Stop Date/Time fields respectively. Then select Display.	The History Log contains one entry for the SDPF CERES L0 ingest request.
5. On the History Log GUI Interface enter the times noted from Test Case 1, step 9 and step 13 into the Start Date/Time and Stop Date/Time fields respectively. Select Detailed Report and then select Display.	The History Log contains one entry for the SDPF CERES L0 ingest request including detailed information.
6. On the History Log GUI Interface enter the times noted from Test Case 1, step 9 and step 13 into the Start Date/Time and Stop Date/Time fields respectively. Select Summary Report and then select Display.	The History Log contains one entry for the SDPF CERES L0 ingest request including a summary report regarding the request.
7. On the ECS History Log GUI Interface enter the times noted from Test Case 1, steps 26 and step 30 into the Start Date/Time and Stop Date/Time fields respectively. Then select Display.	The History Log contains one entry for the SDPF LIS L0 ingest request.
8. On the ECS History Log GUI Interface enter the times noted from Test Case 1, step 9 and step 30 into the Start Date/Time and Stop Date/Time fields respectively. Then select Display.	The History Log contains two entries for the SDPF CERES L0 and LIS L0 ingest requests.
9. On the ECS History Log GUI Interface enter times when no ingest or processing activities occurred into the Start Date/Time and Stop Date/Time fields	The History Log should contain no entries.
10. On the ECS History Log GUI Interface enter CERES into the Data Type field. Then select Display.	The History Log contains one entry for the SDPF CERES L0 ingest request.
11. On the ECS History Log GUI Interface enter LIS into the Data Type field. Then select Display.	The History Log contains one entry for the SDPF LIS L0 ingest request.
12. On the ECS History Log GUI Interface enter NESDIS into the Data Provider field. Then select Display.	The History Log contains no entries.
13. On the ECS History Log GUI Interface enter SDPF into the Data Provider field. Then select Display.	The History Log should contain two entries for the SDPF CERES and LIS L0 ingest requests.
14. On the ECS History Log GUI enter completed in the Final Request Status field.	The History Log should contain a list of all completed ingest requests.
15. On the ECS History Log GUI enter failed in the Final Request Status field.	The History Log should contain a list of all failed ingest requests.

16. Shutdown the ECS INGEST GUI Interface. > select Close > ^z (in GUI xterm) > ps -fe |grep InGUISession > kill -9 <process id> > exit	
17. Exit the xterm.	
18. Logout of the EDF DAAC Ingest Server workstation.	S-INS-00500, S-INS-00510P, S-INS-00050P

4.4.2.4 Test Case 4: Automated Electronic Network Ingest Priority Test (TS015.004)

This test demonstrates that ingest requests are processed according to priority. Ingest priority is determined for each Ingest Request based on a first-in, first-served basis. A series of Ingest Requests are submitted. The Ingest process is monitored. After a short period of time, additional Ingest Requests are submitted. These requests are then processed according to ingest priority (first-in, first-served).

Test Configuration

Hardware: ≠ Ingest Server, SDPF Ingest Client host, Science Data Server, Working Storage, Archive Storage

Software: INGST CI, SDSRV CI, STMGT CI

Data: CERES and LIS L0 data sets.

Tools: None.

Test Input:

A series of Ingest Requests containing SDPF data.

Test Output:

Ingest Requests processed according to priority.

Success Criteria:

All Ingest Requests submitted are received and processed on a first-in, first-served basis.

Test Procedures:

Test Case ID: TS015.004	
Test Name:	
Test Steps: Automated Electronic Network Ingest Priority Test	Comments:
1. Logon to the Ingest workstation. > <*username*> > <*password*>	For in house testing the Ingest workstation will simulate all DAACs.

2. Open an xterm and use this xterm to start an IngestDriver xterm, an IngestServer xterm , an IngestGUI xterm, and a DataServer xterm. > xterm -T IngestDriver & > xterm -T IngestServer & >xterm -T IngestGUI & > xterm -T DataServer & > exit	
3. On the Ingest Server xterm start the Ingest process(es) if they are not currently running. > cd /usr/testa/ingest/data > source envsetup > dce_login <username> > <dce password> > cd /usr/testa/ingest/bin > ./InReqMgr >& Event Log &	
4. On the Data Server xterm logon to the Science Data Server workstation and start the Science Data Server process(es) if they are not currently running.	
5. On the Ingest Driver xterm start the Ingest Driver. > cd /usr/testa/ingest/bin > source envset > dce_login <username> > <dce password> > ./sess	
6. On the Ingest GUI xterm, invoke the initial ECS Ingest GUI. > cd /usr/testa/ingest/data > source envsetup > cd /usr/testa/ingest/bin > setenv DISPLAY <terminal>:0.0 > ./InGUISession & > exit	
7. Using the initial ECS Ingest GUI, invoke the Ingest Monitor GUI. > click Monitor/Control	
8. Monitor the Ingest and Processing of the request using the Ingest Monitor GUI. > choose Data Provider > choose Text View	
9. On the Ingest Driver xterm create an Ingest Session. > 1 > <enter session id> > Auto	Note start time.
10. On the Ingest Client xterm send several DANs containing CERES and LIS L0 data. > /usr/testa/testdata/<filename>	Make note of the DAN Sequence Number of each DAN Sent, and the order in which they are sent.

11. On the Ingest Driver xterm confirm receipt of the DAAs for each DAN sent.	The DAAs indicate that the DANs were accepted.
12. On the Ingest Client xterm confirm receipt of the DDNs for each DAN sent.	The DDNs indicate that the data was ingested and archived successfully.
13. On the Ingest Client xterm send a DDA for each DAN and then shutdown the Ingest Client simulator. > 2 > <request id>	Note stop time.
14. On the Ingest Server xterm print out the Event Log.	Verify receipt and confirmation of DAN entries in the Log. Verify DANs were processed in the order sent by noting the order in which DAAs were sent.
15. On the Ingest Server xterm delete the Event Log.	cleanup
16. Using the initial ECS Ingest GUI, invoke the Ingest History GUI. > click History Log	
17. Enter Search criteria for Ingest Request, using times noted for the ingest session.	
18. Verify request was successfully ingested, processed (first-in first-out), and archived.	
19. Exit the GUI and terminate the GUI processes. > select Close > ^z (in GUI xterm) > ps -fe |grep InGUISession > kill -9 <process id> > exit	
20. On the Data Server xterm print out a list of the archive storage directory.	The listing of the archive storage directory contains all files identified in the DAN.
21. On the Data Server xterm use SQL queries to verify that the Science Data Server database has been updated with Metadata.	The SQL queries return information pertaining to the data in the DAN.
22. Exit the Ingest Driver xterm. >kdestroy >exit	
23. On the Ingest Server xterm shutdown the Ingest Server process(es) and exit the Ingest Server xterm. > ^z > ps -fe |grep In > kill -9 <process id> > kdestroy > exit	
24. On the Data Server xterm shutdown the Science Data Server process(es) and exit the Data Server xterm.	
25. Logout of the Ingest workstation.	S-INS-00320, S-DSS-00020P, S-DSS-00080P, S-DSS-20985, S-DSS-20995, S-DSS-21015, S-DSS-21040, S-DSS-21050, S-DSS-21060

4.4.2.5 Test Case 5: Ingest GUI Verification - Control/Monitor (TS015.005)

This test demonstrates the ability of the Ingest Graphical User Interface (GUI) to support control and monitor activities. The monitor capability includes monitoring requests currently in the system. Control capabilities include making updates to those requests. The user can search on Request Id, Data Provider or All Requests as input to monitor or control functions. Both monitor and control include a graphical view, which shows request id, processing time, and percent complete for selected active requests, and a text view, which includes text information about the selected requests, such as request id, external data provider, request priority, expiration date/time, and total granules, among other things. When in the text view, double clicking on an item will display additional, detailed information about the request. Correctness of monitor information and control updates will be verified. Control, Suspend, Resume and Cancel capabilities are not included in Phase 2. Error conditions will also be attempted, such as entering invalid request IDs for monitor/control, and selecting cancel, suspend or resume for monitor/control. In addition, all pull-down menu items located on the bar at the top of the screen will be verified that they perform as expected, and do not inhibit any ongoing Ingest processing. All screens will be compared with the *User's Guide* to verify they contain the correct information. The appropriate logs will be verified, where applicable .

Test Configuration:

Hardware: SGI Workstation, Working Storage, Data Repository, Permanent Archive.

Software: Ingest, SDSRV CI, STMGT CI.

Data:≠ Several types of data, and several requests of each type, to be Ingested at one time.

Tools: None.

Test Input:

Inputs to this test include making several requests to ingest data, bringing up the Ingest GUI, and requesting to monitor ongoing requests.

Test Output:

Outputs to this test include the correct information about selected requests being displayed on the screen, and the appropriate information being entered in the correct logs. Error dialog boxes are also displayed on the screen when appropriate.

Success Criteria:

This test is deemed successful when monitor capabilities display the correct information about ongoing Ingest requests; when errors are correctly reported to the user; and when the correct information is seen in the appropriate logs.

Test Procedures:

Test Case ID: TS015.005	
Test Name: Ingest GUI Verification - Control/Monitor	
Test Steps:	Comments:
1. Log on to the Ingest workstation >username > <password>	
2. Enter a series of ingest requests into the system.	
3. Invoke the initial ECS Ingest GUI Interface. > cd /usr/testa/ingest/data > source envsetup > cd /usr/testa/ingest/bin > setenv DISPLAY <terminal>:0.0 > ./InGUISession & > exit	Operator uses a valid User Identifier specified in the data base.
4. Enter the ECS Ingest Monitor/Control GUI > click the <Monitor> button	User's privilege for status monitoring is verified here.
5. Enter criteria information for the request search > choose Request ID > choose Data Provider > choose All Requests	Only one of these options may be used at a time.
6. Choose Graphical View of requested information. >click "Graphical View"	
7. View all displayed information to verify if information given matches the search criteria.	
8. Click on any request	
9. Suspend the request >click Suspend	Error will indicate Suspend functionality not available.
10. Click on any request	
11. Resume the request >click Resume	Error will indicate Resume functionality not available.
12. Click on any request	
13. Cancel the request >click Cancel	Error will indicate Cancel functionality not available.
14. Click on any request	
15. Change the priority of the request >click Priority	Error will indicate Priority functionality not available.
16. On the Ingest Workstation, open an xterm.	
17. Using the xterm, view the Error Log. > cd <dir path> > more <filename>	Messages in Error Log will reflect errors in the Suspend, Resume, Cancel, and Priority functionalities.
18. Print the Error Log > print <filename>	
19. Remove the Error Log > rm <filename>	
20. Repeat steps 4-19 for each Search Criteria.	

21. Close the xterm > exit	
22. Clear all entries in the Monitor/Control GUI. > click “Clear All”	
23. Enter new search criteria information for the request search > choose Request ID > choose Data Provider > choose All Requests	
24. Choose Text View of requested information. > click "Text View"	
25. View all displayed information to verify if information given matches the search criteria.	
26. Double click on any request to get further processing information. > click “Go Back” to return to list of requests	
27. Click on any request	
28. Suspend the request >click Suspend	Error will indicate Suspend functionality not available.
29. Click on any request	
30. Resume the request >click Resume	Error will indicate Resume functionality not available.
31. Click on any request	
32. Cancel the request >click Cancel	Error will indicate Cancel functionality not available.
33. Click on any request	
34. Change the priority of the request >click Priority	Error will indicate Priority functionality not available.
35. On the Ingest Workstation, open an xterm.	
36. Using the xterm, view the Error Log. > cd <dir path> > more <filename>	Messages in Error Log will reflect errors in the Suspend, Resume, Cancel, and Priority functionality’s.
37. Print the Error Log > print <filename>	
38. Remove the Error Log > rm <filename>	
39. Repeat steps 23-39 for each Search Criteria.	
40. Close the xterm. > exit	
41. Clear all entries in the Monitor/Control GUI. > click “Clear All”	
42. Enter new search criteria information for the request search > choose Data Provider	

43. Specify a Data Provider not in the system.	Request should not be accepted and an error pop-up message is displayed.
44. On the Ingest Workstation, open an xterm.	
45. Using the xterm, view the Error Log. > cd <dir path> > more <filename>	Message in Error Log should indicate system was unable to find data provider requested.
46. Print the Error Log > print <filename>	
47. Remove the Error Log > rm <filename>	
48. Close the xterm. > exit	
49. Clear all entries in the Monitor/Control GUI. > click “Clear All”	
50. Enter new search criteria information for the request search > choose Request ID	
51. Specify an Invalid Request ID	Request should not be accepted and an error pop-up message is displayed.
52. On the Ingest Workstation, open an xterm.	
53. Using the xterm, view the Error Log. > cd <dir path> > more <filename>	Message in Error Log should indicate system was unable to find specified Request ID.
54. Print the Error Log > print <filename>	
55. Remove the Error Log > rm <filename>	
56. Close the xterm. > exit	
57. Clear all entries in the Monitor/Control GUI. > click “Clear All”	
58. Select each pull-down menu: File, Selected, Edit, View, Mode, and Options.	Verify pull-down menus exist and contain proper fields.
59. Iconize the ECS Ingest Monitor/Control GUI interface by clicking on the iconize button in the right hand corner of the GUI.	Verification of basic GUI capabilities.
60. Restore the GUI	
61. Verify all scroll options work.	Verification of basic GUI capabilities.

62. Exit the ECS Ingest Monitor/Control GUI and terminate all GUI processes. > select Close > ^z (in GUI xterm) > ps -fe |grep InGUISession > kill -9 <process id> > exit	
63. Logoff the Ingest Workstation.	S-INS-00270, S-INS-00280P, S-INS-00290, S-INS-00295P, S-INS-00300, S-INS-00310, S-INS-00315

4.4.3 Ingest and Archive 2 Build (BS005)

Testing is performed to verify the capability to receive data from external providers, ingest and perform metadata preprocessing activities, insert the metadata into database and insert the science data into the archive. The external data providers include NESDIS, DAO, and SDPF. NESDIS and DAO data is ingested using a polling interface protocol. SDPF data is ingested using an automated electronic network interface protocol. Also, testing will be performed to verify the media ingest capability for SDPF only.

4.4.3.1 Test Case 1: NESDIS Ingest, Metadata Extraction and Archive Test (BS005.001)

This test demonstrates the ability to receive and ingest NESDIS data, perform metadata extraction, insert the metadata into the database and place the science data into the archive. Upon arrival of data for ingest, the data is automatically checked to determine if metadata can be extracted. If validation is successful, metadata is extracted. Upon metadata extraction, an insert request is submitted to the Science Data Server. The metadata is inserted into the database and the science data file is archived.

Test Configuration:

Hardware:≠ Ingest workstation, Science Data Server workstation, External Client workstation, Working Storage and Archive Storage

Software:≠ Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest DataPreprocessing CSC, Metadata CSC, Server CSC

Data:≠ NESDIS data sets including: AVHRR Vegetation Index, Aerosol Weekly100km Analyzed Field, and Layer Level Ozone data

Tools: None

Test Input:

NESDIS data sets for polling ingest and archive.

Test Output:

The ingest and archive process is monitored. Logs are updated to record ingest and archive activities. Database queries are used to verify metadata insertion. Directory lists are used to verify science data archival.

Success Criteria:

Appropriate status messages are displayed for successful metadata validation and extraction in the logs. The metadata is successfully inserted into the database and the science data files are successfully archived.

Test Procedure:

Test Case ID: BS005.001	
Test Name: NESDIS Ingest, Metadata Extraction and Archive Test	
Test Steps: NESDIS Ingest, Metadata Extraction and Archive Test	Comments:
1. Login to the Ingest (SGI) workstation. **> rlogin aqae1sun** **> <password>**	
2. Open an xterm and use this xterm to start a NESDIS xterm, Data Server xterm and Request Manager xterm. **> xterm -T NESDIS &** **> xterm -T Data_Server &** **> xterm -T Request_Manager &** **> exit**	
3. On the NESDIS xterm login to the workstation that is to simulate NESDIS. **> rlogin taos** **> <password>**	
4. On the NESDIS xterm place an AVHRR Vegetation Index data file into the poll directory (/home/kmiller/rela/phase2/data/poll).	
5. On the Data Server xterm login to the Science Data Server workstation. **> rlogin spre4sun** **> <password>**	
6. On the Data Server xterm start up the Science Data Server process if is not currently running. **> cd /data2/DSS/bin/sun5** **> source dssrc.rela** **> source ph2_dbrc.csh** **> ./sdsrv &**	
7. On the Request Manager xterm login to DCE. **> dce_login <dce_username> <dce_password>**	
8. On the Request Manager xterm source the environment setup file. **> cd /usr/testa/ingest/data** **> source envsetup**	

9. On the Request Manager xterm start the ECS INGEST GUI Interface. **> cd /usr/testa/ingest/bin** **> InGUISession &**	
10. On the ECS INGEST GUI Interface select the **Monitor & Control** function.	
11. On the ECS INGEST GUI Interface select Search By: **Data Provider** and enter NESDIS.	
12. On the Request Manager xterm start the Request Manager. **> ./InReqMgr &**	
13. On the Request Manager xterm set the polling interval to 600 seconds. **> setenv ECS_INGEST_POLL_TIMER 600**	
14. On the Request Manager xterm start the NESDIS polling process. **> IngestPolling No NESDIS /home/kmiller/rela/phase2/data/poll Anc taos.hitc.com &**	
15. Use the ECS INGEST GUI Interface to monitor the ingest and archive process.	
16. When the ECS INGEST GUI Interface indicates that the ingest and archive process is 100 percent complete continue with the next step.	
17. On the Data Server xterm check the Science Data Server database to make sure the metadata was inserted. **> cd /vendor/sybase** **> source sybsetup.csh** **> isql -U phase2_role** **> <database password>** **> select * from DsMdIdentifier** **> go** **> select * from DsMdGranules where dbID=<granule_id1>** **> go** **> quit**	The <granule_id1> is returned from the first query. The second query should identify the metadata pertaining to the AVHRR Vegetation Index data that is being ingested and archived.
18. On the Data Server xterm check to make sure the AVHRR Vegetation Index data file was archived. **> cd <path>** **> ls -al**	The AVHRR Vegetation Index data file should show up in the list command.
19. On the NESDIS xterm place an Aerosol Weekly 100km Analyzed Field data file and a Layer Level Ozone data file into the poll directory (/home/kmiller/rela/phase2/data/poll).	
20. Use the ECS INGEST GUI Interface to monitor the ingest and archive process.	
21. When the ECS INGEST GUI Interface indicates that the ingest and archive process is 100 percent complete continue with the next step.	

22. On the Data Server xterm check the Science Data Server database to make sure the metadata was inserted. **> cd /vendor/sybase** **> isql -U phase2_role** **> <database password>** **> select * from DsMdIdentifier** **> go** **> select * from DsMdGranules where dbID=<granule_id3>** **> go** **> select * from DsMdGranules where dbID=<granule_id2>** **> go** **> quit**	The <granule_id3> is returned from the first query. The <granule_id2> is one less than <granule_id3>. The second and third queries should identify the metadata pertaining to the Aerosol Weekly 100km Analyzed Field data and the Layer Level Ozone data that is being ingested and archived.
23. On the Data Server xterm check to make sure the Aerosol Weekly 100km Analyzed Field data file and the Layer Level Ozone data file was archived. **> cd <path>** **> ls -al**	The Aerosol Weekly 100km Analyzed Field data file and the Layer Level Ozone data file should show up in the list command.
24. On the ECS INGEST GUI Interface select the **History Log** function.	
25. On the ECS INGEST GUI Interface enter a date and time just prior to starting the test in the **Start Date/Time** field and enter NESDIS in the **Data Provider** field.	
26. On the ECS INGEST GUI Interface select **Detailed Report** then select **Display**.	The History Log should contain two entries with the appropriate information for each entry.
27. On the Data Server xterm delete all entries made in the Science Data Server database. **> cd /vendor/sybase** **> isql -U phase2_role** **> <database password>** **> delete from DsMdGranules where dbID=<granule_id1>** **> go** **> delete from DsMdGranules where dbID=<granule_id2>** **> go** **> delete from DsMdGranules where dbID=<granule_id3>** **> go** **> quit**	
28. On the Data Server xterm remove all inserted files from the archive.	
29. On the Data Server xterm shutdown the Science Data Server. **> dsquit**	
30. Exit the Data Server xterm. **> exit**	
31. On the NESDIS xterm remove all files from the polling directories.	
32. Exit the NESDIS xterm. **> exit**	
33. Shutdown the ECS INGEST GUI Interface.	

34. On the Request Manager xterm shutdown the IngestPolling process and the Request Manager process. **> ps -e |grep In** **> kill -9 <IngestPolling_pid>** **> kill -9 <InReqMgr_pid>**	The process ids (pids) for IngestPolling and Request Manager can be obtained from the show process (ps) command.
35. On the Request Manager xterm exit from DCE. **> kdestroy** **> exit**	
36. Exit the Request Manager xterm. **> exit**	
37. Logout of the Ingest (SGI) workstation.	

4.4.3.2 Test Case 2: DAO Ingest, Metadata Extraction and Archive Test (BS005.002)

This test demonstrates the ability to receive and ingest DAO ancillary data, perform metadata extraction, insert the metadata into the database and place the science data into the archive. Upon arrival of data for ingest, the data is automatically checked to determine if metadata can be extracted. If validation is successful, metadata is extracted. Upon metadata extraction, an insert request is submitted to the Science Data Server. The metadata is inserted into the database and the science data file is archived.

Test Configuration:

Hardware:≠ Ingest workstation, Science Data Server workstation, External Client workstation, Working Storage and Archive Storage

Software: ≠ Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC

Data: DAO data sets including: NMC MRF, NMC ETA and NMC FNL data

Tools: None

Test Input:

DAO data sets for polling ingest and archive.

Test Output:

The ingest and archive process is monitored. Logs are updated to record ingest and archive activities. Database queries are used to verify metadata insertion. Directory lists are used to verify science data archival.

Success Criteria:

Appropriate status messages are displayed for successful metadata validation and extraction in the logs. The metadata is successfully inserted into the database and the science data files are successfully archived.

Test Procedure:

Test Case ID: BS005.002	
Test Name: DAO Ingest, Metadata Extraction and Archive Test	
Test Steps: DAO Ingest, Metadata Extraction and Archive Test	Comments:
1. Login to the Ingest (SGI) workstation. **> rlogin aqae1sun** **> <password>**	
2. Open an xterm and use this xterm to start a DAO xterm, Data Server xterm and Request Manager xterm. **> xterm -T DAO &** **> xterm -T Data_Server &** **> xterm -T Request_Manager &** **> exit**	
3. On the DAO xterm login to the workstation that is to simulate DAO. **> rlogin taos** **> <password>**	
4. On the DAO xterm place an NMC MRF data file into the appropriate polling directory.	
5. On the Data Server xterm login to the Science Data Server workstation. **> rlogin spre4sun** **> <password>**	
6. On the Data Server xterm start up the Science Data Server process if is not currently running. **> cd /data2/DSS/bin/sun5** **> source dssrc.rela** **> source ph2_dbrc.csh** **> ./sdsrv &**	
7. On the Request Manager xterm login to DCE. **> dce_login <dce_username> <dce_password>**	
8. On the Request Manager xterm source the environment setup file. **> cd /usr/testa/ingest/data** **> source envsetup**	
9. On the Request Manager xterm start the ECS INGEST GUI Interface. **> cd /usr/testa/ingest/bin** **> InGUISession &**	
10. On the ECS INGEST GUI Interface select the **Monitor & Control** function.	
11. On the ECS INGEST GUI Interface select Search By: **Data Provider** and enter DAO.	
12. On the Request Manager xterm start the Request Manager. **> ./InReqMgr &**	
13. On the Request Manager xterm set the polling interval to 600 seconds. **> setenv ECS_INGEST_POLL_TIMER 600**	

14. On the Request Manager xterm start the DAO polling process. **> IngestPolling No DAO /home/kmiller/rela/phase2/data/poll Anc taos.hitc.com &**	
15. Use the ECS INGEST GUI Interface to monitor the ingest and archive process.	
16. When the ECS INGEST GUI Interface indicates that the ingest and archive process is 100 percent complete continue with the next step.	
17. On the Data Server xterm check the Science Data Server database to make sure the metadata was inserted. **> cd /vendor/sybase** **> source sybsetup.csh** **> isql -U phase2_role** **> <database password>** **> select * from DsMdIdentifier** **> go** **> select * from DsMdGranules where dbID=<granule_id1>** **> go** **> quit**	The <granule_id1> is returned from the first query. The second query should identify the metadata pertaining to the NMC MRF data that is being ingested and archived.
18. On the Data Server xterm check to make sure the NMC MRF data file was archived. **> cd <path>** **> ls -al**	The NMC MRF data file should show up in the list command.
19. On the DAO xterm place an NMC ETA data file and a NMC FNL data file into the appropriate polling directory.	
20. Use the ECS INGEST GUI Interface to monitor the ingest and archive process.	
21. When the ECS INGEST GUI Interface indicates that the ingest and archive process is 100 percent complete continue with the next step.	
22. On the Data Server xterm check the Science Data Server database to make sure the metadata was inserted. **> cd /vendor/sybase** **> isql -U phase2_role** **> <database password>** **> select * from DsMdIdentifier** **> go** **> select * from DsMdGranules where dbID=<granule_id3>** **> go** **> select * from DsMdGranules where dbID=<granule_id2>** **> go** **> quit**	The <granule_id3> is returned from the first query. The <granule_id2> is one less than <granule_id3>. The second and third queries should identify the metadata pertaining to the NMC ETA data and the NMC FNL data that is being ingested and archived.
23. On the Data Server xterm check to make sure the NMC ETA data file and the NMC FNL data file was archived. **> cd <path>** **> ls -al**	The NMC ETA data file and the NMC FNL data file should show up in the list command.
24. On the ECS INGEST GUI Interface select the **History Log** function.	

25. On the ECS INGEST GUI Interface enter a date and time just prior to starting the test in the **Start Date/Time** field and enter DAO in the **Data Provider** field.	
26. On the ECS INGEST GUI Interface select **Detailed Report** then select **Display**.	The History Log should contain two entries with the appropriate information for each entry.
27. On the Data Server xterm delete all entries made in the Science Data Server database. **> cd /vendor/sybase** **> isql -U phase2_role** **> <database password>** **> delete from DsMdGranules where dbID=<granule_id1>** **> go** **> delete from DsMdGranules where dbID=<granule_id2>** **> go** **> delete from DsMdGranules where dbID=<granule_id3>** **> go** **> quit**	
28. On the Data Server xterm remove all inserted files from the archive.	
29. On the Data Server xterm shutdown the Science Data Server. **> dsquit**	
30. Exit the Data Server xterm. **> exit**	
31. On the DAO xterm remove all files from the polling directories.	
32. Exit the DAO xterm. **> exit**	
33. Shutdown the ECS INGEST GUI Interface.	
34. On the Request Manager xterm shutdown the IngestPolling process and the Request Manager process. **> ps -e |grep In** **> kill -9 <IngestPolling_pid>** **> kill -9 <InReqMgr_pid>**	The process ids (pids) for IngestPolling and Request Manager can be obtained from the show process (ps) command.
35. On the Request Manager xterm exit from DCE. **> kdestroy** **> exit**	
36. Exit the Request Manager xterm. **> exit**	
37. Logout of the Ingest (SGI) workstation.	

4.4.3.3 Test Case 3: SDPF Ingest, Metadata Extraction and Archive Test (BS005.003)

This test demonstrates the ability to receive and ingest SDPF data, perform metadata extraction, insert the metadata into the database and place the science data into the archive. Upon arrival of data for ingest, the data is automatically checked to determine if metadata can be extracted. If validation is successful, metadata is extracted. Upon metadata extraction, an insert request is

submitted to the Science Data Server. The metadata is inserted into the database and the science data file is archived.

Test Configuration:

Hardware: Ingest workstation, Science Data Server workstation, External Client workstation, Working Storage and Archive Storage

Software: Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC

Data: SDPF data sets including: CERES L0 and LIS L0 data

Tools: Ingest Client simulator (simulates the ECS Gateway)

Test Input:

Ingest requests (automated electronic network) for ingest of SDPF data sets.

Test Output:

The ingest and archive process is monitored. Logs are updated to record ingest and archive activities. Database queries are used to verify metadata insertion. Directory lists are used to verify science data archival.

Success Criteria:

Appropriate status messages are displayed for successful metadata validation and extraction in the logs. The metadata is successfully inserted into the database and the science data files are successfully archived.

Test Procedure:

Test Case ID: BS005.003	
Test Name: SDPF Ingest, Metadata Extraction and Archive Test	
Test Steps:	Comments:
1. Login to the Ingest (SGI) workstation. **> rlogin aqae1sun** **> <password>**	
2. Open an xterm and use this xterm to start an Ingest Client xterm, Ingest Server xterm and Data Server xterm. **> xterm -T Ingest_Client &** **> xterm -T Ingest_Server &** **> xterm -T Data_Server &** **> exit**	
3. On the Ingest Client xterm login to DCE. **> dce_login <dce_username> <dce_password>**	

4. On the Ingest Client xterm start the Ingest Client simulator. **> cd /usr/testa/ingest/data** **> source envsetup** **> cd /usr/testa/ingest/bin** **> ./IngestClient**	
5. On the Ingest Server xterm login to DCE. **> dce_login <dce_username> <dce_password>**	
6. On the Ingest Server xterm source the environment setup file. **> cd /usr/testa/ingest/data** **> source envsetup**	
7. On the Ingest Server xterm start the Ingest Server, Request Manager and ECS INGEST GUI Interface. **> cd /usr/testa/ingest/bin** **> ./IngestServer &** **> ./InReqMgr &** **> ./InGUISession &**	
8. On the ECS INGEST GUI Interface select the **Monitor & Control** function.	
9. On the ECS INGEST GUI Interface select Search By: **Data Provider** and enter SDPF.	
10. On the Data Server xterm login to the Science Data Server workstation. **> rlogin spre4sun** **> <password>**	
11. On the Data Server xterm start up the Science Data Server if is not currently running: **> cd /data2/DSS/bin/sun5** **> source dssrc.rela** **> source ph2_dbrc.csh** **> ./sdsrv &**	
12. On the Ingest Client xterm create an Ingest Session. **> 1**	
13. On the Ingest Client xterm send a DAN containing the CERES L0 data. **> 2** **> /usr/testa/testdata/<DAN_filename>**	
14. Use the ECS INGEST GUI Interface to monitor the ingest and archive process.	
15. When the ECS INGEST GUI Interface indicates that the ingest and archive process is 100 percent complete continue with the next step.	
16. On the Ingest Client xterm send the DDA. **> 3** **> <DAN_seq_number>**	

17. On the Data Server xterm check the Science Data Server database to make sure the metadata was inserted. **> cd /vendor/sybase** **> source sybsetup.csh** **> isql -U phase2_role** **> <database password>** **> select * from DsMdIdentifier** **> go** **> select * from DsMdGranules where dbID=<granule_id1>** **> go** **> quit**	The <granule_id1> is returned from the first query. The second query should identify the metadata pertaining to the CERES L0 data that is being ingested and archived.
18. On the Data Server xterm check to make sure the CERES L0 data file was archived. **> cd <path>** **> ls -al**	The CERES L0 data file should show up in the list command.
19. On the Ingest Client xterm send a DAN containing the LIS L0 data. **> 2** **> /usr/testa/testdata/<DAN_filename>**	
20. Use the ECS INGEST GUI Interface to monitor the ingest and archive process.	
21. When the ECS INGEST GUI Interface indicates that the ingest and archive process is 100 percent complete continue with the next step.	
22. On the Ingest Client xterm send the DDA. **> 3** **> <DAN_seq_number>**	
23. On the Data Server xterm check the Science Data Server database to make sure the metadata was inserted. **> cd /vendor/sybase** **> isql -U phase2_role** **> <database password>** **> select * from DsMdIdentifier** **> go** **> select * from DsMdGranules where dbID=<granule_id2>** **> go** **> quit**	The <granule_id2> is returned from the first query. The second query should identify the metadata pertaining to the LIS L0 data that is being ingested and archived.
24. On the Data Server xterm check to make sure the LIS L0 data file was archived. **> cd <path>** **> ls -al**	The LIS L0 data file should show up in the list command.
25. On the ECS INGEST GUI Interface select the **History Log** function.	
26. On the ECS INGEST GUI Interface enter a date and time just prior to starting the test in the **Start Date/Time** field and enter SDPF in the **Data Provider** field.	
27. On the ECS INGEST GUI Interface select **Detailed Report** then select **Display**.	The History Log should contain two entries with the appropriate information for each entry.
28. Shutdown the ECS INGEST GUI Interface.	

29. On the Data Server xterm delete all entries made in the Science Data Server database. **> cd /vendor/sybase** **> isql -U phase2_role** **> <database password>** **> delete from DsMdGranules where dbID=<granule_id1>** **> go** **> delete from DsMdGranules where dbID=<granule_id2>** **> go** **> quit**	
30. On the Data Server xterm remove all inserted files from the archive.	
31. On the Data Server xterm shutdown the Science Data Server. **> dsquit**	
32. Exit the Data Server xterm. **> exit**	
33. On the Ingest Server xterm shutdown the Ingest Server and Request Manager processes. **> ps -e |grep In** **> kill -9 <IngestServer_pid>** **> kill -9 <InReqMgr_pid>**	The process ids (pids) for the Ingest Server and Request Manager can be obtained from the show process (ps) command.
34. On the Ingest Server xterm exit from DCE. **> kdestroy** **> exit**	
35. Exit the Ingest Server xterm. **> exit**	
36. On the Ingest Client xterm shutdown the Ingest Client simulator. **> 7**	
37. On the Ingest Client xterm exit from DCE. **> kdestroy** **> exit**	
38. Exit the Ingest Client xterm. **> exit**	
39. Logout of the Ingest (SGI) workstation.	

4.4.3.4 Test Case 4: SDPF Media Ingest, Metadata Extraction and Archive Test (BS005.004)

This test demonstrates the ability to ingest data from physical media (8mm tapes only) provided by the SDPF, using the Ingest GUI Interface, into the ECS DAACs. The data and metadata for ingest is on 8mm tapes. A media interface client is instantiated to read inputs into the system. Information for media ingest is entered and a request to perform the media ingest is created. The request is checked to determine if the provider of the media is an authorized provider and if the requested media type is supported. The data is read from tape and then ingested and archived as if it were an automated electronic network ingest.

Test Configuration:

Hardware: Ingest workstation, Science Data Server workstation, Working Storage, Archive Storage, Media and Peripherals

Software: Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC

Data: SDPF data sets on 8mm tapes including: CERES L0 and LIS L0 data

Test Input:

Using the Ingest GUI interface, parameters are entered and a series of operational commands are submitted requesting media data ingest.

Test Output:

The ingest and archive process is monitored. Logs are updated to record ingest and archive activities. Database queries are used to verify metadata insertion. Directory lists are used to verify science data archival.

Success Criteria:

All media is properly mounted. Access to read and copy data is successful. Appropriate status messages are displayed for successful metadata validation and extraction in the logs. The metadata is successfully inserted into the database and the science data files are successfully archived.

Test Procedure:

Test Case ID: BS005.004	
Test Name: SDPF Media Ingest, Metadata Extraction and Archive Test	
Test Steps:	Comments:
1. Login to the Ingest (SGI) workstation. **> rlogin aqae1sun** **> <password>**	
2. Open an xterm and use this xterm to start an Request Manager xterm and a Data Server xterm. **> xterm -T Request_Manager &** **> xterm -T Data_Server &** **> exit**	
3. On the Data Server xterm login to the Science Data Server workstation. **> rlogin spre4sun** **> <password>**	
4. On the Data Server xterm start up the Science Data Server if is not currently running: **> cd /data2/DSS/bin/sun5** **> source dssrc.rela** **> source ph2_dbrc.csh** **> ./sdsrv &**	

5. On the Request Manager xterm login to DCE. **> dce_login <dce_username> <dce_password>**	
6. On the Request Manager xterm source the environment setup file. **> cd /usr/testa/ingest/data** **> source envsetup**	
7. On the Request Manager xterm start the Request Manager and ECS INGEST GUI Interface. **> cd /usr/testa/ingest/bin** **> ./InReqMgr &** **> ./InGUISession &**	
8. On the ECS INGEST GUI Interface select the **Media** function.	
9. On the ECS INGEST GUI Interface select **8mm-Tape** as the Media Type.	
10. On the ECS INGEST GUI Interface enter SDPF in the **Data Provider** field and enter each volume id in the **Media Volume ID** field and select **Add**.	
11. On the ECS INGEST GUI Interface select **On Network** for the Data Delivery Record File Location and then enter the Data Delivery Record filename pertaining to the CERES L0 data into the **Data Delivery Record File Name** field.	
12. On the ECS INGEST GUI Interface select **OK**.	
13. On the ECS INGEST GUI Interface select the **Monitor & Control** function.	
14. On the ECS INGEST GUI Interface select Search By: **Data Provider** and enter SDPF.	
15. Use the ECS INGEST GUI Interface to monitor the ingest and archive process.	
16. When the ECS INGEST GUI Interface indicates that the ingest and archive process is 100 percent complete continue with the next step.	
17. On the Data Server xterm check the Science Data Server database to make sure the metadata was inserted. **> cd /vendor/sybase** **> source sybsetup.csh** **> isql -U phase2_role** **> <database password>** **> select * from DsMdIdentifier** **> go** **> select * from DsMdGranules where dbID=<granule_id1>** **> go** **> quit**	The <granule_id1> is returned from the first query. The second query should identify the metadata pertaining to the CERES L0 data that is being ingested and archived.
18. On the Data Server xterm check to make sure the CERES L0 data file was archived. **> cd <path>** **> ls -al**	The CERES L0 data file should show up in the list command.
19. On the ECS INGEST GUI Interface select the **Media** function.	
20. On the ECS INGEST GUI Interface select **8mm-Tape** as the Media Type.	

21. On the ECS INGEST GUI Interface enter SDPF in the **Data Provider** field and enter each volume id in the **Media Volume ID** field and select **Add**.	
22. On the ECS INGEST GUI Interface select **Embedded in Media** for the Data Delivery Record File Location and then enter the Data Delivery Record filename pertaining to the LIS L0 data into the **Data Delivery Record File Name** field.	
23. On the ECS INGEST GUI Interface select **OK**.	
24. On the ECS INGEST GUI Interface select the **Monitor & Control** function.	
25. On the ECS INGEST GUI Interface select Search By: **Data Provider** and enter SDPF.	
26. Use the ECS INGEST GUI Interface to monitor the ingest and archive process.	
27. When the ECS INGEST GUI Interface indicates that the ingest and archive process is 100 percent complete continue with the next step.	
28. On the Data Server xterm check the Science Data Server database to make sure the metadata was inserted. **> cd /vendor/sybase** **> isql -U phase2_role** **> <database password>** **> select * from DsMdIdentifier** **> go** **> select * from DsMdGranules where dbID=<granule_id2>** **> go** **> quit**	The <granule_id2> is returned from the first query. The second query should identify the metadata pertaining to the LIS L0 data that is being ingested and archived.
29. On the Data Server xterm check to make sure the LIS L0 data file was archived. **> cd <path>** **> ls -al**	The LIS L0 data file should show up in the list command.
30. On the ECS INGEST GUI Interface select the **History Log** function.	
31. On the ECS INGEST GUI Interface enter a date and time just prior to starting the test in the **Start Date/Time** field and enter SDPF in the **Data Provider** field.	
32. On the ECS INGEST GUI Interface select **Detailed Report** then select **Display**.	The History Log should contain two entries with the appropriate information for each entry.
33. Shutdown the ECS INGEST GUI Interface.	
34. On the Data Server xterm delete all entries made in the Science Data Server database. **> cd /vendor/sybase** **> isql -U phase2_role** **> <database password>** **> delete from DsMdGranules where dbID=<granule_id1>** **> go** **> delete from DsMdGranules where dbID=<granule_id2>** **> go** **> quit**	

35. On the Data Server xterm remove all inserted files from the archive.	
36. On the Data Server xterm shutdown the Science Data Server. **> dsquit**	
37. Exit the Data Server xterm. **> exit**	
38. On the Request Manager xterm shutdown the Request Manager processes. **> ps -e |grep In** **> kill -9 <InReqMgr_pid>**	The process id (pid) for the Request Manager can be obtained from the show process (ps) command.
39. On the Request Manager xterm exit from DCE. **> kdestroy** **> exit**	
40. Exit the Request Manager xterm. **> exit**	
41. Logout of the Ingest (SGI) workstation.	

4.5 User Search Services 2 Tests

- Inventory Search 2 (Spatial) Thread
- Document Data Server Search Thread
- Desktop 2 Thread
- User Search Services 2 Build

4.5.1 Inventory Search 2 (Spatial) Thread (TS018)

The Inventory Search thread verifies the capability to perform queries of metadata describing granules or aggregations of granules. The Inventory Search provides a uniform set of descriptions of granules from one or more data sets with information required to select and obtain a subset of those granules. The Inventory shall individually describe each granule of EOSDIS data.

4.5.1.1 Test Case 1: Simple Inventory Search Test (TS018.001)

This test demonstrates the ability of the ECS to allow users to perform simple inventory searches. Search criteria will be developed based on user scenarios and will be designed to access the ECS Data Server. Several searches will be performed and will be based on the data available in the data server. Search request will be specific, accessing granules in one data set at a time. All search requests are to be logged.

Test Configuration:

Hardware: Client Workstation, Data Management DBMS/Web Server, SDSRV Server

Software:∞ DmGwDataValue, DmGwDateTime, DmGwErrorResult, DmGwInvESDTReference, DmGwInvQuery, DmGwInvRequests,

DmGwInvSearchRequest, DmGwODLAggregate, DmGwODLNonAggregate, DmGwODLParameter, DmGwODLTree, DmGwQuit, DmGwRSTAggregate, DmGwRSTNonAggregate, DmGwDirectoryResult, Query, StringVec, DM`mGwSpatial, DmGwTemporal, DmGwUserInfo, DmGwV0ECSMapper, DmGwVoRequest, RequestDispatcher, main, DmGwDirectoryQuery, V0 Valids Update Process, Data Management DBMS (Sybase), SDSRV Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, V0 Client, Gateway Server.

Data:∞ Data Sever Inventory Database populated with representative V0 and TRMM inventory Data

Tools: The V0 Client will be used to submit the queries in ODL format.

Test Input:

Search scenarios based on available data. Input will include Source/Platform, Sensor, Geophysical Parameters, Processing Level, Dataset Name, Data Center ID, Temporal Intervals, Geographic Area, Latitudes and Longitudes.

Test Output:

A description of granules in the ECS inventory that satisfy the search criteria. Inventory results include: data set name, platform, sensor, geographical coverage, latitudes, longitudes, time range and availability of coverage map and browse. Search requests will also be logged.

Success Criteria:

This test is considered successful if each inventory search returns the granule descriptions of the granules that meet the search criteria. All service requests must be logged as well as the termination or successful completion of service requests.

Test Procedures:

Test Case ID: TS018.001	
Test Name: Simple Inventory Search Test	
Test Steps:	Comments:
1. Log on to an ECS client workstation	
2. Start the V0 Client by entering "xgaea" on the command line.	The client executable (xgaea) is in the /usr/testa/bin directory on the client workstation.
3. Verify the V0 Welcome window is displayed on the screen.	The title of this window is "Welcome".
4. Find the "Search Screen" button on the bottom of the Welcome screen and select it.	
5. Verify the V0 Search Screen is displayed on the screen.	The title of this window is "Search Screen".
6. Find "Search Type" at the top of the Search Screen and select "Inventory" as the search type.	Inventory is the default search type when the client is started.

7. Verify the radio button next to "Inventory" is highlighted.	
8. Enter the following search criteria in the designated fields on the search screen: Sensor: AVHRR; Data Center ID: "ECS"; Geographic Area: "Select from Map"; Latitudes and Longitudes	
9. Select "Save Search" to save the search criteria.	
10. Verify a "Save Search" window appears on the screen.	
11. Save the search to a file called "INV1".	Note, the file is saved to the User's home directory in a sub directory called "gaea_data".
12. Verify the file "INV1" is saved by opening an xterm window and typing "ls -tl $HOME/gaea_data" on the UNIX command line.	The full file name is INV1.src.
13. Return to the Search Screen and select "Execute Search" at the bottom of the screen.	
14. Verify the "Communication Status" window is displayed on the screen. Verify the search is executing by observing the status on the "Communication Status" window.	The status of the search is shown on the Communication Status window. The time required to perform the search varies based on the availability of the DAAC computers and network activity. If no change in status is observed in this window then the search may be hung. If the search appears to be hung cancel the search in the Communication Status window, return to the Search Screen and try executing the search again.
15. While the search is executing open an xterm window and type the following on the UNIX command line: "cd $HOME/gaea_tmp".	This directory is created by the V0 Client and is used to store system files.
16. Verify a file appears in this directory which has a filename extension of "ODL".	Example, M822680342.odl
17. Using a UNIX utility such as "vi" or "page" display the contents of the ODL file.	Example, "page *.ODL"
18. Verify the contents of the ODL file is the search criteria in ODL format.	For more information on the ODL format see the V0 IMS User's Manual.
19. Close the xterm window and return to the "Communication Status" window.	
20. Verify the search is completed. The search is completed when the "Data" button is selectable for a particular DAAC. Also, note the Granule Count found on the "Communication Status" window.	The "Data" button is found on the right side of the "Communication Status" window.
21. Select the "Data" button for ECS data.	
22. Verify the "Inventory Results Screen" appears on the screen.	S-DMS-30360 S-DMS-30540
23. Verify the number of granules listed is equal to the number of granules reported in the Communication Status window.	Note that the total number of granules may be split across more than one data set. The tester must add the granules for each data set to get the total number of granules reported in the Communication Status window.
24. Set the "Detail" flag to "y" for the first granule.	The "Detail" flag is toggled from "n" to "y" by selecting it with the mouse.
25. Select the first granule.	The granule is selected when the line containing the granule information is highlighted.

26. Select "Detailed Information" "for granules" from the "Go To" pull down menu.	The "Go To" pull down menu is located at the top left of the "Inventory Results Screen".
27. Verify the "Detailed Inventory Results Screen" appears on the screen. Verify the detailed information for the selected granule is displayed. Verify the search results match the search criteria.	
28. Close the "Detailed Inventory Results Screen" and return to the "Inventory Results Screen".	Select "Close" at the bottom of the "Detailed Inventory Results Screen" to close this window.
29. Close the "Inventory Results Screen" and the "Communications Status" windows. Return to the "Search Screen".	
30. Select "Clear Form" from the "Screen Functions" pull down menu to clear all of the fields on the "Search Screen".	The "Screen Functions" pull down menu is located at the top left of the "Search Screen".
31. Select "Retrieve Search" at the bottom of the Search Screen.	
32. Retrieve the previously saved search criteria.	The previously saved search criteria was saved to a file called "INV1".
33. Change the Geographic Coordinates.	
34. Execute the search and retrieve the Inventory Results for the ECS DAAC.	
35. Verify the results in the Inventory Results screen are the same as those previously found.	S-DMS-30360 S-DMS-30540
36. Close the "Inventory Results Screen" and the "Communication Status" window.	
37. Exit the V0 Client by selecting "Exit IMS" at the bottom of the "Welcome" screen.	

4.5.1.2 Test Case 2: Complex Inventory Search Test (TS018.002)

This test demonstrates the ability of ECS to allow users to perform complex inventory searches.≠ Complex searches consist of a minimum of 5 search selection criteria. The search criteria will be≠ designed to search across multiple data sets and will include ECS and non-ECS data sets. The≠ search will be executed and the data returned will be compared with the expected results. All≠ search requests are to be logged.≠

Test Configuration:≠

Hardware: Client Workstation, Data Management DBMS/Web Server, SDSRV Server≠

Software:∞ DmGwDataValue, DmGwDateTime, DmGwErrorResult, DmGwInvESDTReference, DmGwInvQuery, DmGwInvRequests, DmGwInvSearchRequest, DmGwODLAggregate, DmGwODLNonAggregate, DmGwODLParameter, DmGwODLTree, DmGwQuit, DmGwRSTAggregate, DmGwRSTNonAggregate, DmGwDirectoryResult, Query, StringVec, DM`mGwSpatial, DmGwTemporal, DmGwUserInfo, DmGwV0ECSMapper, DmGwVoRequest, RequestDispatcher, main, DmGwDirectoryQuery, V0 Valids Update Process, Data Management DBMS (Sybase), SDSRV Interface, Earth

Science Object Class Libraries, Basic Structured Class Libraries, V0 Client, Gateway Server.

Data:∞ Data Sever Inventory Database populated with representative V0 and TRMM inventory Data

Tools: The V0 Client will be used to submit the queries in ODL format.

Test Input:

Search scenarios based on available data. Input will include Source/Platform, Sensor, Geophysical Parameters, Processing Level, Dataset Name, Data Center ID, Temporal Intervals, Geographic Area, Latitudes and Longitudes.

Test Output:

A description of granules in the ECS inventory that satisfy the search criteria. Inventory results include: data set name, platform, sensor, geographical coverage, Latitudes and Longitudes, time range and availability of coverage map and browse. Search requests will also be logged.

Success Criteria:

This test is considered successful if each inventory search returns the granule descriptions of the granules that meet the search criteria. All service requests must be logged as well as the termination or successful completion of service requests.

Test Procedures:

Test Case ID: TS018.002	
Test Name: Complex Inventory Search Test	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Start the V0 Client by entering "xgaea" on the command line.	The client executable (xgaea) is in the /usr/testa/bin directory on the client workstation.
3. Verify the V0 Welcome window is displayed on the screen.	The title of this window is "Welcome".
4. Find the "Search Screen" button on the bottom of the Welcome screen and select it.	
5. Verify the V0 Search Screen is displayed on the screen.	The title of this window is "Search Screen".
6. Find "Search Type" at the top of the Search Screen and select "Inventory" as the search type.	Inventory is the default search type when the client is started.
7. Verify the radio button next to "Inventory" is highlighted.	

8. Enter the following search criteria in the designated fields on the search screen: Campaign/Project: "NOAA/NASA PATHFINDER"; Source/Platform: NOAA-11; Sensor: AVHRR; Parameters: "RADIANCE"; Processing Level: "3"; Dataset ID: "AVHRR PATHFINDER LAND DAILY MOSAICS"; Data Center ID: "ECS"; Day/Night: Day; Geographic Area: "Select from Map";Latitudes and Longitudes; Start Date/Time: 1992-04-10; End Date/Time: 1992-04-11	
9. Select "Save Search" to save the search criteria.	
10. Verify a "Save Search" window appears on the screen.	
11. Save the search to a file called "INV2".	Note, the file is saved to the User's home directory in a sub directory called "gaea_data".
12. Select "Execute Search" at the bottom of the Search screen.	
13. Verify the "Communication Status" window is displayed on the screen. Verify the search is executing by observing the status on the "Communication Status" window.	The status of the search is shown on the Communication Status window. The time required to perform the search varies based on the availability of the DAAC computers and network activity. If no change in status is observed in this window then the search may be hung. If the search appears to be hung cancel the search in the Communication Status window, return to the Search Screen and try executing the search again.
14. Verify the search is completed. The search is completed when the "Data" button is selectable for a particular DAAC. Also, note the Granule Count found on the right of the Communication Status window.	The "Data" button is on the right side of the Communication Status window.
15. Select the "Data" button for GSFC data.	
16. Verify the "Inventory Results Screen" appears on the screen.	S-DMS-30360 S-DMS-30540
17. Verify the number of granules listed is equal to the number of granules reported in the Communication Status window.	
18. Set the "Detail" flag to "y" for the first granule.	
19. Select the first granule.	The granule is selected when the line containing the granule information is highlighted.
20. Select "Detailed Information" "for granules" from the "Go To" pull down menu.	The "Go To" pull down menu is located at the top left of the "Inventory Results Screen".
21. Verify the "Detailed Inventory Results Screen" appears on the screen. Verify the detailed information for the selected granule is displayed.	
22. Close the "Detailed Inventory Results Screen" and return to the "Inventory Results Screen".	Select "Close" at the bottom of the "Detailed Inventory Results Screen" to close this window.
23. Close the "Inventory Results Screen" and the "Communications Status" windows. Return to the "Search Screen".	
24. Select "Clear Form" from the "Screen Functions" pull down menu to clear all of the fields on the "Search Screen".	The "Screen Functions" pull down menu is located at the top left of the "Search Screen".

25. Select "Retrieve Search" at the bottom of the Search Screen.	
26. Retrieve the previously saved search criteria.	The previously saved search criteria was saved to a file called "INV2".
27. Change the Geographic Coordinates.	
28. Modify the displayed search criteria by clearing the following fields: Campaign/Project, Parameters, Processing Level, Dataset ID, and Data Center ID.	To clear the field select the field and then select "clear field" at the bottom of the Search Screen.
29. Save this search criteria as "INV3".	
30. Execute the search.	
31. Verify the "Communication Status" screen shows all of the DAACs are being accessed.	
32. Select the "Data" button on the "Communication Status" window for the GSFC DAAC.	The data sets at the GSFC DAAC are V0 data sets.
33. Verify the "Inventory Results Screen" appears on the screen with a list of granules available at the GSFC DAAC.	S-DMS-30360 S-DMS-30540
34. Close the "Inventory Results Screen" and select the "Data" button for the ECS DAAC.	
35. Verify the "Inventory Results Screen" appears on the screen with a list of granules available at the ECS DAAC.	
36. Verify the retrieved granules meet the search criteria.	
37. Close the "Inventory Results Screen" and the "Communication Status" window.	
38. Select "Clear Form" from the "Screen Functions" pull down menu to clear all of the fields on the "Search Screen".	This purpose of this search is to use a minimum search criteria to retrieve the maximum number of data sets (and granules) from the data server. The number of datasets (and granules) retrieved will be compared with the data available in the data server data base.
39. Enter the following search criteria in the appropriate search screen fields. Sensor: "AVHRR"; Data Center ID: "ECS"; Geographic Area: "Select from Map"; Latitudes and Longitudes .	
40. Verify the "Communications Status" window appears on the screen. Verify the "Communication Status" screen shows a status of "Completed Successfully" when the search is completed. Verify the "Data" push button on the "ECS" status line is highlighted when the search is completed. Note the "Granule Count" for the "ECS" search.	
41. Select the "Data" button on the "ECS" status line.	
42. Verify the "Inventory Results Screen" is displayed on the screen. Verify the total number of granules for each of the "AVHRR" data sets is equal to the "Granule Count" found on the "Communications Status" window.	At the time this test plan was written the total number of granules was expected to be small. If the total number of granules becomes significantly large a sample of the data sets may be used. S-DMS-30360 S-DMS-30540
43. Retrieve the detailed information for each of the granules returned.	

44. Verify detailed information is provided for each of the selected granules.	
45. Exit the V0 Client by closing all of the Client window and selecting "Exit IMS" at the bottom of the "Welcome" screen.	

4.5.1.3 Test Case 3: Multiple Inventory Search Test (TS018.003)

This test demonstrates the ability of the Gateway software to handle multiple inventory searches. Multiple instances of the V0 Client will be used to generate the multiple search requests. This test will also verify that the Gateway logs the termination or successful completion of all service request.

Test Configuration:

Hardware: Client Workstation, Data Management DBMS/Web Server, SDSRV Server

Software:∞ DmGwDataValue, DmGwDateTime, DmGwErrorResult, DmGwInvESDTReference, DmGwInvQuery, DmGwInvRequests, DmGwInvSearchRequest, DmGwODLAggregate, DmGwODLNonAggregate, DmGwODLParameter, DmGwODLTree, DmGwQuit, DmGwRSTAggregate, DmGwRSTNonAggregate, DmGwDirectoryResult, Query, StringVec, DM`mGwSpatial, DmGwTemporal, DmGwUserInfo, DmGwV0ECSMapper, DmGwVoRequest, RequestDispatcher, main, DmGwDirectoryQuery, V0 Valids Update Process, Data Management DBMS (Sybase), SDSRV Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries, V0 Client, Gateway Server.

Data:∞ Data Sever Inventory Database populated with representative V0 and TRMM inventory Data

Tools: The V0 Client will be used to submit the queries in ODL format.

Test Input:

Search scenarios based on available data. Input will include Source/Platform, Sensor, Geophysical Parameters, Processing Level, Dataset Name, Data Center ID, Temporal Intervals, Geographic Area, Latitudes and Longitudes.

Test Output:

A description of granules in the ECS inventory that satisfy the search criteria. Inventory results include: data set name, platform, sensor, geographical coverage, Latitudes and Longitudes, time range and availability of coverage map and browse. Search requests will also be logged.

Success Criteria:

This test is considered successful if each inventory search returns the granule descriptions of the granules that meet the search criteria. The Gateway must service all request or display an error

message when it can not process the request. All service requests must be logged as well as the termination or successful completion of each service requests.

Test Procedures:

Test Case ID: TS018.003	
Test Name: Multiple Inventory Search Test	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Open an xterm window and start the V0 Client by entering "xgaea" on the command line.	The client executable (xgaea) is in the /usr/testa/bin directory on the client workstation.
3. Verify the V0 Welcome window is displayed on the screen.	The title of this window is "Welcome".
4. Find the "Search Screen" button on the bottom of the Welcome screen and select it.	
5. Verify the V0 Search Screen is displayed on the screen.	The title of this window is "Search Screen".
6. Log on to 2 additional client workstations, using a different user login ID for each client.	It's important to execute each V0 Client using different user login IDs. The V0 Client creates a directory called "gaea_tmp" in the user's home directory, and creates 3 system files. If separate login IDs are not used the system files will be over written by the additional V0 Clients.
7. Start the V0 Client on the additional workstations.	
8. Select the "Search Screen" button to display the Search Screen.	
9. Verify a V0 search screen is displayed on the 3 workstations.	
10. Enter the following search criteria in the first Search Screen: Search Type: Inventory; Sensor: AVHRR; Data Center ID: ECS; Dataset ID: North America 1 km AVHRR 10 day composite NDVI; Geographic Area: Select from Map; Latitudes and Longitudes.	
11. Enter the following search criteria in the second Search Screen: Search Type: Inventory; Sensor: AVHRR; Data Center ID: ECS; Dataset ID: North America 1 km AVHRR 10 day composite NDVI; Geographic Area: Select from Map; Latitudes and Longitudes.	
12. Enter the following search criteria in the third Search Screen: Search Type: Inventory; Sensor: AVHRR; Data Center ID: ECS; Dataset ID: North America 1 km AVHRR 10 day composite NDVI; Geographic Area: Select from Map; Latitudes and Longitudes	
13. Simultaneously execute the search on each of the workstations by selecting the "Execute Search" button at the bottom of the Search Screen.	

14. Verify the "Communication Status" window is displayed on the three workstations. Verify the search is executing by observing the status on the "Communication Status" windows.	The status of the search is shown on the Communication Status window. The time required to perform the search varies based on the availability of the DAAC computers and network activity. If no change in status is observed in this window then the search may be hung. If the search appears to be hung cancel the searches in the Communication Status window, return to the Search Screen and try executing the searches again.
15. When the searches are completed note the number of granules reported on the "Communication Status" windows.	The search is completed when the "Data" button is selectable for a particular DAAC. The "Data" button is on the right side of the Communication Status window.
16. Select the "Data" button on each screen for ECS data.	
17. Verify the "Inventory Results Screen" appears on the workstation screens.	
18. Verify the inventory search results match the search criteria selected.	S-DMS-30360 S-DMS-30540
19. Verify the number of granules listed is equal to the number of granules reported in the Communication Status windows.	
20. Exit the V0 Client by closing all of the Client windows and selecting "Exit IMS" at the bottom of the "Welcome" screen.	

4.5.2 Document Data Server Search (TS019)

The Document Data Server thread demonstrates that users will access guide on-line documentation and reference materials about ECS and its data sets. The users will be able to retrieve documents in the following file formats:

- HTML
- PDF
- TEXT
- RTF
- Postscript

4.5.2.1 Test Case 1: Document Search and Request Test (TS019.001)

This test demonstrates the ability of users to search and request on-line documentation. The user will access the Document Data Server utilizing a guide URL. The user will then search for guide documents by specifying search parameters. The Document Data Server will provide a list of documents related to the search. The documents must be returned with any embedded images. The user will browse through available listings of documents and select specific documents for review. Several documents will be selected for display.

Test Configuration:

Hardware: DDSHW, DMGHW

Software:∞ DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest,DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0, Adobe Acrobat, Microsoft Word

Test Input:

Inputs to this test case include document search criteria.

Test Output:

Outputs to this test case include documents which satisfy the search criteria.

Success Criteria:

This test is considered successful if the specified documents which satisfy the search criteria are displayed on the screen. The documents must be returned in PDF, RTF, and/or PostScript format with any embedded images, or in Text format. The formats must be readable and must correspond to the selected browse listing or the keywords used for searching.

Test Procedures:

Test Case ID: TS019.001	
Test Name: Document Search and Request Test	
Test Steps:	Comments:
1. Using a network browser, enter the URL for Document Data Server	
2. Verify that the Document Data Server home page appears	
3. Select the Document Data Server search button	
4. Verify the search screen is returned	
5. Enter "**AVHRR - LAC HRPT Dataset Document** in the search parameters	
6. Select the Execute Search button	
7. Verify that the Document Data Server Results window returns the AVHRR - LAC HRPT Dataset Document	S-DSS-10010 S-DSS-10050 S-DSS-10250
8. Select the PDF link	This step causes the document to be sent to the user's computer in PDF format. The document may be displayed using Adobe Acrobat.
9. Verify the PDF document is returned with any embedded images	S-DSS-10030
10. Close the Acrobat application and return to the Document Data Server Results Window	

11. Select the Text link	This step causes the document to be sent to the user's computer in Text format. The document may be displayed using the UNIX “page” command may be used to view the text document.
12. Verify the Text is returned	
13. Return to the Document Data Server Results Window	
14. Select the RTF link	This step causes the document to be sent to the user's computer in RTF format. The document may be displayed using Microsoft Word.
15. Verify the document is displayed in RTF format with any embedded images	
16. Close the Microsoft Word program.	
17. Select the PostScript link	
18. Verify the PostScript document is returned with any embedded images	The PostScript file will be printed to verify the correct document was retrieved.
19. Return to the Document Data Server home page by selecting the home page button located on the page	
20. Verify the Document Data Server home page appears	
21. Enter “**NSIDC”** in the search parameter field	
22. Select the Execute Search button	
23. Verify the Document Data Server Results window returns the NSIDC Document	S-DSS-10010 S-DSS-10050 Requesting agencies is understood to be anyone with a Web Browser
24. Select the PDF link	
25. Verify the PDF document is returned with any embedded images	S-DSS-10030 This step causes the document to be sent to the user's computer in PDF format. The document may be displayed using Adobe Acrobat.
26. Select the close button to close the Adobe Acrobat program and return to the Document Data Server Results page .	
27. Select the Text link	
28. Verify that the Text document is returned	
29. Close the Microsoft Word Document	Documents in Text format will be verified by displaying the documents using Microsoft Word
30. Select the RTF link	
31. Verify the RTF document is returned with any embedded images	Documents in RTF format will be verified by displaying the documents using Microsoft Word
32. Select the exit button and	
33. Select the PostScript link	The PostScript file will be printed to verify the correct document was retrieved.
34. Verify that the PostScript is returned with any embedded images	
35. Return to the Document Data Server home page by selecting the home page button located on the HTML page	

4.5.2.2 Test Case 2: Guide Document Update Test (TS019.002)

This test demonstrates the ability of users to update metadata. The tester will search and retrieve a guide document. Once a document has been selected, the tester will update the version number of the document.

Test Configuration:

Hardware: DDSHW, DMGHW

Software:∞ DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0, Adobe Acrobat, Microsoft Word

Test Input:

Inputs to this test case consist of updates to the document version number.

Test Outputs:

Outputs to this test case include version number updates to the selected documents.

Success Criteria:

This test is considered successful if the tester is able to search and request a guide document and make modifications to the version number. Once the user has updated the version number of the document, the Document Data Server must generate an update to the selected document.

Test Procedures:

Test Case ID: TS019.002	
Test Name: Guide Document Update Test	
Test Steps:	Comments:
1. Using a network browser, enter the URL for the Document Data Server	
2. Verify that the Document Data Server home page appears	
3. Select the document search button	
4. Verify the search screen is returned	
5. Enter "**Pathfinder AVHRR Data Set Guide"** in the search parameters field	
6. Select the Execute Search button	
7. Verify the output is returned to the Document Data Server Results screen with the correct document(s)	S-DSS-10060 S-DSS-10070 S-DSS-10250 The guide documents returned will be related to the Pathfinder AVHRR Data Sets.
8. Exit the Document Data Server	

9. Log back onto the Document Data Server as an Administrator	
10. Update the version to “2.0”	
11. Select the submit button located on the page	
12. Verify that notification is received stating the update was successful	
13. Return to the Document Data Server home page by selecting the home button located on the page	
14. Select the document search button	
15. Enter “**Pathfinder AVHRR Data Set Guide”** in the search criteria field	
16. Verify the Document Data Server Results screen appears with the selected document	S-DSS-10250
17. Select “Pathfinder AVHRR Data Set Guide” from the Document Data Server Results screen.	
18. Verify the version number is changed to 2.0	S-DSS-10054 Partial: Full Insert service is planned for Phase 3
19. Return to the Document Data Server home page	

4.5.2.3. Test Case 3: File Access Error Notification Test (TS019.003)

This test demonstrates the ability of the Document Data Server to return appropriate error≠ messages to the operations staff involving file accesses. The user will enter the URL for access≠ to the Document Data Server. The user will search and attempt to access a guide document≠ utilizing an invalid file name. Once the user submits the search request, the Document Data≠ Server must promptly notify the operations staff of any and all errors that was encountered in≠ trying to access the selected file.≠

Test Configuration:≠

Hardware: : DDSHW, DMGHW≠

Software:∞ DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0, Adobe Acrobat, Microsoft Word

Test Input:

Input to this test case consist of invalid Guide Document filenames

Test Output:

Outputs to this test case consist of appropriate error messages.

Success Criteria:

This test is considered successful if the operations staff is properly notified when an error is encountered in attempting to access a file.

Test Procedures:

Test Case ID: TS019.003	
Test Name: File Access Error Notification Test	
Test Steps:	Comments:
1. Using a network browser, enter the URL for the Document Data Server	
2. Verify the Document Data Server home page appears	
3. Select the document search button	
4. Verify the search screen is returned	
5. Enter "**Release A Document Set Guide"** in the search parameter field	S-DSS-10186 This document does not exist in the Document Data Server data base.
6. Select the Execute Search button	

4.5.2.4 Test Case 4: System Error or Fault Notification Test (TS019.004)

This test demonstrates the ability of the Document Data Server to return appropriate error messages to the operations staff involving system errors or faults. Two methods will be used to create a system error: a. Disabling the Document Data Servers access to the DBMS and b. Renaming a required datafile. The user will log onto a browser and access the Document Data Server. Once the Document Data Server is accessed, the tester will attempt to search and retrieve a document while the database is not operating. The tester will also change the name of a file that the server must use in order to access documents. The tester will than attempt to access documents from the Document Data Server.

Test Configuration:

Hardware: DDSHW, DMGHW

Software:∞ DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents≠

Tools: Mosaic 2.7b1, Netscape 2.0, Adobe Acrobat, Microsoft Word≠

Test Input:≠

Inputs to this test case include Guide Document filenames

Test Outputs:

Outputs to this test case consist of appropriate error messages

Success Criteria:

This test is considered successful if the operations staff is properly notified that a system error exists.

Test Procedures:

Test Case ID: TS019.004	
Test Name: System Error or Fault Notification Test	
Test Steps:	Comments:
1. Login to the DDSRV server machine (DDSE1SUN). Determine the process id for the Document Data Server application and execute the Unix "kill" command to stop the server.	The Unix "ps" command may be used to determine the process id.
2. Enter the following command to change the value of the DBNAME environment variable: "setenv DBNAME xxx"	The DBNAME variable is used to tell the Document Data Server which data base to use. Changing this value will disable access to the database.
3. Restart the Document Data Server and minimize the Xterm window.	
4. Using a network browser, enter the URL for the Document Data Server	
5. Verify the Document Data Server home page appears	
6. Select the document search button	
7. Verify the search screen is returned	
8. Enter "**RADIANCE"** in the search parameters	
9. Select the Execute Search button	
10. Verify an appropriate error is returned stating that there is a database connection	S-DSS-10184
11. Return to the Document Data Server home page	
12. Exit the browser	
13. Open the server Xterm window. Determine the process id for the Document Data Server application and execute the Unix "kill" command to stop the server.	This Xterm window was minimized in a previous step. It is the same window in which the server was started.
14. Reset the DBNAME environment variable to the correct database name by entering the following command on the Unix command line: "setenv DBNAME ddsrv_db"	The name of the document data server is ddsrv_db.
15. Restart the Document Data Server and minimize the Xterm window.	
16. Open another Xterm window	
17. Access the Document Data Server directory	
18. Change the name of a required data file	The data file will be selected prior to test execution
19. Exit the Xterm window	
20. 20. Using a network browser, enter the URL for the Document Data Server	
21. Select the search button	

22. Enter "**NOAA/NASA_PATHFINDER"** in the search criteria field	
23. Verify the server returns an appropriate system error message	S-DSS-10184

4.5.3 Desktop 2 Thread (TS063)

The Desktop 2 thread verifies the capabilities of the client to provide a desktop environment. The Desktop provides the capability to organize and present various desktop objects an operator/user interacts with. The desktop functionality's that will be tested in phase 2 include:

- Setting user preferences to customize the desktop.
- Desktop Graphical User Interface (GUI).
- Copy and move desktop objects via menu bar options (i.e. Copy To and Move To) or using middle mouse button and <cntrl> key (to copy) and just the middle mouse button (to move).
- Desktop customization of fonts and colors using the EcsMotif defaults file.
- Load Actions option is used for updating the actions database.

4.5.3.1 Test Case 1: Desktop User Preferences (TS063.001)

This test demonstrates the ability of the user to customize the Desktop. The user will be able to customize the desktop window by setting user preferences. The user will be able to select the Directory View either Iconic or Hierarchical, and select the default action for the Directory Open Mode either Open In Place or Open New Window.

Test Configuration:

Hardware: Sun, HP and SGI workstations

Software: Motif Window Manager

Data: None

Tools: XRunner Tool

Test Input:

Select the user preferences to customize the desktop.

Test Output:

The selected user preferences are applied and the desktop is customized for the user.

Success Criteria:

This test is considered successful if the user is able to customize the desktop by setting the desired user preferences.

Test Procedures:

Test Case ID: TS063.001	
Test Name: Desktop User Preferences	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Goto the menu bar at the top of the screen, click on View option and from the pull down menu select the option User Preferences.	
3. The User Preferences window is popped up and displayed.	
4. Set the desired user preferences. The default action for Directory Open Mode (Iconic or Hierarchical), and the Directory View (Open In Place or Open New Window) by clicking on the radiobuttons next to the preferences.	CLS-01615
5. Once all desired user preferences are made, goto the bottom of the User Preferences window.	
6. Select any 1 of 5 push-button options (OK, Apply, Defaults, Save, and Cancel). Each option selected will cause a different function to occur which are listed below:	
7. If the **OK** option is selected, then the functionality will be to apply the preferences to the desktop window and remove the preferences dialog from the screen.	
8. If the **Apply** option is selected, then the functionality will be to apply the preferences to the window but do not remove the preferences dialog from the screen.	
9. If the **Default** option is selected, then the functionality will be to restore the default preferences.	
10. If the **Save** option is selected, then the functionality will be to save the preferences to disk.	
11. If the **Cancel** option is selected, then the functionality will be to remove the preferences dialog from the screen.	
12. Steps 7 thru 11 will all be exercised and will be checked to make sure the functionality works properly.	

4.5.3.2 Test Case 2: Desktop GUI Interface (TS063.002)

This test demonstrates the ability of the ECS Client to provide users with a Graphical User Interface (GUI). A GUI with consistent use of non-standard keys and minimal use of non standard keys, a GUI with standardized use of commands and terminology across screens.

Test Configuration:

Hardware: Sun, HP and SGI workstations

Software: Motif Window Manager

Data: None

Tools: XRunner Tool

Test Input:

Exercise the Desktop GUI (i.e. interactive interface).

Test Output:

The Desktop GUI is exercised. All interactions and activation's work properly.

Success Criteria:

This test is considered successful if the user is able to exercise the Desktop GUI. All the interactions and activation's work properly.

Test Procedures:

Test Case ID: TS063.002	
Test Name: Desktop GUI Interface	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Desktop menu screen is displayed with the menu bar options at top of the screen.	
3. Select all the menu bar options (File, Selected, View,Tools, and Help) one at a time by clicking once on them.	
4. A pull down menu will be displayed for each menu bar option clicked on with more menu options.	
5. Activate the menu options by using mnemonics and accelerator keys (i.e. non-standard keys) for each menu bar option. Check to see that a minimal use of non-standard keys is applied.	CLS-00030, CLS-00040
6. Traverse thru the menu screens to make sure a standard use of commands and terminology is used across all menu screens.	CLS-00050
7. Execute various commands (i.e. open an application, delete a desktop object, create a new directory, etc.) to see whether these commands are displayed in the message area at the bottom of the screen.	CLS-00080. This requirement was partially tested in phase 1 and is partially being tested in phase 2.
8. Click on a desktop object and make sure that the icon itself and the text below it highlights.	
9. Drag and drop desktop object icons (using the middle mouse bottom) onto other desktop object icons to see whether a stop sign icon appears. If it does then the desktop object icon can not be dropped(i.e. invalid drop site), and if it does not then the desktop object icon can be dropped (i.e. valid drop site).	

4.5.3.3 Test Case 3: Copy and Move Desktop Objects (TS063.003)

This test demonstrates the ability of the Desktop to provide users the ability to copy and move desktop objects. The desktop objects can be copied and moved via menu bar options or using the

middle mouse (button2 and <cntrl> key) to copy and just the middle mouse button (button2) to move.

Test Configuration:

Hardware: Sun, HP and SGI workstations

Software: Motif Window Manager

Data: None

Tools: XRunner Tool

Test Input:

Select menu bar option Selected and then select option Copy To. In the Copy dialog box enter the destination folder and name for copy in the fields. Copy can also be performed by using the middle mouse button and <cntrl> key to copy. In order to do Move, select menu bar option Selected and then select option Move To. In the Move dialog box enter the destination folder. Move can also be performed by using just the middle mouse button.

Test Output:

The desktop object is copied to the destination folder (directory) and file name specified in the Copy Dialog box. The desktop object is moved to the specified destination folder.

Success Criteria:

This test is considered successful if the user is able to copy and move the desktop objects into the specified destination folder (directory).

Test Procedures:

Test Case ID: TS063.003	
Test Name: Copy and Move Desktop Objects	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Select one of the desktop object icons from the Desktop screen.	
3. Then goto the menu bar options at the top of the screen and click on the Selected option.	
4. A pull down menu is displayed.	
5. To perform a Copy select the option Copy To or use the middle mouse button and <cntrl> key to copy. To perform a Move select the option Move To or use just the middle mouse button to move.	CLS-00230 Both ways of copying and moving desktop objects will be tested.

6. If Copy To is selected a Copy Dialog box is prompted and displayed, and if the middle mouse button and <cntrl> key is used to perform a copy, a Copy Dialog box is not displayed. If Move To is selected a Move Dialog box is prompted and displayed, and if just the middle mouse button is used to perform a move, a Move Dialog box is not displayed.	
7. If Copy To is selected enter the destination folder and name for copy in the designated fields on the Copy Dialog box. If Move To is selected enter the destination folder in the designated field on the Move Dialog box.	
8. Click on the O.K. button to copy or to move the desktop object into the destination folder or the Cancel button to cancel the copy or move of the desktop object into the destination folder. Both options will be tested.	

4.5.3.4 Test Case 4: Desktop Customization of Fonts and Colors (TS063.004)

This test demonstrates the ability to do Desktop customization of fonts and colors. All motif/X window applications can be customized: excluded from customization are HTML, COT s/w, and heritage s/w.

Test Configuration:

Hardware: Sun, HP and SGI workstations

Software: Motif Window Manager

Data: None

Tools: XRunner Tool

Test Input:

Enter different font and color settings for the desktop.

Test Output:

The font and color settings chosen change the default color scheme of the desktop.

Success Criteria:

This test is considered successful if the selected fonts and colors customize the desktop according to the user.

Test Procedures:

Test Case ID: TS063.004	
Test Name: Desktop Customization of Fonts and Colors	
Test Steps:	Comments:

1. Start the ECS Desktop.	
2. The desktop screen is displayed with the motif default color scheme and fixed fonts.	
3. Exit the desktop and setenv XFILESEARCHPATH $OPENWINHOME/lib/app-defaults/%N:$MOTIFHOME/lib/%T/%N%S:/usr/lib/X11/app-defaults/%N:/$ECS_HOME/data/app-defaults/%N	The environment variable can be set on the Unix command line or in the .cshrc file.
4. Start the ECS Desktop, now the ECS defaults are set.	
5. Notice that the color and fonts have changed for the desktop and double click on the other ECS applications to notice their colors and fonts have also changed. Now exit the desktop.	
6. Now if you would like to change colors or the fonts. Then mkdir ~/app-defaults and then copy the EcsMotif file in there. The EcsMotif file contains the default color scheme and fonts.	
7. Setenv XUSERFILESEARCHPATH ./%N.ad:$HOME/app-defaults/%N.	The environment variable can be set on the Unix command line or in the .cshrc file.
8. Edit the EcsMotif file. And now since setenv XUSERFILESEARCHPATH is for the local user any changes made to the color scheme and fonts will be updated.	
9. Once again start up the ECS Desktop, the user will notice that the desktop color scheme and fonts which the user specified locally have changed from what they are site wide or system wide.	CLS-00120, CLS-01605
10. The color scheme and fonts the user selects locally for the desktop has precedence over what the color scheme and fonts are set for the site wide or system wide applications.	

4.5.3.5 Test Case 5: Load Actions (TS063.005)

This test demonstrates the users ability to change actions for applications and data files. Desktop uses actions files in the users directory ~/.ecs_preferences for getting action information (i.e. information about name, icon to be used, command to execute for performing actions).

Test Configuration:

Hardware: Sun, HP and SGI workstations

Software: Motif Window Manager

Data: None

Tools: XRunner Tool

Test Input:

Edit the actions files using the text editor of your choice, then start up the desktop and click on menu bar option View and from the pull-down menu select Load Actions and then select the option Refresh.

Test Output:

The actions database is updated and changes are made to the desktop window.

Success Criteria:

This test is considered successful if the user is able to edit the actions files and after clicking on View, selecting Load Actions, and selecting Refresh the actions database is updated and changes are made to the desktop window.

Test Procedures:

Test Case ID: TS063.005	
Test Name: Load Actions	
Test Steps:	Comments:
1. Start another xterm window by entering the command: xterm -T fire (i.e w/s name) &.	This window will be needed later in the test procedures.
2. Start the ECS Desktop.	
3. If the users wants to change an icon that is being used on the desktop window, move the mouse to the xterm window.	The user can change the icon, name, or the command to execute for performing the actions.
4. Enter cd ~/.ecs_preferences	This will take you to .ecs_preferences directory. That is the directory where the actions file is located.
5. Edit the actions file using the text editor of your choice (Ex. vi editor).	
6. Go to the icon field you want to change and change it. Then save the file.	Make sure you do not delete '!' symbol when making the change in the actions file.
7. Move the mouse back to the Desktop window.	
8. Select the menu bar option View and from the pull down menu select the option to Load Actions.	
9. Then select the option Refresh from the menu bar option View. This will bring the new icon to the desktop window.	

4.5.4 User Search Services 2 Build (BS006)

The User Search Services 2 Build demonstrates the ability of the ECS Desktop Software to provide integrated access to several user services. These services include the Advertising Service, the Document Data Server (Guide Document Search) and the Science Data Server (Directory and Inventory Searches). Search criteria will be developed to search V0 and ECS data sets. This build consist of the following test cases:

BS006.001 - Advertisement Test

BS006.002 - Data Server Search Request Test

BS006.003 - Document Data Server Search and Request Test

4.5.4.1 Test Case 1: Advertisement Test (BS006.001)

This test demonstrates the ability of the Desktop to provide user access to advertisements. The tester will begin by logging in and starting the Desktop. When the ECS Desktop is displayed on the screen the tester will execute the Advertising Service by selecting an icon on the Desktop. After browsing through the advertisements an advertisement will be selected. The tester will retrieve information concerning product descriptions, providers and services offered. This test will be repeated several times with different advertisements.

Test Configuration:

Hardware: CLHW, DDSHW, DMGHW

Software:∞ AdvDBMSApplServer, AdvDBMSServer, AdvhttpServer, Advertising Client Tool, Desktop Manager, AdvWAISServer, Motif Window Mgr.

Data: Advertising Service Database, Advertisement selections

Tools: XRunner

Test Input:

Inputs to this test case include Advertisement selections using the Desktop and Advertising Service user interfaces.

Test Output:

Outputs to this test case include advertisement descriptions, information on providers and access to advertised services.

Success Criteria:

This test is considered successful if the tester is able to successfully start the Desktop software, initiate the advertising service, and receive appropriate result sets for advertising queries. Result sets will be examined to determine if the correct response was received when compared to the query input.

Test Procedures:

Test Case ID: BS006.001	
Test Name: Advertisement Test	
Test Steps:	Comments:
1. Log on to a client workstation.	
2. Start the ECS Desktop by entering **"EcsDesktop".**	The desktop menu screen is displayed showing desktop object icons. IMS-0100, IMS-0120, IMS-0150, IMS-0160, IMS-1380
3. Select the **"Advertisement Service"** application icon.	The Advertisement Services Home Page is displayed.
4. From this screen select the **"Search"** option button located at the bottom of the screen.	The **"Search Advertising Services"** screen is displayed.

5. In the **"Search for"** box enter the sensor name **"AVHRR".**	IMS-0030, IMS-0550, IMS-0600
6. Select the **"Submit"** search button to initiate the search.	The **"Search Results"** screen is displayed showing a set of products, services and providers which satisfy the selection criteria.
7. From the search results screen under the subheading **"**Products**"** select the "**North America, 1 Km AVHRR 10-day composite NDVI**" product entry.	The detailed **"Product Advertisement"** screen is displayed with the detailed information on the product.
8. Return to the Search Advertisement screen by selecting the **"Search"** button at the bottom of the Search Results screen.	The Search Advertisement window is redisplayed.
9. Enter in the **"Search for"** box the instrument name **"ERBE".**	
10. Select the **"Submit"** search button to initiate the search.	The **"Search Results"** screen is displayed showing a set of several products, services and providers which satisfy the selection criteria.
11. Under the subheading **"**Services**"** select "**Correct ERBE S-4G scanner latitudes/longitudes**" service.	The detailed "Service Advertisement" screen is displayed with the detailed information on the service.
12. Verify the Advertisement Service returns a **"Service Display"** screen containing an advertisement for the "Correct ERBE S-4G scanner latitudes/longitudes" service.	
13. Go back to the Search Results screen previously generated for this sensor.	The **"Search Results"** screen is re-displayed showing the same set of several products, services and providers for the ERBE sensor.
14. This time under the subheading **"**Products**"** select **the "ERBE S-4G scanner 2.5 - degree regional averages**" product.	
15. Verify the Advertisement Service returns a **"Product Display"** screen containing an advertisement for the "ERBE S-4G scanner 2.5 - degree regional averages" product.	
16. Exit the Advertisement Services	
17. Log off workstation.	

4.5.4.2 Test Case 2: Data Server Search Request Test (BS006.002)

This test demonstrates the ability of the Client to allow users to perform integrated searches using the capabilities of the Advertising Service, Directory Search, and Inventory Search. Several searches will be performed based on the available data in the Science Data Server. The search will also include retrieving browse products and displaying them using the client visualization tool.

Test Configuration:

Hardware: CLHW, DMGHW, DDSHW, DIPHW

Software:∞ AdvDBMSApplServer, AdvDBMSServer, AdvWAISServer, AdvhttpServer, Advertising Client Tool, Desktop Manager, Science Data Server, Storage Management, Data Distribution, Document Data Server, V0 Gateway, EOSView

Data:∞ Advertising Service and Data server data bases, Global Change Master Directory (GCMD), Browse Products (HDF files)

Tools: V0 Client, XRunner

Test Input:

Inputs to this test case include search criteria for the Advertising Service, Directory Search and Inventory Search functions.

Test Output:

Outputs to this test case includes advertising service descriptions, summary information on data sets (Directory Search Results), detailed information on data granules available in the ECS archive (Inventory Search Results), browse products and appropriate error messages.

Success Criteria:

This test is considered successful if the client provides the requested information from the Advertising Service and Science Data Server. Also, EOSView must display the 8/24 bit browse products in ECS-HDF format. Appropriate error messages must also be displayed if user errors or system errors occur during the execution of this test.

Test Procedures:

Test Case ID: BS006.002	
Test Name: Data Server Search Request Test	
Test Steps:	Comments:
1. Log on to a client workstation.	
2. Startup the ECS Desktop by entering **"EcsDesktop"**.	The desktop menu screen is displayed showing the desktop applications object icons. IMS-0100, IMS-0120, IMS-0150, IMS-0160, IMS-1380
3. Select the **"Advertisement Services"** application icon.	The Advertisement Services Home Page will be displayed.
4. From this screen select **"Search"** option button located at the bottom of the screen.	IMS-0030, IMS-0550, IMS-0600
5. The **"Search Advertising Service"** screen will be displayed. In the **"Search for"** box enter the sensor name **"AVHRR".**	
6. Select the **"Submit"** search button to initiate the search.	
7. The "**Products Search Results**" screen will be displayed showing a set of products which satisfy the selection criteria.	
8. From this screen select a specific data product.	
9. The detailed "Product Advertisement" will be displayed.	
10. Exit the "Advertisement Service" start the Release A V0 Client Tool by selecting it from the Desktop icon.	The **ECS V0 Client Tool's Welcome Page** is displayed.
11. Select the **"Search"** option from this screen.	The **"Search Screen"** is displayed.

12. At the top of the screen select **"Directory"** as the **search type** to be performed for this portion of the test. Fill in the relevant search criteria associated with the data set product found in the network advertisement browser.	This will be a temporal search. Use the beginning and ending dates from the advertising product search results.
13. Select the **"Save Search"** option to save the search criteria for possible further use or modification.	The file is saved to the User's Home directory in a sub directory called **"gaea_data"**. The full filename should be BS0802.src. This file may be opened for verification by typing "ls -tl $HOME/gaea_data on the command line
14. Select the **"Execute Search"** option.	A **"Communications Status Window"** is displayed. It contains the status's of the relevant data located at various DAACs.
15. Select the **"Data"** option for a particular DAAC to display the Directory Search Results screen.	The "Data" button is found on the right of the "Communications Status " window.
16. From this screen select the **"Detail"** option to display the details on a specific data set.	The **"Detail Directory Search Request"** screen will be displayed showing data set details.
17. Verify that the data sets and granule information selected from the advertisement services are the same as those presented in the Directory search.	
18. Return to the **"Search Screen"** and at the top where the **"Search Type"** select **"Inventory"** as the type of search to be performed.	
19. At the bottom of the screen select the **"Retrieve Search"** to retrieve the basic criteria entered for the previous directory search.	The search criteria for the previous Directory search is displayed.
20. Select the **"Execute Search"** option.	A **"Communications Status Window"** is displayed. It contains the status of the relevant data located at various DAACs.
21. Verify that the search is executing by observing the status on the **"Communications Status"** window. Make note of the number of granules which are returned for each DAAC.	A "Data" button is located to the right for each DAAC location displayed on the screen.
22. Select the **"Data"** button for a DAAC which holds the data requested in the search.	The **"Inventory Results Screen"** is displayed.
23. Verify that the number of granules listed is equal to the number of granules reported in the Communications Status Window.	
24. Set the **"Detail"** flag to **"y"** for the granule.	
25. Select the first granule.	The granule is selected when the line containing the granule information is highlighted.
26. Select **"Detailed Information" "for granules"** from the **"Go To"** pull down menu.	The "Go To" pull down menu is located at the top left of the "Inventory Results Screen".
27. Verify that the **"Detailed Inventory Results Screen"** appears on the screen. Verify the detailed information for the selected granule is displayed.	
28. Close the **"Detailed Inventory Results Screen"** and return the **"Inventory Results Screen"**.	Select **"Close"** at the bottom of the "Detailed Inventory Results Screen" to close this window.
29. Select the granule that has the browse image available.	To verify a granule has a browse image check the column labeled **"BA",** Browse Available. The **"BA"** or **"IB/FB"** if the Browse Image is available.

30. Set the Browse flag to **"IB"** by clicking on the column labeled **"B"** for the selected granule.	
31. Verify that the **"B"** column for the selected granule contains the value **"IB".**	
32. Select **"Browse"** from the **"Go To"** pull down menu.	
33. Verify the **"Communications Status"** window appear on the screen.	
34. When the Communications Status window indicates that the search is completed successfully, select the **"Image"** button found at the right of the Communication Status window.	
35. Verify the **"Integrated Browse"** window appears on the screen with a browse image.	
36. Close the **"Integrated Browse"** window.	Select **"Close"** at the bottom of the **"Integrated Browse"** screen to close this window.
37. Close the **"Inventory Results Screen"** and the **"Communications Status"** windows. Return to the **"Search Screen"**.	
38. Exit the V0 Client by selecting the **"Exit IMS"** at the bottom of the **"Welcome"** screen.	
39. Exit the Desktop application.	

4.5.4.3 Test Case 3: Document Data Server Search and Request Test (BS006.003)

This test demonstrates the ability of users to access the Document Data Server from the ECS≠ Desktop. After starting the ECS Desktop software, the user will select the Document Data Server≠ icon displayed on the Desktop. The Desktop will then start a web browser and establish a≠ connection with the Document Data Server. The user will search for guide documents and≠ browse through available documents. Several guide documents will be selected for display.≠

Test Configuration:≠

Hardware: CLHW, DDSHW, DMGHW≠

Software: ∞ DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0, Adobe Acrobat, Microsoft Word

Test Input:

Inputs to this test case consist of search criteria for document searches.

Test Output:

Outputs to this test case consist of access to the Document Data Server and documents retrieved as a result of document searches.

Success Criteria:

This test is considered successful if the Document Data Server is successfully launched from the ECS Desktop. A list of documents which satisfy the search criteria are to be displayed on the screen. The documents must be returned in PDF, RTF, and/or PostScript format with any embedded images, or in text format. The formats must be readable and must correspond to the selected browse listing or the keywords used during the search.

Test Procedures:

Test Case ID: BS006.003	
Test Name: Document Data Server Search and Request Test	
Test Steps:	Comments:
1. Log on to a client workstation.	
2. Start the ECS Desktop by entering **"EcsDesktop"**.	The desktop menu screen is displayed showing the desktop applications object icons. IMS-0100, IMS-0120, IMS-0150, IMS-0160, IMS-1380
3. Select the **"Document Data Server"** application icon on the Desktop.	The Document Data Server Search Screen will be displayed.
4. Verify the Document Data Server search screen is displayed.	
5. Enter "**AVHRR - LAC HRPT Dataset Document**" in the search parameter field.	
6. Select the Execute Search button.	
7. Verify that the Document Data Server Results window returns the AVHRR - LAC HRPT Dataset Document.	
8. Select the PDF link.	This step causes the document to be sent to the user's computer in PDF format. The document may be displayed using Adobe Acrobat.
9. Verify the PDF document is returned with any embedded images.	
10. Close the Acrobat application and return to the Document Data Server Results Window.	
11. Select the Text link.	This step causes the document to be sent to the user's computer in text format. The document may be displayed using the UNIX "page" command.
12. Verify the document is returned in text format.	
13. Return to the Document Data Server Results Window.	
14. Select the RTF link.	This step causes the document to be sent to the user's computer in RTF format. The document may be displayed using Microsoft Word.

15. Verify the document is displayed in RTF format with any embedded images.	
16. Close the Microsoft Word program.	
17. Select the PostScript link.	
18. Verify the PostScript document is returned with any embedded images.	The PostScript file will be printed to verify the correct document was retrieved.
19. Return to the ECS Desktop window.	
20. Select the Advertising Service icon on the Desktop.	
21. Verify the Advertising Service is displayed on the screen.	
22. Verify the Document Data Server is also on the screen.	
23. Return to the ECS Desktop.	
24. Create a directory and move several files into the created directory.	
25. Verify the new directory was created and the files were moved into the new directory.	
26. Verify the Advertising Service and the Document Data Server applications remain displayed on the screen.	
27. Perform additional searches using the Advertising Service and the Document Data Server.	
28. Verify the ECS Desktop, Advertising Service and Document Data Server applications continue to function independently.	This test step verifies the Desktop, Advertising Service and Document Data Server can operate independently and simultaneously.
29. Exit the Advertising Service.	The Desktop and Document Data server applications should remain on the screen.
30. Exit the Document Data Server.	The Desktop application should remain on the screen.
31. Exit the ECS Desktop.	
32. Verify the 3 applications above are terminated.	

4.6 Product Access Tests

The following subsections include the threads and builds identified to support Product Access testing. Product Access testing includes the following threads and builds:

- Electronic Distribution Thread
- Subscription Thread
- Product Request Thread
- Product Access Build

4.6.1 Electronic Distribution Thread (TS023)

This thread demonstrates the ability to distribute data products and associated metadata electronically via the network. Searches will be performed and results will be used as inputs to distribution requests used in this thread. As data requests are accepted and validated, data is retrieved from the archive and prepared for distribution according to instructions given in the

data request. Data is distributed according to these instructions establishing a distribution destination given in the distribution request. This test thread consists of the following test cases.

TS023.001 Electronic Distribution Check Test

TS023.002 “Pull” Data to Specific Destination Test

TS023.003 "Push" Data to Specific Destination Test

TS023.004 Network Re-Transmission Test

TSO23.005 TSDIS Pull-Side Test

4.6.1.1 Test Case 1: Electronic Distribution Check Test (TS023.001)

This test demonstrates the ability to check all fields of a distribution request. Validation includes checking that the distribution request includes valid entries for the following fields: originator, method, destination and unique identifiers. Verification will also include checking fields for invalid entries. Several valid distribution requests will be made throughout the test to verify errors encountered do not inhibit ongoing distribution processing.

Test Configuration:

Hardware:∞ Working Storage HWCI, Network Pull Volume, Data Repository, and external network path.

Software: SDSRV, STMGT, DDIST, DSS GUI.

Data:∞ TSDIS, NESDIS, V0, SDPF, Document, Instrument Characterization, Historical, Inventory Characteristic, Production History, QA Statistics, Scientific Calibration, Spacecraft Historical, and Correlative.

Tools: DDIST Driver.

Test Input:

Inputs to this test include valid and invalid electronic distribution requests for data to be placed in a predefined area.

Test Output:

Outputs to this test include status messages indicating success or failure of distribution requests.

Success Criteria:

This test is deemed successful if the data is placed in the correct destination upon reading a successful request, and error messages are displayed upon reading an unsuccessful request. Messages will appropriately indicate a successful transfer of data or a failure of the distribution request. The distribution request is examined to verify the following information: user identifier, data destination, and distribution size.

Test Procedures:

Test Case ID: TS023.001	
Test Name: Electronic Distribution Check Test	
Test Step:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. On the Science Data Server GUI, select '**Storage Requests**' icon.	
6. Invoke DDIST driver on fourth xterm. **>./dttest**	
7. Create a valid distribution request and send.	Examine input for valid fields (User Identifier, Request Priority, Data Identifier, Method, Destination) Messages indicate a successful distribution. S-DSS-00023, S-DSS-00025, S-DSS-30010, S-DSS-30020, S-DSS-30030
8. Submit a distribution request for each media type.	8mm tape, 4mm tape, CD-ROM, 6250 Tape. S-DSS-04037, S-DSS-04120, S-DSS-04140, S-DSS-04160, S-DSS-04200, S-DSS-04240, S-DSS-04260, S-DSS-04280, S-DSS-04300
9. Through DSS GUI, verify that distribution requests for each media type are displayed.	S-DSS-00702
10. Edit a distribution request, change User Identifier,making an invalid request and send.	Message indicates failure. S-DSS-00015
11. Verify that a message is displayed stating an invalid request and what field is in error.	S-DSS-00692, S-DSS-30040
12. Verify that operations staff is alerted of transmission problems.	S-DSS-30295
13. Verify that user is notified if the distribution request fails.	S-DSS-30050
14. Repeat steps 10-11 for each input field of each request.	Appropriate errors are received. Fields to test are: Request Priority, and Data Identifier S-DSS-00015
15. Edit one distribution request, insuring that each field is valid, update and send.	Messages indicate a successful distribution took place after errors were encountered.
16. Verify that distribution request IDs for each request are displayed, by selecting '**Storage Requests**' icon and viewing requests.	

17. Verify messages are sent to the appropriate logs.	S-DSS-30260, S-DSS-30280, S-DSS-30290, S-DSS-30320, S-DSS-30330, S-DSS-30340, S-DSS-30400
18. Terminate all software processes.	
19. Logoff Workstation.	

4.6.1.2 Test Case 2: "Pull" Data to Specific Destination Test (TS023.002)

This test demonstrates the ability to distribute data to a specified pull location destination. Data is copied to a designated common system location so the user can copy (or "PULL" the data) to the user workspace. The user will receive an e-mail message providing the necessary path and file naming information and instructions detailing retrieval of the data. There is a time limit in which data is available in the "pull" area. After the time limit has expired the data is deleted. The designated time limit will be changed and verified. Several distribution requests are submitted. Appropriate messages of the receipt of distribution requests are received. Error conditions tested include invalid pull area specified, leaving the data in the pull area until time expires and attempting to access and pull data requested by another user.

Test Configuration:

Hardware:∞ Distribution Management, Working Storage, Network Pull Volume, Data Repository, Tape Archive.

Software: SDSRV, STMGT, DDIST, AMASS, DSS GUI.

Data:∞ TSDIS, NESDIS, V0, SDPF, Document, Instrument Characterization, Historical, Inventory Characteristic, Production History, QA Statistics, Scientific Calibration, Spacecraft Historical, and Correlative.

Tools: DDIST Driver.

Test Input:

Inputs to this test include results from searches, as well as electronic distribution requests for data.

Test Output:

Outputs to this test include status messages and retrieved data placed in the designated area.

Success Criteria:

This test is deemed successful if the user successfully retrieves requested data from the pull volume. When errors are encountered, the appropriate messages are displayed.

Test Procedures:

Test Case ID: TS023.002	
Test Name: "Pull" Data to Specific Destination	
Test Steps: "	Comments:

1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke DDIST driver on fourth xterm. **>./dttest**	
6. Create a valid distribution request and send.	
7. Verify that distribution request is accepted by selecting '**Tracking**' icon and viewing displayed requests.	S-DSS-00696, S-DSS-04230, S-DSS-10210, S-DSS-10290, S-DSS-10292, S-DSS-30515, S-DSS-30780, S-DSS-30797
8. Retrieve data from the archive via an FTPPull.	S-DSS-00696
9. Verify the data is retrieved from the archive and placed on Pull Volume by selecting '**Usage**' icon and then viewing data displayed under the '**Pull Area**' tab. Verify the information in the pull area list is correct.	S-DSS-30520
10. E-mail notification is received stating data's readiness.	
11. Verify that instructions are received with email describing how to extract data placed in a directory in the pull area.	User receives e-mail notification providing instructions to retrieve requested data. A packing list is constructed.
12. Using the instructions received, copy files to home directory for verification.	Data is successfully copied to the user work space.
13. Repeat steps 6-12 several times with different data listed in the Inventory.	S-DSS-30710
14. Edit expiration time limit in DSS configuration file to ~30 mins.	Data remains in the Pull Area for a specified amount of time. Reducing the amount of time will verify that data will be deleted if not retrieved in a specific amount of time.
15. Request another distribution of data from the archive via an FTPPull.	
16. Send valid distribution request. Do not retrieve from Pull Area.	
17. Verify that data is deleted if not retrieved in the edited time limit by selecting 'Usage' icon and then 'Pull Area' tab.	User will receive notification before data is deleted. S-DSS-30570, S-DSS-30575, S-DSS-30580, S-DSS-30585
18. Reset time limit to its original setting.	
19. Attempt to retrieve data of another user.	
20. Request to distribution data via FTPPull.	
21. Log on as another user.	
22. Attempt to copy the information from the pull area to your workspace.	
23. Verify that user can not access another user's data in pull directory.	

24. Verify that message is displayed denying FTPPull of data.	S-DSS-30530
25. Using incorrect data in the distribution request, select data granule and retrieve data from the archive via an FTPPull.	Message stating failure to copy files to pull volume is displayed. Working storage, as well as any data copied to the pull volume, is automatically cleaned up.
26. Verify that an error message displayed.	
27. Verify that user is sent a notification of distribution failure.	S-DSS-30340
28. Verify messages are sent to the appropriate logs.	S-DSS-30030, S-DSS-30280, S-DSS-30290, S-DSS-30390
29. Terminate all software processes.	
30. Logoff Workstation.	

4.6.1.3 Test Case 3: "Push" Data to Specific Destination Test (TS023.003)

This test demonstrates the ability to "Push" data to a specified destination. An electronic distribution request is submitted for data to be placed in a directory outside the DAAC. The data is copied to the user disk location specified in the request. User will receive e-mail stating that distribution is complete. Several distribution requests are submitted. Error checks will be performed to attempt to send data to a non-existent directory. User will supply incorrect security information that would not allow the requested data to be placed on the user's system. Messages will be returned stating invalid directory.

Test Configuration:

Hardware:∞ Working Storage HWCI, Network Pull Volume, Data Repository, and external network.

Software: SDSRV, STMGT, DDIST, AMASS, DSS GUI.

Data:∞ TSDIS, NESDIS, V0, SDPF, Document, Instrument Characterization, Historical, Inventory Characteristic, Production History, QA Statistics, Scientific Calibration, Spacecraft Historical, and Correlative.

Tools: DDIST Driver.

Test Input:

Inputs to this test include electronic distribution requests using FTPPush.

Test Output:

Outputs to this test include status message displays for data distributed to the designated location.

Success Criteria:

This test is deemed successful if the correct status messages are displayed and the data has been transferred to the correct destination.

Test Procedures:

Test Case ID: TS023.003	
Test Name: "PUSH" Data to Specific Destination	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke DDIST driver on fourth xterm. **>./dttest**	
6. Create a valid distribution request specifying FTPPush and execute the request.	S-DSS-00704
7. Verify that the distribution request is accepted by selecting '**Tracking**' icon and viewing the displayed requests.	S-DSS-00696, S-DSS-04230, S-DSS-10210, S-DSS-10290, S-DSS-10292, S-DSS-30515, S-DSS-30797
8. Verify that an e-mail message is received saying the data has been pushed to the users system.	S-DSS-30600
9. Verify that data is pushed to the users system to a directory specified by the user by viewing that directory.	S-DSS-30670
10. Request another FTPPush to an invalid location.	
11. Verify that a message is displayed stating the distribution failed due to invalid location.	
12. Select data and request an FTPPush to an valid location using invalid security information.	
13. Verify that a message is displayed stating the distribution failed due to invalid security privileges.	
14. Verify that user is sent a notification of distribution failure.	S-DSS-30340
15. Repeat steps 6-14 several times with different data listed in the Inventory.	S-DSS-30710
16. Verify messages are sent to the appropriate logs.	S-DSS-30280, S-DSS-30290, S-DSS-30330, S-DSS-30390
17. Terminate all software processes.	
18. Logoff Workstation.	

4.6.1.4 Test Case 4: Network Re-Transmission Test (TS023.004)

This test demonstrates the ability to set a number of times a data transfer is attempted for Distribution before the Distribution Request is considered failed. An account is established to allow access for manipulation of system parameters, including the number of distribution retries. The current number of retries is displayed. Distribution requests are submitted which result in failed data distribution, and retry attempts begin. The num,ber of attempts to distribute the data is logged.

Test Configuration:

Hardware:∞ Working Storage HWCI, Network Pull Volume, Data Repository, and external network.

Software: SDSRV, STMGT, DDIST, AMASS, DSS GUI.

Data:∞ TSDIS, NESDIS, V0, SDPF, Document, Instrument Characterization, Historical, Inventory Characteristic, Production History, QA Statistics, Scientific Calibration, Spacecraft Historical, and Correlative.

Tools: DDIST Driver.

Test Input:

Inputs to this test include electronic distribution requests and changes to the number of attempts that are made to distribute a failed request.

Test Output:

Outputs to this test include status message displays stating the number of data distribution retries, and other appropriate messages.

Success Criteria:

This test is deemed successful if the attempts to display and change the number of retries for data distribution is successful. Logs reflect that the number of retries attempted as a result of unsuccessful distributions is the same number set by the user.

Test Procedures:

Test Case ID: TS023.004	
Test Name: Network Re-Transmission Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke DDIST driver on fourth xterm. **>./dttest**	
6. On the DSS GUI, modify the retry count to 5.	S-DSS-30680
7. Request an FTPPush to an invalid location.	
8. View the MSS Event Log to verify that entries have been made indicating that the FTP was tried 5 times.	
9. Verify that a message is displayed stating the distribution failed due to invalid location.	
10. Verify that user is sent a notification of distribution failure.	

11. Verify messages are sent to the appropriate logs.	
12. Terminate all software processes.	
13. Logoff Workstation.	

4.6.1.5 Test Case 5: TSDIS Pull-Side Test (TS023.005)

This test demonstrates the ability to perform several functions as they will be requested by TSDIS. TSDIS has the capability to request data from the archive (Data Request or DR), submit data subscriptions (Data Subscription Request or DSR), request status on product orders (DRs) or subscriptions (Product Order Status Request or POS), request a cancellation of a product order or a subscription (Product Order Cancellation Request or POC), or request Metadata updates (Metadata Update Request or MUR). Each of these messages has a corresponding acknowledgment message. TSDIS and EOSDIS also exchange Data Availability Notice (DAN) messages, and a corresponding acknowledgment message. These are messages that either originate at TSDIS, when data ingest is requested, or at EOSDIS, when requested data has been retrieved from the archive and is available in the designated pull area. A Data Delivery Notice (DDN) and a corresponding acknowledgment message is exchanged to denote the status of the DAN message.

This test will be executed using a TSDIS simulator (TRMMSIM) to simulate TSDIS sending all its messages to EOSDIS, and the full circle of messages will be exercised. The test includes sending a subscription request to EOSDIS from the TRMMSIM; requesting a subscription status from the TRMMSIM; ingesting the requested data so the subscription is fired; sending a data request from the TRMMSIM; retrieving the requested data from the archive; requesting a product order status from the TRMMSIM; sending a DAN and receiving a DDN corresponding to the requested data. Testing also includes requesting a subscription and canceling it; requesting a product order and canceling it; and requesting to update Metadata that has been previously sent from TSDIS and resides in the Inventory.

TSDIS data is sent to Data Server via a Kerberized Gateway. This gateway will be needed for the test. When TSDIS wants to send a message, they first send an authentication request to ECS, and ECS sends back an authentication response, establishing a session. Messages can now be sent between the two entities. All types of TSDIS data will be used for this test. Where possible, the Data Sever GUI will be used to monitor on-going requests. Error testing will be performed as is possible using the TRMMSIM. This test deals with the proposed interface between Data Server and TSDIS. The capability for EOSDIS to ingest TSDIS data is thoroughly exercised in thread TS035.

Test Configuration:≠

Hardware: Workstation, Working Storage HWCI, Network Pull Volume, Data Repository≠

Software: SDSRV, STMGT, DDIST, DSS GUI, SbServer, Ingest, Kerberos Gateway≠

Data: All TSDIS data, including TMI, VIRS, PR, GV

Tools: TRMMSIM

Test Input:

Inputs to this test include various request messages sent from the TRMMSIM. Exact messages include DAN, DDN, DR, DSR, POSR, POCR, MUR, and their associated acknowledgment messages. Several error conditions will also be input to the test, as allowed using the TRMMSIM.

Test Output:

Outputs to this test include various acknowledgment messages, data retrieved from the archive, subscriptions fired and canceled, data requests submitted and canceled, and updated Metadata in the inventory data base. Various DSS GUI screens are also updated appropriately.

Success Criteria:

This test is deemed successful if messages are successfully passed between the Data Server and the TRMMSIM, data requests are successfully processed and canceled, data is successfully retrieved from the archive, subscriptions are successfully processed and canceled, and Metadata is successfully updated. In addition, any error conditions tested are successfully acknowledged, and applicable, clear messages are returned to the Data Server, to the TRMMSIM, and to the appropriate log files.

Test Procedures:

Test Case ID: TS023.005	
Test Name: TSDIS Pull-Side Test	
Test Step:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	Shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Start the TRMMSIM on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm. **>./dttest**	
7. At the TRMMSIM, send an authentication request message.	The authentication request is successfully processed.
8. The Kerberos Gateway sends back an authentication response, establishing a session with TSDIS.	
9. At the TRMMSIM, create a subscription for TSDIS VIRS 1A-01 data.	The subscription is successfully stored in the subscription data base, as seen on the appropriate DSS GUI screen.

10. A Data Subscription Acknowledgment message is sent to the TRMMSIM, stating the subscription was successfully processed.	
11. At the TRMMSIM, send a product order status request, specifying the subscription previously sent.	The status request is accepted by Data Server, as seen by the appropriate DSS GUI screen.
12. A Product Order Status message is returned to the TRMMSIM, stating that the subscription is active.	
13. On the Ingest xterm, request to ingest TSDIS 1A-01 data.	The TSDIS data is successfully ingested and placed in the archive.
14. At the TRMMSIM, a notification is displayed, saying the requested data (1A-01) has been archived.	The subscription has been fired.
15. At the TRMMSIM, request to retrieve the 1A-01 data from the archive.	Data Server processes the data request.
16. A Data Request Acknowledgment message is returned to the TRMMSIM, stating that the Data Request is being processed.	
17. On the DSS GUI, verify the data request is active and is being processed.	
18. At the TRMMSIM, send a product order status request, specifying the data request previously sent.	The status request is accepted by Data Server.
19. A Product Order Status message is returned to the TRMMSIM, stating that the data request is being processed.	
20. When the data is successfully retrieved from the archive, it is placed in the pull area.	TSDIS data requests are processed by Data Server as an FtpPull distribution request.
21. A notification is sent to TSDIS saying the data is available in the designated pull area.	The notification is received at the TRMMSIM.
22. EOSDIS sends a Data Availability Notice (DAN) to TSDIS, listing the files that have been retrieved from the archive, and where they can be found.	The DAN is received at the TRMMSIM.
23. The TRMMSIM sends Data Server an acknowledgment message to the DAN (DAA).	
24. When data is successfully transferred to the TRMMSIM, a Data Delivery Notice (DDN) is sent to Data Server.	
25. Data Server sends the TRMMSIM a Data Delivery Acknowledgment message, stating it received the DDN.	The data can now be deleted from the staging area.
26. At the TRMMSIM, request a subscription for TSDIS TMI 2A-12 data.	The subscription is successfully processed by Data Server, as seen by the appropriate DSS GUI screen, and a DSA is sent to the TRMMSIM.
27. At the TRMMSIM, send a product order cancellation (POC) request, specifying the subscription just sent.	The cancellation request is successfully processed by Data Server, as seen by the appropriate GUI screen.
28. A Product Order Cancellation Request message is sent from Data Server to the TRMMSIM stating that the subscription was successfully canceled.	The subscription is successfully canceled, as seen by the appropriate DSS GUI screen.
29. At the TRMMSIM, send a data request to retrieve TSDIS GV 2A-54 data.	The DR is successfully processed by Data Server, as seen by the appropriate GUI screen.

30. At the TRMMSIM, send a Product Order Cancellation message, specifying the data request just sent.	Data Server successfully processes the cancellation message, as is seen by the appropriate DSS GUI screens.
31. A Product Order Cancellation message is sent to the TRMMSIM saying the product order was successfully canceled.	The data request is canceled, as seen by the appropriate DSS GUI screens.
32. At the TRMMSIM, request to update several parameters of the Metadata associated with the TSDIS VIRS 1A-01 data previously stored in the archive.	Data Server successfully processes the Metadata Update Request, as is seen by viewing the appropriate DSS GUI screen.
33. Data Server sends a Metadata Update Acknowledgment to the TRMMSIM stating that the update was successfully performed.	The Metadata was successfully updated, as seen by entering SYBASE commands to view the Metadata in the data base.
34. At the TRMMSIM, request to update several parameters of some CERES level 0 data that was previously stored in the archive.	
35. Data Server sends a Metadata Update Acknowledgment message to the TRMMSIM stating the update was not performed since TSDIS doesn't have the authorization to update another data providers Metadata.	
36. As able by the TRMMSIM, force some errors in the requests sent to Data Server, such as requesting status on invalid or non-existent requests; requesting to insert an unknown data type; forcing error dispositions in messages as stated in the ICD.	The errors are handled correctly by Data Server, and the appropriate dispositions are returned in the messages to the TRMMSIM.
37. At the TRMMSIM, send another DR to the Data Server.	The DR is successfully processed, verifying that successful requests can be processed after errors are encountered.
38. Repeat the steps 7 - 31, using various types of TSDIS data.	The request messages are successfully processed, regardless of the TSDIS data type.
39. Terminate the session between the TRMMSIM and the Gateway.	
40. Send an authentication message from a non-privileged user to the Gateway.	
41. The user is not authenticated and no session is established.	
42. Verify all messages are sent to the appropriate logs.	
43. Terminate all software processes.	
44. Logoff Workstation.	

4.6.2 Subscriptions Thread (TS025)

This thread demonstrates the capability to submit, cancel or update subscriptions. Capabilities include registering and unregistering various data types as subscribable events, triggering and updating subscriptions, and canceling subscriptions. Both one-time and on-going subscriptions are available. The only action produced by the satisfaction of a subscription in Release A, is a notification to the user. One exception to this is the SCF. The SCF will have the capability to request Standing Order subscriptions, which means that when the subscription is fired, the data will automatically be distributed to the pull area. This is because the SCF has no mechanism to

request that the data be retrieved from the archive. Subscriptions will be verified using a driver or other entities, such as PDPS or the V0 Client, when their interfaces/software are available. The following test cases are included in this thread:

TS025.001 Data Type Event Subscription Test

TS025.002 Subscriptions Expiration Test

TS025.003 Operator Subscription Deletion Test

TS025.004 User Subscription Deletion Test

TS025.005 Subscription Update Test

TS025.006 Standing Order Subscription Test

4.6.2.1 Test Case 1: Data Type Event Subscription Test (TS025.001)

This test demonstrates the ability to submit a subscription request based on the new arrival of a certain data type event. The subscription indicates the event as the receipt of a data type, and the action as one of the following: distribution of data, send notification, collection of data for later distribution, or initiation of a query. For Release A, only user notification is available. Various data types will be registered as subscribable events. Subscriptions for events that have been registered and for those that have not will be created. Upon receiving a subscription, the Data Server validates the subscription as containing a valid event and a valid action. Those with invalid events will return an error to the originator. Data which meets the criteria in the subscription is then ingested to be archived. The subscription is processed upon successful archival of the data. The requester is automatically notified when the new data, meeting the criteria given in the subscription, is available. The requester can then retrieve the data if he chooses. Since more than one subscription can be submitted, the subscriptions are processed on a first-come, first-served basis. Many subscriptions from the same user and from multiple users will be created, including some that request notification for the same data type. At least one attempt will be made to retrieve the data after the subscription notification is received by the user. Both one-time and on-going subscriptions will be verified. Error conditions attempted include requests from invalid users and requests for invalid data. The appropriate messages will be verified, where applicable. Data Server GUI screens will be used to view the stored subscriptions, edit events, register and unregister events, and cancel current subscriptions. Events can be registered by both an operator, using the DSS GUI, or by a user, such as TSDIS, who can submit subscriptions which will automatically register the event. Both of these cases will be verified in this test. The user registering events and submitting subscriptions will be simulated using the subscription driver or a client driver. Data will be inserted in the system via a DSS insert driver, or via Ingest.

<u>Test Configuration:</u>

Hardware: Workstation, X-terminal, Storage devices

Software: Client, SDSRV, ADSRV, Ingest, DDIST, SbServer, DSS GUI

Data: SDPF, TSDIS, NESDIS, V0, Documents

Tools: Subscription Driver, Client Driver , DSS Request Driver

Test Input:

Data type events are registered with the subscription server. Many subscriptions are submitted for each data type. Valid and invalid subscriptions are also submitted. Events are also unregistered. At least one distribution request is submitted to retrieve data from the archive.

Test Output:

The stored subscriptions are viewed. As data is archived, subscription notifications are sent to the requester. The appropriate DSS GUI screens are correctly updated.

Success Criteria:

The stored subscriptions are successfully viewed. Subscriptions are processed on a first-come, first-served basis. As data is archived, subscription notifications are sent to the requester. Data is successfully retrieved when requested by a user after notification. All errors are appropriately reported. All messages are correctly displayed. Events are successfully registered and unregistered with the subscription server.

Test Procedures:

Test Case ID: TS025.001	
Test Name: Data Type Event Subscription Test	
Test Step:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server and the Subscription Server and Ingest on their respective machines **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &** **>./sbserver &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	Shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Start the Subscription simulator on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm. **>./dttest**	
7. At the DSS GUI, select the 'Events' Icon.	No subscription or event information is seen in the Subscription/Events GUI screen.
8. From the DSS GUI, select the Edit Events button, and register CER00, TOMS Nimbus Daily Ozone data types as events, entering the appropriate information on the screen and selecting register	The events are registered, as seen on the Subscriptions/Events screen.

9. From the subscription driver, submit a one-time subscription for receipt of the following data: CER00, CER02, TOMS Nimbus Daily Ozone, TSDIS VIRS, TSDIS PR. View the stored subscriptions.	Subscriptions are accepted and displayed for CER00 and TOMS Nimbus Daily Ozone, and are rejected for TSDIS VIRS, TSDIS PR, and CER02 data, as is seen on the Subscriptions/Events screen. S-DSS-01460, S-DSS-01470, S-DSS-01482, S-DSS-01570
10. Select the View Subscriptions button	The correct subscription information is displayed on the screen, including notification text, event ID, expiration date, action, requester, and duration type (one time).
11. From the Ingest xterm, request to insert CER00 and TSDIS PR data.	The data is successfully stored in the archive.
12. When the CER00 data is successfully archived, the originator of the subscription receives a notification that the data has been archived.	The notification text matches that previously entered in the subscription. S-DSS-01490, S-DSS-01530P
13. From the DSS Request Driver, request to insert TOMS Nimbus Daily Ozone data.	The data is successfully stored in the archive.
14. When the TOMS Nimbus Daily Ozone data is successfully archived, the originator of the subscription receives a notification that the data has been archived.	The notification text matches that previously entered in the subscription. S-DSS-01490, S-DSS-01530P
15. From Ingest, request to ingest CER00 data.	No subscription notification is received (since the CER00 subscription was a one time only subscription).
16. From the DSS Request Driver, request to insert TOMS Nimbus Daily Ozone data.	No subscription notification is received (since the TOMS Nimbus Daily Ozone subscription was a one-time only subscription).
17. From the subscription driver, register and submit a subscription for XXXX data.	Event is registered and subscription is accepted.
18. From the subscription driver, register CER02, SAGE II, TSDIS GV 3A-54, TSDIS PR 2A-21 data as events.	Events are registered, as seen on the appropriate DSS GUI screen.
19. From the subscription driver, submit on-going subscriptions for CER02 and SAGE II data and a one time subscription for TSDIS GV 3A-54 data, and view the stored subscriptions.	The subscriptions are accepted. S-DSS-01460, S-DSS-01470, S-DSS-01482, S-DSS-01570
20. View the stored subscriptions in the DSS GUI.	Previous one-time subscriptions are deleted and new one-time and on-going subscriptions are added and displayed in the list.
21. From Ingest, request to ingest SAGE II data.	When SAGE II data is archived, the user is notified via a subscription. S-DSS-01490, S-DSS-01530P
22. From the client driver, request to archive CER02 and TSDIS GV 3A-54 data.	When each data type is archived, the user is notified via a subscription. S-DSS-01490, S-DSS-01530P
23. Repeat steps 21 and 22.	The user is notified of CER02, SAGE II data via the subscription. No notification is received for the TSDIS GV 3A-54 (one time subscr) data. S-DSS-01490, S-DSS-01530P
24. From the DSS request driver, request to retrieve CER02 and SAGE II data from the archive via an FtpPull.	Data is successfully distributed.

25. From the subscription driver, and from multiple (3) users, submit subscriptions for TSDIS PR 2A-21 data and view the stored subscriptions.	All three users have subscribed to the same data, as is reflected on the appropriate DSS GUI screen. S-DSS-01482, S-DSS-01570
26. From the client driver, request to archive TSDIS PR 2A 21 data.	All three users are notified via subscription of the receipt of the TSDIS PR 2A-21 data. S-DSS-01490, S-DSS-01500, S-DSS-01530P
27. From the subscription driver, submit a one-time subscription for CER00 and TSDIS GV 3A-54 data, and an on-going subscription for TSDIS PR 2A-21 data from 3 different users each and view the stored subscriptions.	Appropriate subscriptions are displayed. S-DSS-01482, S-DSS-01570
28. From Ingest, request to ingest CER00 data.	The appropriate users are notified. S-DSS-01490, S-DSS-01530P
29. From the DSS request driver, request to archive TSDIS GV 3A-54 and TSDIS PR 2A-21 data.	The appropriate users are notified. S-DSS-01490, S-DSS-01530P
30. From the subscription driver, request a one-time subscription for CER00 data from user TEST1 and view subscriptions.	The subscription is accepted. S-DSS-01460, S-DSS-01470, S-DSS-01482, S-DSS-01570
31. From Ingest request to ingest CER00 data.	User TEST1 is notified of data archival. S-DSS-01490, S-DSS-01530P
32. Submit several subscriptions, varying the user ID, data type and notification text.	All subscriptions are accepted, as seen on the DSS GUI screen.
33. On the Subscriptions/Events GUI screen, select the Filter button.	The Filter Subscriptions secondary box is displayed.
34. On several of the Subscriptions GUI screens, choose the help buttons.	The information returned is correct and helpful to understand the pertinent screen/window.
35. Attempt to filter subscriptions by Event ID, by Requester, and by all subscriptions.	The appropriate list of subscriptions is displayed.
36. Attempt to filter events, rather than subscriptions.	The appropriate list of events is displayed.
37. From the DSS GUI, request to unregister the event that includes TSDIS PR 2A-21 data.	The TSDIS PR 2A-21 event is successfully unregistered, as viewed on the Subscriptions/Events screen.
38. From Ingest, request to ingest TSDIS PR 2A-21 data.	No subscription notification is received since that event was unregistered.
39. Attempt to register an event that is already registered.	An error box is displayed saying there is already a registered event for that data type.
40. Attempt to unregister an event that is not registered.	An error box is displayed saying there is no registered event.
41. From the subscription driver, submit a subscription with an FtpPull as the action.	The subscription is rejected, since FtpPull is not a valid action at this time. An error message is received to the operator and the client. When the current subscription list is viewed, the subscription does not show up.
42. Verify all messages are sent to the correct log files.	Messages contain correct information regarding subscription processing.
43. Terminate all Software processes.	
44. Exit the system.	

4.6.2.2 Test Case 2: Subscriptions Expiration Test (TS025.002)

This test demonstrates the ability for users to be notified when their subscriptions are about to expire. A series of subscription requests are submitted, each from different users, and with different expiration dates/times (some very short, where the subscription has never been triggered, some very far in the future, and some with an expiration time of 'none', which indicates an on-going subscription). Stored subscriptions will be viewed to verify the requested expiration times. Shortly before the subscriptions are to expire, the user will be notified, via a message, that the subscription is about to expire. The user will then have the option to renew the subscription, or to let the subscription expire. Both options will be verified. The data trigger for expired subscriptions will be forced, to verify the subscriptions did indeed expire, and original users are not notified. After subscriptions expire, their data will be archived to verify no notifications are sent. [In addition, subscription expiration times will be updated using the update command, and it will be verified that the new expiration times were taken into account, and again, that the originators were notified.] Error conditions will also be attempted, such as requesting invalid expiration times, and expiration times that have already passed. The appropriate logs will be verified, where applicable.

Test Configuration:≠

Hardware: Workstation, X-terminal, Storage devices≠

Software: Client, SDSRV, ADSRV, Ingest, DDIST, SbServer, DSS GUI≠

Data: SDPF, TSDIS, NESDIS, V0, Documents≠

Tools: Subscription Driver, Client Driver , DSS Request Driver≠

Test Input:

Many subscriptions will be input from several different users, all with varying expiration times. Data insert and retrieval requests are also input to this test.

Test Output:

The stored subscriptions are successfully viewed. A notification is sent to the requester shortly before the expiration time. Subscriptions are deleted when the expiration time passes, and they are retained if the user requests to update them.

Success Criteria:

User's are correctly notified before their subscriptions expire. When subscriptions are renewed, subsequent receipt of the associated data type results in a notification to the originator. When subscriptions expire, subsequent receipt of the associated data type results in no notification to the originator. Expired subscriptions have no affect on other subscriptions with the same attributes (e.g. data type, user id). Updated subscription expiration times are taken into account.

The user is notified when error conditions are encountered. The appropriate messages are displayed with the correct information.

Test Procedures:

Test Case ID: TS025.002	
Test Name: Subscription Expiration Test	
Test Step:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server and the Subscription Server and Ingest on their respective machines **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &** **>./sbserver &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	Shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Start the Subscription simulator on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm. **> ./dttest**	
7. At the subscription driver, register data types TSDIS VIRS 1A-01, CER04, NMC FNL, TSDIS GV 1C-51, Document Data, and TSDIS TMI 2A-12 Browse as events.	Events are registered, as viewed in the appropriate DSS GUI screen.
8. At the subscription driver, submit a subscription for es TSDIS VIRS 1A-01 data with an expiration time of approx. 5 minutes and view the stored subscriptions.	The subscription is accepted and has the specified expiration time. S-DSS-01460, S-DSS-01470, S-DSS-01482, S-DSS-01570, S-DSS-01530P
9. Verify a message is received shortly before the subscription expires.	The message states subscription user, event subscription text and expiration time.
10. After subscription was to expire, view the stored subscriptions.	The subscription is no longer displayed.
11. At Ingest, request to ingest/archive TSDIS VIRS 1A-01 data.	When the data is archived, no subscription message is received.
12. At the subscription driver, submit a subscription for CER04 data that will expire in approx. 60 minutes, and view the stored subscriptions.	The subscription is accepted and has the specified expiration time. S-DSS-01460, S-DSS-01470, S-DSS-01482, S-DSS-01570, S-DSS-01530P
13. At the subscription driver, submit a subscription for NMC FNL data that will expire in approx. 15 minutes, and view the stored subscriptions.	The subscription is accepted and has the specified expiration time. S-DSS-01460, S-DSS-01470, S-DSS-01482, S-DSS-01570, S-DSS-01530P
14. At Ingest, request to ingest/archive NMC FNL data.	When the NMC FNL data is archived, the user is notified via a subscription.
15. Shortly before the NMC FNL subscription is to expire, the user receives a message stating it will expire soon .	The message states the user, event subscription text, and the expiration time.

16. After the subscription expires, view the stored subscriptions.	Only the CER04 subscription is listed.
17. At the client driver, request to archive CER04 data.	When the CER04 data is archived, the user is notified via a subscription.
18. At the subscription driver, submit a Document data subscription with an expiration time of 8 hours and view the stored subscriptions.	The subscription is accepted and has the specified expiration time. S-DSS-01460, S-DSS-01470, S-DSS-01482, S-DSS-01570, S-DSS-01530P
19. At the subscription driver, submit a TSDIS GV 1C-51 and TSDIS VIRS 1A-01 subscription with an expiration time of 'none' and view the stored subscriptions.	The subscriptions are accepted and have the specified expiration time (none = on-going). S-DSS-01460, S-DSS-01470, S-DSS-01482, S-DSS-01570, S-DSS-01530P
20. At the client driver, request to archive CER04 and TSDIS GV 1C-51 data.	Subscription notification is received for archival of both data types.
21. At Ingest, request to ingest/archive TSDIS VIRS 1A-01 data.	Subscription notification is received for archival of CER00 data.
22. At the client driver, request to archive CER04 and TSDIS GV 1C-51 data.	Subscription notification is received for archival of both data types.
23. Shortly before the CER04 subscription is to expire, a message is received stating the subscription will expire soon.	Message states user, event, subscription text, and expiration time.
24. Update expiration (end) time of CER04 subscription to 20 more minutes, and view the stored subscriptions.	Updated CER04 subscription expiration time is displayed. S-DSS-01460, S-DSS-01470, S-DSS-01482, S-DSS-01570, S-DSS-01530P
25. At the client driver, request to archive CER04 and TSDIS GV 1C-51 data.	Subscription notification is received for both data types.
26. At Ingest, request to ingest/archive VIRS 1A-01 data.	Subscription notification is received for VIRS 1A-01 data.
27. Shortly before the CER04 subscription is to expire, a message is received saying the subscription will expire soon. Let the subscription expire.	The message states user, event, subscription text, and expiration time.
28. After the subscription was to expire, display the stored subscriptions.	The CER02 subscription is no longer displayed.
29. At the client driver, request to archive CER02 data.	No subscription notification is received.
30. At the client driver, request to archive TSDIS GV 1C-51 data.	Subscription notification is received.
31. At Ingest, request to ingest/archive TSDIS VIRS 1A-01 data.	Subscription notification is received.
32. At the subscription driver, submit a subscription with a an expiration time of 2:ab minutes.	Subscription is rejected due to an invalid expiration time.
33. Repeat steps 30 and 31.	Subscription notification is received.
34. At the subscription driver, submit a subscription with an expiration time of approx. 2 hours ago.	Subscription is rejected due to a previous time entered.
35. Repeat steps 30 and 31.	Subscription notification is received.
36. Leave software up for a day or more, repeating steps 30 and 316 periodically.	Subscription notification is received each time LIS15 and CER00 data is archived.
37. Verify all messages are sent to the correct log files.	Messages contain correct information regarding subscription processing.
38. Terminate all Software processes.	

39. Exit the system.	

4.6.2.3 Test Case 3: Operator Subscription Deletion Test (TS025.003)

This test demonstrates the ability to delete a Subscription Request via an operational GUI. A series of Subscription Requests are submitted. Deletion commands are submitted for certain requests. Status messages are returned indicating Subscription Request deletion. The provider of the Subscription Request is notified of deletion. All subscriptions for a given data type, for a given user will be deleted, and all subscriptions will be deleted. After subscription deletion, the appropriate data will be archived to verify the user is not notified of the data receipt. A subscription will be deleted while its data trigger is in the process of being archived. Deleting subscriptions has no affect on other active subscriptions currently in the system. New subscriptions will then be created. Error conditions attempted include attempting to delete non existent subscriptions, deleting invalid users and invalid data types. Operator subscription deletions are logged in the appropriate logs. This test will also verify that an operator can delete his own subscriptions, as well as those of other users. The DSS GUI is used to submit some subscriptions, to delete subscriptions, and to view the stored subscriptions. Sybase commands will be entered to verify subscriptions are deleted in the data base.

Test Configuration:

Hardware: Workstation, X-terminal, storage devices

Software: SDSRV, ADSRV, Ingest, STMGT, DSS GUI

Data: TSDIS, SDPF, V0, Document, NESDIS

Tools: Subscription Driver, Client Driver, DSS Request Driver

Test Input:

Valid subscription requests are submitted. Operational commands for subscription deletion are submitted.

Test Output:

Messages stating the subscriptions were deleted are sent to the subscription originator, to the screen and to the appropriate log files.

Success Criteria:

This test is deemed successful when all deletion commands are accepted and processed. All Subscriptions are deleted as specified in the deletion commands. All deletions are appropriately displayed as messages. Subscription providers are notified. Notifications are accurate and readable. All errors are correctly reported. Canceling subscriptions has no affect on other subscriptions.

Test Procedures:

Test Case ID: TS025.003	
Test Name: Operator Subscription Deletion Test	
Test Step:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server and the Subscription Server and Ingest on their respective machines **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &** **>./sbserver &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	Shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Start the Subscription simulator on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm. **> ./dttest**	
7. On the DSS Subscription GUI screen, register events for TRMM PR 2A-23, TRMM 3B-31, Aerosol Weekly, CER02, TRMM TMI 1B-11, and TRMM VIRS 3B-42 data.	Events are registered.
8. At the subscription driver, submit several subscriptions for each of the 6 data types registered above, with several user ids. [including some users with multiple data type subscriptions, some on-going and one-time subscriptions, some with long expiration times] View the stored subscriptions.	Subscriptions are accepted and displayed as expected.
9. On the DSS Subscription GUI screen, request to delete several subscriptions (excluding the one for TRMM PR 2A-23 data), and view the stored subscriptions.	Subscriptions have been deleted and the appropriate users were notified. S-DSS-01600
10. At Ingest, request to ingest/archive for TRMM PR 2A-23 data	The appropriate user is notified of archival of the for TRMM PR 2A-23 data.
11. On the DSS Subscription GUI screen, delete all subscriptions for the TRMM VIRS 3B-42 data type, and view the stored subscriptions.	All subscriptions for TRMM VIRS 3B-42 data have been deleted. S-DSS-01600
12. On the DSS Subscription GUI screen, delete all subscriptions for a particular user, and view the stored subscriptions.	All subscriptions for the specified user have been deleted and the user has been notified of the deletions. S-DSS-01600
13. On the DSS Subscription GUI screen, delete all remaining subscriptions and view the stored subscriptions.	All remaining subscriptions have been deleted, and the user has been notified of the deletions. S-DSS-01600
14. Repeat step 7 above.	Subscriptions are accepted and displayed as expected.
15. At the DSS request driver, request to archive TRMM 3B-31 data.	Subscription notification is received by the appropriate user(s).
16. On the DSS Subscription GUI screen, delete subscriptions for TRMM 3B-31 data.	Subscription is deleted and originating user is notified. S-DSS-01600

17. At the DSS request driver, request to archive TRMM 3B-31 data.	No subscription notification is received by the user at data archival.
18. At Ingest, request to ingest/archive Aerosol Weekly data.	The requested data is ingested.
19. Shortly before the Aerosol Weekly data is to be archived, attempt to delete the Aerosol Weekly subscription.	the Aerosol Weekly subscription is deleted and the originating user is notified, and no notification of data archival is received. S-DSS-01600
20. At the DSS Subscription GUI screen, attempt to delete a subscription for Aerosol Weekly data.	The requests results in an error dialog box to the operator saying there is no subscription for Aerosol Weekly data.
21. At the DSS Subscription GUI screen, attempt to delete a subscription for user XXXX.	The request is rejected since there is no user XXXX.
22. At the DSS Subscription GUI screen, attempt to delete a subscription for data type YYY.	The request is rejected since there is no subscription for data type YYY.
23. At the DSS Subscription GUI screen, attempt to delete a subscription for TRMM TMI 1B-11 data.	The subscription is deleted and the originating user is notified. S-DSS-01600
24. At the client driver, request to archive CER02 and TRMM TMI 1B-11 data.	Notification of data archival is received for CER02 data only.
25. At DSS Subscription GUI screen, request to unregister the CER02 event, and view the stored subscriptions.	All subscriptions for CER02 data are deleted from the list of stored subscriptions and the originating users are notified. S-DSS-01600
26. On the subscription data base hardware machine, use the appropriate SYBASE commands to view the active subscriptions table.	The deleted subscriptions are not displayed.
27. Verify all messages are appropriately logged.	
28. Terminate all software.	
29. Exit the system.	

4.6.2.4 Test Case 4: User Subscription Deletion Test (TS025.004)

This test demonstrates the ability for the requester of a subscription to delete his own subscriptions. A series of Subscription Requests are submitted from different users. Deletion commands are submitted for various subscriptions. Status messages are returned indicating the subscriptions were deleted. The provider of the Subscription Request is notified of deletion. All of a users subscriptions will be deleted. Attempts will be made to delete all of a user's subscriptions, and to delete another user's subscriptions. After subscriptions are deleted, the appropriate data will be archived to verify the user is not notified. Subscriptions will be deleted while the data is in the process of being archived. Subscriptions will be created after they were deleted, to verify they can again be created for a user. Error conditions tested include attempting to delete an invalid subscription. User subscription deletion messages are logged in the appropriate logs. The DSS GUI and the appropriate SYBASE commands will be used to verify subscriptions were deleted.

Test Configuration:≠

Hardware: Workstation, X-terminal, storage devices≠

Software: SDSRV, ADSRV, Ingest, STMGT, DSS GUI≠

Data: TSDIS, SDPF, V0, Document, NESDIS

Tools: Subscription Driver, Client Driver, DSS Request Driver

Test Input:

Valid subscriptions are submitted. User commands for various subscription deletions are submitted.

Test Output:

Messages stating the subscriptions were deleted are sent to the subscription originator, to the screen and to the appropriate log files.

Success Criteria:

This test is deemed successful if all valid deletion commands are accepted and processed. All subscriptions are deleted as specified in the deletion command. All deletions are appropriately logged. Subscription providers are notified. Notifications are accurate and readable. All errors are correctly reported. Canceling a subscription has no affect on other subscriptions. One user cannot cancel another user's subscriptions.

Test Procedures:

Test Case ID: TS025.004	
Test Name: User Subscription Deletion Test	
Test Step:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server and the Subscription Server and Ingest on their respective machines **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &** **>./sbserver &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	Shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Start the Subscription simulator on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm. **>./dttest**	
7. On the DSS Subscription GUI screen, register events for TRMM PR 2A-23, TRMM 3B-31, Aerosol Weekly, CER02, TRMM TMI 1B-11, and TRMM VIRS 3B-42 data.	Events are registered.

8. At the subscription driver, submit several subscriptions for each of the 6 data types registered above, with several user ids. [including some users with multiple data type subscriptions, some on-going and one-time subscriptions, some with long expiration times] View the stored subscriptions.	Subscriptions are accepted and displayed as expected.
9. On the client driver, delete a subscription for TRMM PR 2A-23 (self), and view the stored subscriptions.	Subscription deleted and the appropriate user was notified. S-DSS-01610
10. At Ingest, request to ingest/archive TRMM PR 2A-23 TRMM PR 2A-23 data	Data is archived, and no subscription notification is received by the user.
11. On the client driver, delete all of own subscriptions for a given data type, and view the stored subscriptions.	All of own subscriptions for the specified data type are deleted and the appropriate user was notified. S-DSS-01610
12. On the client driver, delete all of own remaining subscriptions, and view the stored subscriptions.	All of own subscriptions are deleted and the appropriate user was notified. S-DSS-01610
13. On the DSS request driver, request to archive data (include data types that have current subscriptions and those that have had their subscriptions deleted).	Upon data archival, notifications are received for those users with active subscriptions, and no notifications are received for those users who have deleted their own subscriptions for that data type.
14. At the client driver, request to delete another user's subscriptions.	The request results in an error message to the requester and the deletion is not performed.
15. View the stored subscriptions.	The subscription attempted to be deleted in the previous step is displayed as an active subscription.
16. At the client driver, request to delete all of another user's subscriptions for a particular data type, and view the stored subscriptions.	The request results in an error message to the requester and the deletion is not performed.
17. At the client driver, request to delete all of another user's remaining subscriptions, and view the stored subscriptions.	The request results in an error message to the requester and the deletion is not performed.
18. At the client driver, submit a subscription for users and data that were previously deleted, and view the stored subscriptions.	Subscriptions are accepted.
19. At the DSS request driver, request to archive several data types.	Upon data archival, subscription notification is received.
20. Shortly before data for one of these data types is archived, delete the subscription.	Subscription is deleted, a deletion notification is received, but no data archival notification is received. S-DSS-01610
21. At the client driver, attempt to delete a subscription for user zzz.	The request is rejected since there is no user zzz.
22. At the client driver, attempt to delete a subscription for data type AA.	The request is rejected since there is no subscription for data type AA.
23. At the DSS Subscription GUI screen, attempt to delete a subscription for TRMM 3B-31 data.	The subscription is deleted and the originating user is notified. S-DSS-01600
24. At the client driver, request to archive TRMM 3B-31 and TRMM TMI 1B-11 data.	Notification of data archival is received for TRMM TMI 1B-11 data only.

25. At the client driver, request to delete a subscription for TRMM 3B-31 data, and view the stored subscriptions.	The request results in an error message to the user, since there is no TRMM 3B-31 subscription.
26. At the DSS request driver, request to archive several data types (including those specified in step 18 above).	The appropriate users are notified upon data archival.
27. At the client driver, request to unregister an event, and view the stored subscriptions.	The event is canceled, and all subscriptions related to that event are also canceled, and all appropriate users are notified of the deletions. S-DSS-01610
28. On the subscription data base hardware machine, use the appropriate SYBASE commands to view the active subscriptions table.	The deleted subscriptions are not displayed.
29. Verify all messages are appropriately logged.	
30. Terminate all software.	
31. Exit the system.	

4.6.2.5 Test Case 5: Subscription Update Test (TS025.005)

This test demonstrates the ability to update a subscription. A series of Subscription Requests are submitted from different users. Several of the subscriptions are then updated. Possible update fields in the subscription are expiration time, user to be notified, and data type. All updatable fields will be attempted and verified. The appropriate data type will then be ingested/archived to verify that the update took affect. Error conditions include requesting invalid updates to existing subscriptions. After submitting an update request, a trigger for the original subscription will be forced to verify the update took affect. Updates will be requested by the originator of the subscription, another user, and by an operator, to verify only the originator or an operator can update his own subscription. Subscription updates will be performed on both on-going and one time subscriptions. Subscription updates are logged to the appropriate logs.

Test Configuration:

Hardware: Workstation, X-terminal, storage devices

Software: SDSRV, ADSRV, Ingest, STMGT, DSS GUI

Data: TSDIS, SDPF, V0, Document, NESDIS

Tools: Subscription Driver, Client Driver, DSS Request Driver

Test Input:

Valid subscriptions are submitted. User commands for subscription updates are submitted.

Test Output:

Updated subscriptions are logged to the screen. Update notices are sent to the Subscription originator.

Success Criteria:

This test is deemed successful if all update commands are accepted and processed. All Subscriptions are updated as specified in the update command. All updates are appropriately logged to the screen. Subscription providers are notified. Notifications are accurate and readable. All errors are correctly reported. Updating a subscription has no affect on other subscriptions.

Test Procedures:

Test Case ID: TS025.005	
Test Name: Subscription Update Test	
Test Step:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server and the Subscription Server and Ingest on their respective machines **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &** **>./sbserver &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	Shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Start the Subscription simulator on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm. **> ./dttest**	
7. On the DSS Subscription GUI screen, register events for TRMM PR 2A-23, TRMM 3B-31, Aerosol Weekly, CER02, TRMM TMI 1B-11, and TRMM VIRS 3B-42 data.	Events are registered.
8. At the subscription driver, submit several subscriptions for each of the 6 data types registered above, with several user ids, and view the stored subscriptions.	Subscriptions are accepted and displayed as expected. S-DSS-01482
9. At Ingest, request to ingest/archive TRMM PR 2A-23 data.	Upon archival of the TRMM PR 2A-23 data, the user is notified via a subscription. S-DSS-01490
10. At the DSS Subscription GUI, update a subscription for a user for data type TRMM PR 2A-23 to reflect a new notification message, and view the stored subscriptions.	The original subscription is updated to include the new notification text. User is notified of update. S-DSS-01482
11. At Ingest, request to ingest/archive TRMM PR 2A-23 data.	Subscription notification message is received and it contains the new text. S-DSS-01490
12. At the DSS Subscription GUI screen, update a subscription for CER02 data to include a new start time (choose a time closer to current time), and view the stored subscriptions.	The subscription was updated with the new start time, and the user was notified of the update.
13. After the start time has passed, at the client simulator request to archive CER02 data.	Subscription notification is received. S-DSS-01490

14. At the subscription driver, update subscription for Aerosol Weekly data to a closer end date.	The subscription was updated as requested, and the user was notified of the update. S-DSS-01482
15. At Ingest, request to ingest/archive Aerosol Weekly data.	Subscription notification received. S-DSS-01490
16. Repeat step 15 after new end time has passed.	No subscription notification is received.
17. At the subscription driver, attempt to update own subscription with another user's id.	The update request is rejected. Can't update a subscriptions user id.
18. At the subscription driver, attempt to update own subscription with a particular event id.	The update request is rejected. Can't update a subscriptions event id.
19. At the subscription driver, as a user, attempt to update another user's subscription to include different text upon notification of LIS15 data.	The update request is rejected. A user can't update another user's subscription.
20. At client driver, request to archive LIS15 data.	Original message text is received in the subscription notification.
21. Repeat steps 10 - 16 from the subscription driver.	A user can update his own subscriptions, but not those of other users. S-DSS-01482, S-DSS-01490
22. At the subscription driver, request to update a subscription with an invalid start time (1D7 minutes).	Request is rejected and a message is received saying invalid time specified.
23. At the subscription driver, request to update a subscription with an invalid end time (23:vb).	Request is rejected and a message is received saying invalid time specified.
24. At the subscription driver, request to update a subscription with an invalid user id.	Request is rejected and a message is received saying invalid user specified.
25. At the subscription driver, request to update a subscription with an invalid event id.	Request is rejected and a message is received saying invalid event id specified.
26. Using the appropriate SYBASE commands, view the subscriptions data base.	All updates made previously are seen in the data base.
27. All messages are logged in the appropriate logs.	
28. Terminate all software.	
29. Exit the system.	

4.6.2.6 Test Case 6: Standing Order Subscription Test (TS025.006)

This test demonstrates the ability to submit a standing order subscription. A standing order subscription is one that automatically distributes the data to the pull area when the subscription is fired. It is only used by the SCF, since they have no capability to request that data be distributed to them.

Test Configuration:

Hardware: Workstation, X-terminal, storage devices

Software: SDSRV, ADSRV, Ingest, STMGT, DSS GUI

Data: TSDIS, SDPF, V0, Document, NESDIS

Tools: Subscription Driver, Client Driver, DSS Request Driver

Test Input:

Valid standing order subscriptions are submitted, and data is ingested.

Test Output:

Data is automatically distributed to the pull area when the subscription is fired.

Success Criteria:

This test is deemed successful if data is placed in the pull area when a standing order subscription is fired, and the SCF is notified that the data is available. Notifications are accurate and readable. All errors are correctly reported.

Test Procedures:

Test Case ID: TS025.006	
Test Name: Standing Order Subscription Test	
Test Step:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server and the Subscription Server and Ingest on their respective machines **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &** **>./sbserver &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	Shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Start the Subscription simulator on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm. **>./dttest**	
7. On the DSS Subscription GUI screen, register events for TRMM PR 2A-23, TRMM 3B-31, Aerosol Weekly, CER02, TRMM TMI 1B-11, and TRMM VIRS 3B-42 data.	Events are registered.
8. At the subscription driver, submit a subscription for each of the 6 data types registered above, with several user ids, and view the stored subscriptions.	Subscriptions are accepted and displayed as expected. S-DSS-01482
9. At the subscription driver, submit a standing order subscription for TRMM VIRS 3B-42 data.	The standing order subscription is accepted.
10. View the stored subscriptions.	The standing order subscription is displayed as such, and the other subscriptions are displayed as on-going or one-time.
11. At Ingest, request to ingest/archive TRMM TMI 1B-11 and TRMM VIRS 3B-42 data.	The appropriate users are notified of the archive TRMM TMI 1B-11 and TRMM VIRS 3B-42 data archival. S-DSS-01490
12. View the current requests in the system via the appropriate DSS GUI screen.	An FtpPull request has been started.
13. View the appropriate DSS GUI screen to verify that the TRMM VIRS 3B-42 data has been placed in the pull directory.	The expected data is in the pull directory.

14. Verify that the originator of the standing order subscription is notified that the data is available in the pull area.	
15. At the DSS GUI, request to create a standing order subscription for TRMM 3B-31 data.	The subscription is created.
16. At the DSS Subscription GUI, update the standing order subscription TRMM 3B-31 data to reflect a new notification message, and view the stored subscriptions.	The original subscription is updated to include the new notification text. User is notified of update. S-DSS-01482
17. At Ingest, request to ingest/archive TRMM 3B-31 data.	The TRMM 3B-31 data is archived, a notification is sent to the originating user, and the data is placed in the pull directory. S-DSS-01490
18. At Ingest, request to ingest/archive TRMM VIRS 3B-42 data.	The archive TRMM VIRS 3B-42 data is archived, but not subscription notification is sent, nor is the data placed in the pull directory.
19. At the subscription driver, as operator, submit a standing order subscription for CER02 data, and view the stored subscriptions.	The subscription accepted and displayed in the list of stored subscriptions.
20. At the subscription driver, delete the standing order subscription for CER02 data, and view the stored subscriptions.	The subscription is deleted.
21. At the DSS GUI, submit a standing order subscription for CER02 and TRMM VIRS 3B-42 data.	The subscriptions are accepted.
22. At Ingest, request to ingest/archive CER02 and TRMM VIRS 3B-42 data.	Both the CER02 and TRMM VIRS 3B-42 data is placed in the pull area, after the originators have been notified of the data archival.
23. At the subscription driver, submit a standing order subscription that will expire in 5 minutes.	The subscription is accepted.
24. Shortly before the subscription is to expire, the originating user receives a notification that the subscription is about to expire.	
25. After the expiration time has passed, view the stored subscriptions.	The subscription previously sent, is not listed.
26. At the subscription driver, submit a standing order subscription for Aerosol Weekly data, that will expire in 5 minutes.	
27. At Ingest, request to ingest/archive Aerosol Weekly data.	The originator is notified of the data archival, the data is placed in the pull area, the user is notified that the data is in the pull area.
28. Shortly before the subscription is to expire, the originating user receives a notification that the subscription is about to expire.	
29. At the subscription driver, update the subscription and extend the end time for 30 minutes.	The subscription expiration time has been extended, as seen on the DSS GUI.
30. At Ingest, request to ingest/archive Aerosol Weekly data.	The originator is notified of the data archival, the data is placed in the pull area, the user is notified that the data is in the pull area.
31. Shortly before the subscription is to expire, the originating user receives a notification that the subscription is about to expire.	
32. After the subscription expiration time has passed, verify that the subscription has been deleted from the list of stored subscriptions.	

33. At the subscription driver, request to submit a standing order subscription with for data type.	Request is rejected and a message is received saying invalid data type specified.
34. At the subscription driver, request to submit a standing order subscription with an invalid user id.	Request is rejected and a message is received saying invalid user specified.
35. Using the appropriate SYBASE commands, view the subscriptions data base.	All updates made previously are seen in the data base.
36. All messages are logged in the appropriate logs.	
37. Terminate all software.	
38. Exit the system.	

4.6.3 Product Request Thread (TS026)

The following test cases verify the interface between the Planning and Data Processing Subsystem (PDPS) and the Science Data Server (SDSRV) and Document Data Server (DDSRV) subsystems. This includes data requests, data subscription requests, and data inserts. All activity on the Data Servers will be logged into the MSS Event Log. These tests will be coordinated with and require the support of PDPS I&T personnel. Tests include:

TS026.001 PDPS Data Receipt Request Test

TS026.002 PDPS Data Subscription Request Test

TS026.003 PDPS Data Insert Request Test

TS026.004 PDPS Data Availability Schedule Subscription Request Test

TS026.005 PDPS Data Availability Schedule Receipt Request Test

TS026.006 PDPS Data Availability Schedule Insert Request Test

TS026.007 PDPS Production Plan Insert Request Test

4.6.3.1 Test Case 1: PDPS Data Receipt Request Test (TS026.001)

This test demonstrates the ability for the Science Data Server to receive and accept a Data Receipt Request from the Data Processing subsystem. A Data Receipt Request is submitted to the Science Data Server from the Data Processing subsystem. The Data Receipt Request is received, acknowledged and validated by the Science Data Server and as a result, the data is retrieved from archive storage to working storage and then provided to the Data Processing subsystem for the purpose of standard product processing. All Science Data Server activity is captured in the MSS Event Log.

Test Configuration:

Hardware:∞ Science Data Server, Planning and Data Processing Server, Working Storage, Archive Storage

Software: SDSRV CI, STMGT CI, DDIST CI, MSS Event Log CI, PRONG CI

Data: TRMM CERES L0 (CER00) and ancillary data

Tools: None

Test Input:

Inputs to this test include a Data Receipt Request for CERES L0 and ancillary data. Test Case TS026.002 should be run just prior to this test in order to verify that subscriptions are fired appropriately.

Test Output:

Outputs to this test include directory listings of the Data Processing subsystem data input directory and displays of the MSS Event Log file.

Success Criteria:

This test is deemed successful if the directory listing of the Data Processing subsystem data input directory contains the requested data and the MSS Event Log file contains entries for all Science Data Server activity.

Test Procedures:

Test Case ID: TS026.001	
Test Name: PDPS Data Receipt Request Test	
Test Steps:	Comments:
1. Login to the Science Data Server workstation.	Assumption: all necessary PDPS and SDSRV processes for the request and distribution of data are active.
2. Open an xterm and use this xterm to start a Data Processing xterm and a Science Data Server xterm.	
3. On the Data Processing xterm login to the Data Processing workstation.	
4. On the Data Processing xterm send a Data Receipt Request for CERES L0 (CER00) and ancillary data.	Verify that all status messages are sent to and from both the Science Data Server and the Data Processing subsystem. S-DSS-00650, S-DSS-00660, S-DSS-03860, S-DSS-03862
5. On the Science Data Server xterm obtain a directory listing of the working storage location in which the requested data has been placed.	Verify that the CER00, ancillary and metadata files show up in the list command. S-DSS-20475
6. On the Data Processing xterm obtain a directory listing of the Data Processing data input directory.	Verify that the CER00, ancillary and metadata files show up in the list command. S-DSS-20620
7. On the Science Data Server xterm display the MSS Event Log file.	Verify that the MSS Event Log file contains entries for all Science Data Server activities. S-DSS-01150, S-DSS-20010
8. Exit the Data Processing xterm.	
9. Exit the Science Data Server xterm.	
10. Logout of the Science Data Server workstation.	S-DSS-00065

4.6.3.2 Test Case 2: PDPS Data Subscription Request Test (TS026.002)

This test demonstrates the ability for the Science Data Server to receive and accept Subscriptions from the Data Processing subsystem. A Subscription is submitted to the Science Data Server

from the Data Processing subsystem. The Subscription is received and validated by the Science Data Server. When the Science Data Server archives new data that is identified in the Subscription a data availability notification is sent to the Data processing subsystem. All Science Data Server activity is captured in the MSS Event Log.

Test Configuration:

Hardware:∞ Science Data Server, Planning and Data Processing Server, Working Storage, Archive Storage.

Software: SDSRV CI, STGMT CI, DDIST CI, PRONG CI.

Data: TRMM CERES L0 (CER00) and ancillary data

Tools: Data Insert driver

Test Input:

Inputs to this test include data subscription requests for CERES L0 and ancillary data from the Data Processing subsystem and inserts of CERES L0 and ancillary data. This test is to executed just prior to TS026.001.

Test Output:

Outputs to this test include data availability notifications and an MSS Event Log file display.

Success Criteria:

This test is deemed successful if the Subscriptions submitted by the Data Processing subsystem are received and acknowledged by the Science Data Server and a data availability notification is returned when new data identified in the Subscription is archived. The MSS Event Log contains entries for all Science Data Server activity.

Test Procedures:

Test Case ID: TS026.002	
Test Name: PDPS Data Subscription Request Test	
Test Steps:	Comments:
1. Login to the Science Data Server workstation.	Assumption: all necessary PDPS and SDSRV processes for Subscription request and data availability notification are active.
2. Open an xterm and use this xterm to start a Data Processing xterm, a Insert Driver xterm and a Science Data Server xterm.	
3. On the Data Processing xterm login to the Data Processing workstation.	
4. On the Data Processing xterm send a Subscription for CERES L0 and ancillary data to the Science Data Server.	Verify that all status messages are sent to and from both the Science Data Server and the Data Processing subsystem. S-DSS-00650, S-DSS-00660, S-DSS-03860, S-DSS-03862
5. On Insert Driver xterm start up the Insert driver.	

6. On the Insert Driver xterm insert CER00 and ancillary data into the Science Data Server.	
7. On the Data Processing xterm view received E-mail messages.	Verify that there is an E-mail message from the Science Data Server indicating the data availability of CERES L0 and ancillary data. S-DSS-01510, S-DSS-01530
8. On the Science Data Server xterm display the MSS Event Log file.	Verify that the MSS Event Log file contains entries for all Science Data Server activities. S-DSS-01150, S-DSS-20010
9. On the Insert Driver xterm shutdown the Insert driver.	
10. Exit the Insert Driver xterm.	
11. Exit the Data Processing xterm.	
12. Exit the Science Data Server xterm.	
13. Logout of the Science Data Server workstation.	

4.6.3.3 Test Case 3: PDPS Data Insert Request Test (TS026.003)

This test demonstrates the ability for the Science Data Server to receive and accept Data Insert Requests for products from the Data Processing subsystem. A Data Insert Request is submitted to the Science Data Server from the Data Processing subsystem after new upper level data has been created. The request is received, validated and acknowledged by the Science Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The science data and metadata are then moved from working storage into archive storage. All Science Data Server activity is captured in the MSS Event Log.

Test Configuration:≠

Hardware: Science Data Server, PDPS Server, Working Storage, Archive Storage.≠

Software: SDSRV CI, STMGT CI, PRONG CI, MSS Event Log CI

Data:∞ CER01 through CER16 data in HDF format and associated metadata files in ODL format and Production History data

Tools: None

Test Input:

Inputs to this test include Data Insert Requests for CER01 through CER16 data and Production History data from the Data Processing subsystem.

Test Output:

Outputs to this test include status messages returned to the Data Processing subsystem, including request receipt acknowledgment and data archival notice, database queries, archive storage directory listings and MSS Event Log file displays.

Success Criteria:

This test is deemed successful if the Data Insert Request submitted is received and acknowledged and appropriate status messages are returned. The database queries show that the metadata was successfully inserted into the Science Data Server database. The directory listings of archive storage contain the data requested for insertion..

Test Procedures:

Test Case ID: TS026.003	
Test Name: PDPS Data Insert Request Test	
Test Steps:	Comments:
1. Login to the Science Data Server workstation.	Assumption: all necessary PDPS and SDSRV processes for the data insert request are active.
2. Open an xterm and use this xterm to start a Data Processing xterm and a Science Data Server xterm.	
3. On the Data Processing xterm login to the Data Processing workstation.	
4. On the Data Processing xterm send an Data Insert Request for CER01 data.	Verify that all status messages are sent to and from both the Science Data Server and the Data Processing Server. S-DSS-00650, S-DSS-00660, S-DSS-03860, S-DSS-03862
5. On the Science Data Server xterm query the Science Data Server inventory database.	Verify that the query returns information pertaining to the inserted data. S-DSS-03390, S-DSS-04360, S-DSS-04380, S-DSS-04450
6. On the Science Data Server xterm obtain a directory listing of the archive.	Verify that the inserted data file shows up in the list command. S-DSS-00670, S-DSS-00694, S-DSS-03170, S-DSS-03210, S-DSS-03380, S-DSS-03412, S-DSS-03580, S-DSS-04475, S-DSS-21365(p), S-DSS-21366(p)
7. On the Science Data Server xterm display the MSS Event Log file.	Verify that the MSS Event Log file contains entries for all Science Data Server activities. S-DSS-00080, S-DSS-00090, S-DSS-01150, S-DSS-20010
8. Repeat steps 4 through 7 for CER02 data.	
9. Repeat steps 4 through 7 for CER03 data.	
10. Repeat steps 4 through 7 for CER04 data.	
11. Repeat steps 4 through 7 for CER05 data.	
12. Repeat steps 4 through 7 for CER06 data.	
13. Repeat steps 4 through 7 for CER07 data.	
14. Repeat steps 4 through 7 for CER08 data.	
15. Repeat steps 4 through 7 for CER09 data.	
16. Repeat steps 4 through 7 for CER11 data.	
17. Repeat steps 4 through 7 for CER12 data.	
18. Repeat steps 4 through 7 for CER13 data.	
19. Repeat steps 4 through 7 for CER14 data.	
20. Repeat steps 4 through 7 for CER15 data.	
21. Repeat steps 4 through 7 for CER16 data.	

22. Repeat steps 4 through 7 for Production History data.	
23. Exit the Data Processing xterm.	
24. Exit the Science Data Server xterm.	
25. Logout of the Science Data Server workstation.	S-DSS-00150, S-DSS-20020

4.6.3.4 Test Case 4: PDPS Data Availability Schedule Subscription Request Test (TS026.004)

This test demonstrates the ability for the Science Data Server to receive and accept Subscriptions from the Planning subsystem. A Subscription is submitted to the Science Data Server from the Planning subsystem. The Subscription is received and validated by the Science Data Server. When the Science Data Server archives a new Data Availability Schedule that is identified in the Subscription a data availability notification is sent to the Planning subsystem. All Science Data Server activity is captured in the MSS Event Log.

Test Configuration:

Hardware:∞ Science Data Server, Planning and Data Processing Server, Working Storage, Archive Storage.

Software: SDSRV CI, STGMT CI, DDIST CI, PLANG CI.

Data: Data Availability Schedule

Tools: Data Insert driver

Test Input:

Inputs to this test include a data Subscription Request for a Data Availability Schedule from the Planning subsystem and inserts of the Data Availability Schedule. This test is to be executed just prior to TS026.005.

Test Output:

Outputs to this test include data availability notifications and an MSS Event Log file display.

Success Criteria:

This test is deemed successful if the Subscription submitted by the Data Processing subsystem is received and acknowledged by the Science Data Server and a data availability notification is returned when a new Data Availability Schedule identified in the Subscription is archived. The MSS Event Log contains entries for all Science Data Server activity.

Test Procedures:

Test Case ID: TS026.004	
Test Name: PDPS Data Availability Schedule Subscription Request Test	
Test Steps:	Comments:

1. Login to the Science Data Server workstation.	Assumption: all necessary PDPS and SDSRV processes for Subscription request and data availability notification are active.
2. Open an xterm and use this xterm to start a Planning xterm, a Insert Driver xterm and a Science Data Server xterm.	
3. On the Planning xterm login to the Planning workstation.	
4. On the Planning xterm send a Subscription for a Data Availability Schedule to the Science Data Server.	Verify that all status messages are sent to and from both the Science Data Server and the Planning subsystem. S-DSS-00650, S-DSS-00660, S-DSS-03864, S-DSS-03866
5. On Insert Driver xterm start up the Insert driver.	
6. On the Insert Driver xterm insert a Data Availability Schedule into the Science Data Server.	
7. On the Planning xterm view received E-mail messages.	Verify that there is an E-mail message from the Science Data Server indicating the availability of the Data Availability Schedule. S-DSS-01510, S-DSS-01530
8. On the Science Data Server xterm display the MSS Event Log file.	Verify that the MSS Event Log file contains entries for all Science Data Server activities. S-DSS-01150, S-DSS-20010
9. On the Insert Driver xterm shutdown the Insert driver.	
10. Exit the Insert Driver xterm.	
11. Exit the Planning xterm.	
12. Exit the Science Data Server xterm.	
13. Logout of the Science Data Server workstation.	S-DSS-01525

4.6.3.5 Test Case 5: PDPS Data Availability Schedule Receipt Request Test (TS026.005)

This test demonstrates the ability for the Science Data Server to receive and accept a Data Receipt Request from the Planning subsystem. A Data Availability Schedule Receipt Request is submitted to the Science Data Server from the Planning subsystem. The Data Availability Schedule Receipt Request is received, acknowledged and validated by the Science Data Server and as a result, the Data Availability Schedule is retrieved from archive storage to working storage and then provided to the Planning subsystem for the purpose of production planning. All Science Data Server activity is captured in the MSS Event Log.

Test Configuration:

Hardware:∞ Science Data Server, Planning and Data Processing Server, Working Storage, Archive Storage

Software: SDSRV CI, STMGT CI, DDIST CI, MSS Event Log CI, PLANG CI

Data: Data Availability Schedule

Tools: None

Test Input:

Inputs to this test include a Receipt Request for a Data Availability Schedule. Test Case TS026.004 should be run just prior to this test in order to verify that subscriptions are fired appropriately.

Test Output:

Outputs to this test include directory listings of the Planning subsystem data input directory and displays of the MSS Event Log file.

Success Criteria:

This test is deemed successful if the directory listing of the Planning subsystem data input directory contains the requested Data Availability Schedule and the MSS Event Log file contains entries for all Science Data Server activity.

Test Procedures:

Test Case ID: TS026.005	
Test Name: PDPS Data Availability Schedule Receipt Request Test	
Test Steps:	Comments:
1. Login to the Science Data Server workstation.	Assumption: all necessary PDPS and SDSRV processes for the request and distribution of data are active.
2. Open an xterm and use this xterm to start a Planning xterm and a Science Data Server xterm.	
3. On the Planning xterm login to the Planning workstation.	
4. On the Planning xterm send a Receipt Request for a Data Availability Schedule.	Verify that all status messages are sent to and from both the Science Data Server and the Planning subsystem. S-DSS-00650, S-DSS-00660, S-DSS-03864, S-DSS-03866
5. On the Science Data Server xterm obtain a directory listing of the working storage location in which the requested data has been placed.	Verify that the Data Availability Schedule file shows up in the list command. S-DSS-20444
6. On the Planning xterm obtain a directory listing of the Planning data input directory.	Verify that the Data Availability Schedule file shows up in the list command. S-DSS-20620
7. On the Science Data Server xterm display the MSS Event Log file.	Verify that the MSS Event Log file contains entries for all Science Data Server activities. S-DSS-01150, S-DSS-20010
8. Exit the Planning xterm.	
9. Exit the Science Data Server xterm.	
10. Logout of the Science Data Server workstation.	

4.6.3.6 Test Case 6: PDPS Data Availability Schedule Insert Request Test (TS026.006)

This test demonstrates the ability for the Science Data Server to receive and accept an Insert Request for a Data Availability Schedule from the Planning subsystem. A Data Availability Schedule Insert Request is submitted to the Science Data Server from the Planning subsystem after a new Production Plan has been created. The request is received, validated and acknowledged by the Science Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The Data Availability Schedule and metadata are then moved from working storage into archive storage. All Science Data Server activity is captured in the MSS Event Log.

Test Configuration:

Hardware: Science Data Server, PDPS Server, Working Storage, Archive Storage.

Software: SDSRV CI, STMGT CI, PLANG CI, MSS Event Log CI

Data: Data Availability Schedule

Tools: None

Test Input:

Inputs to this test include an Insert Request for a Data Availability Schedule from the Planning subsystem.

Test Output:

Outputs to this test include status messages returned to the Planning subsystem, including request receipt acknowledgment and data archival notice, database queries, archive storage directory listings and MSS Event Log file displays.

Success Criteria:

This test is deemed successful if the Data Insert Request submitted is received and acknowledged and appropriate status messages are returned. The database queries show that the metadata was successfully inserted into the Science Data Server database. The directory listings of archive storage contain the data requested for insertion.

Test Procedures:

Test Case ID: TS026.006	
Test Name: PDPS Data Availability Schedule Insert Request Test	
Test Steps:	Comments:
1. Login to the Science Data Server workstation.	Assumption: all necessary PDPS and SDSRV processes for the data insert request are active.
2. Open an xterm and use this xterm to start a Planning xterm and a Science Data Server xterm.	

3. On the Planning xterm login to the Planning workstation.	
4. On the Planning xterm send an Insert Request for a Data Availability Schedule.	Verify that all status messages are sent to and from both the Science Data Server and the Planning subsystem. S-DSS-00650, S-DSS-00660, S-DSS-03866, S-DSS-03867
5. On the Science Data Server xterm query the Science Data Server inventory database.	Verify that the query returns information pertaining to the inserted Data Availability Schedule. S-DSS-03390, S-DSS-04360, S-DSS-04380
6. On the Science Data Server xterm obtain a directory listing of the archive.	Verify that the Data Availability Schedule file shows up in the list command. S-DSS-00690, S-DSS-00694, S-DSS-00734, S-DSS-03170, S-DSS-03380, S-DSS-03865, S-DSS-04475, S-DSS-20442, S-DSS-21365(p), S-DSS-21366(p)
7. On the Science Data Server xterm display the MSS Event Log file.	Verify that the MSS Event Log file contains entries for all Science Data Server activities. S-DSS-00080, S-DSS-00090, S-DSS-01150, S-DSS-20010
8. Exit the Planning xterm.	
9. Exit the Science Data Server xterm.	
10. Logout of the Science Data Server workstation.	S-DSS-00150, S-DSS-20020

4.6.3.7 Test Case 7: PDPS Production Plan Insert Request Test (TS026.007)

This test demonstrates the ability for the Document Data Server to receive and accept an Insert Request for Production Plan data from the Planning subsystem. A Production Plan Insert Request is submitted to the Document Data Server from the Planning subsystem after a new Production Plan has been created. The request is received, validated and acknowledged by the Document Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The Production Plan and metadata are then moved from working storage into archive storage. All Document Data Server activity is captured in the MSS Event Log.

Test Configuration:

Hardware: Document Data Server, PDPS Server, Working Storage, Archive Storage.

Software: DDSRV CI, STMGT CI, PLANG CI, MSS Event Log CI

Data: Production Plan

Tools: None

Test Input:

Inputs to this test include an Insert Request for a Production Plan from the Planning subsystem.

Test Output:

Outputs to this test include status messages returned to the Planning subsystem, including request receipt acknowledgment and data archival notice, database queries, archive storage directory listings and MSS Event Log file displays.

Success Criteria:

This test is deemed successful if the Data Insert Request submitted is received and acknowledged and appropriate status messages are returned. The database queries show that the metadata was successfully inserted into the Document Data Server database. The directory listings of archive storage contain the data requested for insertion.

Test Procedures:

Test Case ID: TS026.007	
Test Name: PDPS Production Plan Insert Request Test	
Test Steps:	Comments:
1. Login to the Document Data Server workstation.	Assumption: all necessary PDPS and DDSRV processes for the data insert request are active.
2. Open an xterm and use this xterm to start a Planning xterm and a Document Data Server xterm.	
3. On the Planning xterm login to the Planning workstation.	
4. On the Planning xterm send an Insert Request for a Production Plan.	Verify that all status messages are sent to and from both the Document Data Server and the Planning subsystem.
5. On the Document Data Server xterm query the Document Data Server inventory database.	Verify that the query returns information pertaining to the inserted Production Plan.
6. On the Document Data Server xterm obtain a directory listing of the archive.	Verify that the Production Plan file shows up in the list command. S-DSS-10238
7. On the Document Data Server xterm display the MSS Event Log file.	Verify that the MSS Event Log file contains entries for all Document Data Server activities.
8. Exit the Planning xterm.	
9. Exit the Document Data Server xterm.	
10. Logout of the Document Data Server workstation.	

4.6.4 Product Access Build (BS008)

This build integrates the user interface for product access with the Data Server capabilities of accessing data for generating products, storing processed products in the archive and retrieving these products for distribution. Archived data is requested for data production and the end product is stored in the archive. A subscription is submitted from the PDPS subsystem, data is ingested and inserted into the archive. When PDPS is notified of data receipt, a distribution request is submitted to the data server. The data is placed in the pull area for PDPS to use during processing. When processing is complete, and a new level of data is created, an insertion request is sent to the Data Server to insert the new data in the archive. Another retrieval request is sent

from PDPS to extract upper level data from the archive. CERES level 0 and upper level data, as well as data availability schedules and production plans will be used for this test. These tests require support of PDPS test personnel. The following test cases are included in this build:

BS008.001 Subscription/Data Insertion/Acquire Test

BS008.002 Upper Level Data Insertion/Acquire Test

BS008.003 Data Availability Subscription/Insertion/Acquire Test

BS008.004 Production Plan Data Insertion/Acquire Test

4.6.4.1 Test Case 1: Subscription/Data Insertion/Acquire Test (BS008.001)

This test demonstrates the ability for PDPS to submit a subscription to the Science Data Server, and receive subscription notification when the requested data is inserted in the archive. Upon notification that the data is available, PDPS will submit a product order to extract the data from the archive, so it can then be used in subsequent processing.

Test Configuration:

Hardware: DSS and PDPS workstations, x-terminal, permanent storage devices

Software:∞ ADSRV, DESKTP, WKBENCH, SDSRV, STMGT, DDIST, PDPS, DSS GUI, Ingest, Ingest GUI, PRONG, PDPS GUI

Data: CER00 data

Tools: None

Test Input:

Inputs to this test include subscription and product order requests from PDPS, and CER00 data ingest.

Test Output:

Outputs to this test include subscription notification to PDPS of CER00 data receipt, and data placed in the pull area.

Success Criteria:

This test is deemed successful if PDPS can successfully send a subscription request to the Science Data Server, is notified when the requested data is received, can successfully request a product order of the Science Data Server, and can successfully extract the data from the pull area and use it for product processing. All logs are updated accordingly.

Test Procedures:

Test Case ID: BS008.001	

Test Name: Subscription/Data Insertion/Acquire Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active; PDPS test personnel are manning the PDPS workstation.
2. On the first xterm login to the Ingest GUI.	
3. On the second xterm login to MSS to view the appropriate log files.	
4. At the PDPS GUI, submit a subscription to be notified when CER00 data is received.	Subscriptions are accepted and stored in the system, as seen on the appropriate DSS GUI screen.
5. Request to Ingest CER00 data via Ingest and an auto network protocol.	The Ingest request is in progress, as seen on the appropriate Ingest and DSS GUI screens.
6. When the CER00 data is inserted in the archive, PDPS is notified that the data has been archived.	
7. PDPS requests a product order to distribute the CER00 data just archived, via FtpPull.	The product order request is accepted and processed, as seen on the appropriate DSS GUI screen.
8. When the data is pulled from the archive, it is placed in the pull area, and PDPS is notified of its availability.	PDPS successfully receives the data availability notification.
9. PDPS extracts the CER00 data from the pull area.	Data is placed in PDPS workspace and product processing is performed.
10. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, and others.	All expected messages are logged and contain correct, concise information.
11. Logoff of the appropriate xterms and Workstations.	DADS0120#A, DADS0290#A, DADS0300#A, DADS0360#A, DADS0520#A, DADS1000#A, DADS1010#A, DADS1020#A, DADS1030#A, DADS1110#A, DADS1180#A, DADS1210#A, DADS1230#A, DADS2180#A, DADS2190#A, DADS2330#A, DADS3120#A, IMS0430#A, IMS1720#A

4.6.4.2 Test Case 2: Upper Level Data Insertion/Acquire Test (BS008.002)

This test demonstrates the ability for PDPS to submit a data insertion request to the Science Data Server to insert upper level products previously created, and to acquire upper level data from the archive for subsequent processing.

Test Configuration:

Hardware: DSS and PDPS workstations, x-terminal, permanent storage devices

Software:∞ ADSRV, DESKTP, WKBENCH, SDSRV, STMGT, DDIST, PDPS, DSS GUI, PRONG, PDPS GUI

Data: Upper Level CERES data

Tools: None

Test Input:

Inputs into this test include insert and acquire requests from PDPS.

Test Output:

Outputs to this test include upper level data inserted in the archive, and distributed to the pull area.

Success Criteria:

This test is deemed successful if PDPS can successfully insert and acquire upper level data. All actions are appropriately logged.

Test Procedures:

Test Case ID: BS008.002	
Test Name: Upper Level Data Insertion/Acquire Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active; PDPS test personnel are manning the PDPS workstation.
2. On the second xterm login to MSS to view the appropriate log files.	
3. At the PDPS GUI, submit an insertion request to insert upper level data into the archive.	The insert request is accepted and processed, as seen on the appropriate DSS GUI screen.
4. At the PDPS GUI, submit an acquire request to retrieve the upper level data from the archive.	The acquire request is accepted and processed, as seen on the appropriate DSS GUI screen.
5. When the data is pulled from the archive, PDPS is notified that it is available and located in the pull area.	
6. PDPS extracts the data from the pull area.	Data is placed in PDPS workspace and subsequent processing is performed.
7. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, and others.	All expected messages are logged and contain correct, concise information.
8. Logoff of the appropriate xterms and Workstations.	DADS0120#A, DADS0290#A, DADS0300#A, DADS0360#A, DADS0520#A, DADS1000#A, DADS1010#A, DADS1020#A, DADS1030#A, DADS1110#A, DADS1180#A, DADS1210#A, DADS1230#A, DADS2180#A, DADS2190#A, DADS2330#A, DADS3120#A, IMS0430#A, IMS1720#A

4.6.4.3 Test Case 3: Data Availability Schedule Subscription/Data Insertion/ Acquire Test (BS008.003)

This test demonstrates the ability for PDPS to submit a subscription to the Science Data Server for data availability schedules, receive subscription notification when the data availability schedules are inserted in the archive, and acquire data availability schedules from the archive.

Test Configuration:

Hardware: DSS and PDPS workstations, x-terminal, permanent storage devices

Software:∞ ADSRV, DESKTP, WKBENCH, SDSRV, STMGT, DDIST, PDPS, DSS GUI, PLANG, PRONG, PDPS GUI

Data: Data Availability Schedules

Tools: None

Test Input:

Inputs to this test include subscription, insertion and product order requests from PDPS, for data availability schedules.

Test Output:

Outputs to this test include subscription notification to PDPS of data availability schedule receipt, and data availability schedules placed in the archive, and in the pull area.

Success Criteria:

This test is deemed successful if PDPS can successfully send a subscription request to the Science Data Server, is notified when the requested data is received, can successfully insert data, request a product order of the Science Data Server, and can successfully extract the data from the pull area and use it for subsequent processing. All logs are updated accordingly.

Test Procedures:

Test Case ID: BS008.003	
Test Name: Data Availability Schedule Subscription/Data Insertion/Acquire Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active; PDPS test personnel are manning the PDPS workstation.
2. On the second xterm login to MSS to view the appropriate log files.	
3. At the PDPS GUI, submit a subscription to be notified when data availability schedules are received.	Subscriptions are accepted and stored in the system, as seen on the appropriate DSS GUI screen.
4. Request to insert data availability schedules into the archive. .	The request is in progress, as seen on the appropriate DSS GUI screen.
5. When the data availability schedules are inserted in the archive, PDPS is notified that the data has been archived.	
6. PDPS requests a product order to distribute the data availability schedules just archived, via FtpPull.	The product order request is accepted and processed, as seen on the appropriate DSS GUI screen.
7. When the data is pulled from the archive, it is placed in the pull area, and PDPS is notified of its availability.	PDPS successfully receives the data availability notification.

8. PDPS extracts the data availability schedules from the pull area.	Data is placed in PDPS workspace and subsequent processing is performed.
9. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, and others.	All expected messages are logged and contain correct, concise information.
10. Logoff of the appropriate xterms and Workstations.	DADS0120#A, DADS0290#A, DADS0300#A, DADS0360#A, DADS0520#A, DADS1000#A, DADS1010#A, DADS1020#A, DADS1030#A, DADS1110#A, DADS1180#A, DADS1210#A, DADS1230#A, DADS2180#A, DADS2190#A, DADS2330#A, DADS3120#A, IMS0430#A, IMS1720#A

4.6.4.4 Test Case 4: Production Plan Data Insertion/Acquire Test (BS008.004)

This test demonstrates the ability for PDPS to insert and acquire production plan data. This data is inserted in the Document Data Server, and retrieved via the Science Data Server. This test requires support of both PDPS and DDSRV test personnel.

Test Configuration:

Hardware: DSS and PDPS workstations, x-terminal, permanent storage devices

Software:∞ ADSRV, DESKTP, WKBENCH, SDSRV, STMGT, DDIST, PDPS, DSS GUI, PLANG, PDPS GUI, DDSRV

Data: Production Plan Data

Tools: None

Test Input:

Inputs to this include test insertion and retrieval requests for production plan data.

Test Output:

Outputs to this test include data insertion into the DDSRV and data retrieved from the archive and placed in the pull area.

Success Criteria:

This test is deemed successful if PDPS can successfully insert into, and retrieve production plan data from the DDSRV. All logs are updated accordingly.

Test Procedures:

Test Case ID: BS008.004	
Test Name: Production Plan Data Insertion/Acquire Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active; PDPS test personnel are manning the PDPS workstation.

2. On the second xterm login to MSS to view the appropriate log files.	
3. On the third xterm, login to DDSRV.	
4. At the PDPS GUI, submit an insertion request to insert production plan data into the DDSRV.	The insertion request is accepted and processed, as seen on the appropriate DDSRV screens.
5. At the PDPS GUI, request to acquire the production plan data from the DDSRV.	The acquire request is in progress, as seen on the appropriate DSS GUI screens.
6. When the production plan data is pulled from the archive, it is placed in the pull area, and PDPS is notified of its availability.	PDPS successfully receives the data availability notification.
7. PDPS extracts the production plan data from the pull area.	Data is placed in PDPS workspace and subsequent processing is performed.
8. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, and others.	All expected messages are logged and contain correct, concise information.
9. Logoff of the appropriate xterms and Workstations.	DADS0120#A, DADS0290#A, DADS0300#A, DADS0360#A, DADS0520#A, DADS1000#A, DADS1010#A, DADS1020#A, DADS1030#A, DADS1110#A, DADS1180#A, DADS1210#A, DADS1230#A, DADS2180#A, DADS2190#A, DADS2330#A, DADS3120#A, IMS0430#A, IMS1720#A

4.7 Planning and Processing 2 Tests

4.7.1 DPR Generation 2 Thread (TS027)

The DPR Generation 2 application (also known as the Production Request Editor) allows the user to submit production requests that describe the data products to be produced. The application provides the capability to create and review Production Requests and Data Processing Requests. In phase 2, this is entirely accomplished via the invocation of the Production Request GUI.

The DPR Generation 2 thread has all of the functionality that was contained in DPR Generation 1 with the addition of a Graphical User Interface (GUI) to perform the tests. New functionality for phase 2 includes the ability to create and review PRs and DPRs, the ability to modify PRs, the ability to request PRs for Release A data products and the ability to review PGE parameters for DPRs. The first series of tests are considered regression level from phase 1 while the remaining tests will exercise phase 2 functionality.

4.7.1.1 Test Case 1: Populate the Planning Database Tables (TS027.001)

This test verifies the steps associated with populating the Planning database tables so that Production Requests and DPRs can be manipulated.

Test Configuration:≠

Hardware: Planning Workstation (SUN Sparc 20/50)≠

Software: PlProductionRequest, DpPrDb classes, Sybase

Data:∞ The following PLANG database tables must be populated with data from the AHWG prior to running the remaining tests: PGE_MASTER, PGE_DETAIL_TIME, DATA_TYPE_LIST_EXPLOSION, INPUT_DATA_SPECS, OUTPUT_DATA_YIELD, DATA_SOURCE_MASTER, DATA_TYPE_MASTER, ROUTINE_ARRIVAL

Tools:∞ Production Request Editor GUI, database table load script (load_pre_tables.sql), database query script (check_pre_tables.sql)

Test Input:

Data references from the AHWG.

Test Output:

Output from the database query script listing the contents of the Planning database tables.

Success Criteria:

This test will be considered successful when all data is loaded into the appropriate tables of the Planning database without errors.

Test Procedures:

Test Case ID: TS027.001	
Test Name: Populate the Planning Database Tables	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Type **cd /usr/testa/IT/tools** to set to the directory where the SQL scripts reside.	
3. Type **load_pre_tables.sql** to invoke the script.	This script loads data into all necessary tables needed to properly run the Production Request Editor.
4. When complete, type **check_pre_tables.sql**	This script verifies that all the data was loaded into the appropriate tables.

4.7.1.2 Test Case 2: Create a Production Request (TS027.002)

This test verifies the steps associated with creating a production request.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlProductionRequest (Production Request Editor), DpPrDb classes, Sybase

Data:∞ The following PLANG database tables must be populated with data from the AHWG prior to running the remaining tests: PGE_MASTER, PGE_DETAIL_TIME, PGE_DETAIL_PARAMETERS,

PGE_DETAIL_RESREQS, DPR_DATA_LIST_EXPLOSION, INPUT_DATA_SPECS, OUTPUT_DATA_YIELD, DATA_SOURCE_MASTER, DATA_TYPE_MASTER, ROUTINE_ARRIVAL, DATA_TYPE_MASTER

Tools: Database query script (check_pre.sql)

Test Input:

Production request start time, Production Request end time.

User actions associated with GUI functions.

Test Output:

A production request entry in the PRODUCTION_REQUEST table.

A data processing request entry in the DATA_PROCESSING_REQUEST table.

A pop-up window from the software indicating the successful save confirmation of the production request in the database.

Success Criteria:

This test will be considered successful when the production request is created in the database.

Test Procedures:

Test Case ID: TS027.002	
Test Name: Create a Production Request	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Type **cd /usr/testa/bin** to set to the directory where the executable resides.	
3. Type **source /usr/testa/IT/tools/prreqed.cshrc** to source the environment config file.	
4. Type **pre_req_GUI** to invoke the production request GUI.	The GUI screen appears.
5. Select the **File** menu option and then select **New**.	
6. A GUI window will appear. Select a PR name from the list to use as a template. Then press **OK**.	This window contains previously created PRs. In phase 2, a PR can only be created by using another PR as a template. S-PLS-01200 partially satisfied: a. is fully satisfied, b. can verify the query and update of PRs, c. is not satisfied d. can query and update PR rules and PGE info e. thru k. should be reviewed in test TS065
7. Enter the production request start and stop times by selecting the **Time** window of the GUI.	S-PLS-00010 fully satisfied

8. Enter the production request priority by selecting the **Priority** window in the GUI.	S-PLS-00005 fully satisfied
9. Enter the PGE information for the production request by selecting the **PGE** window.	You can also enter the corresponding PGE parameters within this step.
10. Enter the data granule information when prompted.	S-PLS-00460 fully satisfied
11. Select the **Save_As** option and enter the PR name to save the production request.	S-PLS-00020 fully satisfied S-PLS-00060 partially satisfied This action saves the production request and explodes it into a data processing request. A Save Successful pop-up message will appear.
12. To further verify that the production request was saved, exit the GUI by selecting the **Exit** option.	
13. At the prompt, type **cd /usr/testa/IT/tools** to set to the directory where the database query script resides.	
14. To view the contents of the database type **isql -i/usr/testa/IT/tools/check_pre.sql -o**<*output filename*> to invoke the SQL script.	This script verifies that the production request was created in the database by creating an output file of various tables.
15. You can view the log by typing **more <***output filename***>**	Visually search the log for the production request id and the corresponding DPR(s).

4.7.1.3 Test Case 3: Modify a Production Request (TS027.003)

This test verifies the steps associated with modifying a production request.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlProductionRequest (Production Request Editor), DpPrDb classes, Sybase

Data:∞ The following PLANG database tables must be populated with data from the AHWG prior to running the remaining tests: PGE_MASTER, PGE_DETAIL_TIME, PGE_DETAIL_PARAMETERS, PGE_DETAIL_RESREQS, DPR_DATA_LIST_EXPLOSION, INPUT_DATA_SPECS, OUTPUT_DATA_YIELD, DATA_SOURCE_MASTER, DATA_TYPE_MASTER, ROUTINE_ARRIVAL, DATA_TYPE_MASTER

Tools: Database query script (check_pre.sql)

Test Input:

Production request parameters, e.g. start time, priority, etc. can be modified.

Test Output:

A log file created by the query script to show the modification of the production request.

Success Criteria:≠

This test will be considered successful when the production can be modified in the database.≠

Test Procedures:≠

Test Case ID: TS027.003	
Test Name: Modify a Production Request	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Type **cd /usr/testa/bin** to set to the directory where the executable resides.	
3. Type **source /usr/testa/IT/tools/prreqed.cshrc** to source the environment config file.	
4. Type **pre_req_GUI** to invoke the production request GUI.	The GUI screen appears.
5. Select the **PR Edit** button on the GUI to edit a production request.	
6. Select a production request to modify from the displayed list.	
7. Modify any of the parameters associated with the production request.	You can modify start/stop date/time, priority, etc.
8. Select the **File** option from the menu bar and then the **Save** option. Enter the PR name to save the modified PR.	S-PLS-00200 partially satisfied Currently, a PR can only be modified and saved as another PR; there is no method to overwrite a PR.
9. A response message indicating the successful acceptance of the modification will be displayed.	S-PLS-00220
10. Exit the GUI by selecting the **Exit** option.	
11. At the prompt, type **cd /usr/testa/IT/tools** to set to the directory where the database query script resides.	
12. Type **isql -i/usr/testa/IT/tools/check_pre.sql -o**<*output filename*> to invoke the SQL script.	This script creates an output file of the various database tables and verifies that the production request was modified.
13. You can view the log by typing **more <***output filename***>**	Search the log for the production request id.

4.7.1.4 Test Case 4: Review a Production Request (TS027.004)

This test verifies the steps associated with reviewing a production request.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlProductionRequest, DpPrDb classes, Sybase

Data:∞ The following PLANG database tables must be populated with data from the AHWG prior to running the remaining tests: PGE_MASTER, PGE_DETAIL_TIME, PGE_DETAIL_PARAMETERS,

PGE_DETAIL_RESREQS, DPR_DATA_LIST_EXPLOSION, INPUT_DATA_SPECS, OUTPUT_DATA_YIELD, DATA_SOURCE_MASTER, DATA_TYPE_MASTER, ROUTINE_ARRIVAL, DATA_TYPE_MASTER

Tools: Production Request Editor GUI, database query script (check_pre.sql)

Test Input:

Production request name.

Test Output:

Production request information from the GUI.

Success Criteria:

This test will be considered successful when a production request can be viewed via the GUI.

Test Procedures:

Test Case ID: TS027.004	
Test Name: Review a Production Request	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Type **cd /usr/testa/bin** to set to the directory where the GUI executable resides.	
3. Type **source /usr/testa/IT/tools/prreqed.cshrc** to source the environment config file.	
4. Type **pre_req_GUI** to invoke the production request GUI.	The GUI screen appears.
5. Select the PR Review button on the GUI to review production requests.	
6. A window appears and shows the current production requests in the database. Parameters such as PGE id, priority, start/stop date/times are viewed.	S-PLS-00470 partially satisfied. Part a) is fully satisfied here. Part b) is satisfied in TS027.006. Part c) is not satisfied.
7. You can find a particular data item by typing it into the Find window at the bottom of the GUI and then selecting Find.	
8. Exit the GUI by selecting the Exit option.	

4.7.1.5 Test Case 5: Reject Creation of a Production Request for an Invalid Product Identifier (TS027.005)

This test verifies the steps associated with attempting to create a production request for an invalid product identifier.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlProductionRequest, DpPrDb classes, Sybase

Data:∞ The following PLANG database tables must be populated with data from the AHWG prior to running the remaining tests: PGE_MASTER, PGE_DETAIL_TIME, PGE_DETAIL_PARAMETERS, PGE_DETAIL_RESREQS, DPR_DATA_LIST_EXPLOSION, INPUT_DATA_SPECS, OUTPUT_DATA_YIELD, DATA_SOURCE_MASTER, DATA_TYPE_MASTER, ROUTINE_ARRIVAL, DATA_TYPE_MASTER

Tools: Production Request Editor GUI, database query script (check_pre.sql)

Test Input:

PR parameters, e.g. name, priority, start/stop time/date, etc.

Test Output:

None.

Success Criteria:

This test will be considered successful when a production request for an invalid product is rejected.

Test Procedures:

Test Case ID: TS027.005	
Test Name: Reject Creation of a Production Request for an Invalid Product Identifier	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Type **cd /usr/testa/bin** to set to the directory where the executable resides.	
3. Type **source /usr/testa/IT/tools/prreqed.cshrc** to source the environment config file.	
4. Type **pre_req_GUI** to invoke the production request GUI.	The GUI screen appears.
5. Select the **File** menu option and then select **New**.	
6. A GUI window will appear. Select a PR name from the list to use as a template. Then press **OK**.	
7. Enter the production request start and stop times by selecting the **Time** window of the GUI.	
8. Enter the production request priority by selecting the **Priority** window in the GUI.	
9. Enter the PGE information for the production request by selecting the **PGE** window.	Enter an invalid PGE name to associate with this production request.
10. Select the **Save_As** option and enter the PR name to save the production request.	S-PLS-00040 fully satisfied The creation of the production request will be rejected by the software.

4.7.1.6 Test Case 6: Review a Data Processing Request (TS027.006)

This test verifies the steps associated with reviewing a data processing request.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlProductionRequest, DpPrDb classes, Sybase

Data:∞ The following PLANG database tables must be populated with data from the AHWG prior to running the remaining tests: PGE_MASTER, PGE_DETAIL_TIME, PGE_DETAIL_PARAMETERS, PGE_DETAIL_RESREQS, DPR_DATA_LIST_EXPLOSION, INPUT_DATA_SPECS, OUTPUT_DATA_YIELD, DATA_SOURCE_MASTER, DATA_TYPE_MASTER, ROUTINE_ARRIVAL, DATA_TYPE_MASTER

Tools: Production Request Editor GUI, database query script (check_pre.sql)

Test Input:

Data processing request name.

Test Output:

DPR information from the GUI.

Success Criteria:

This test will be considered successful when a data processing request can be viewed via the GUI.

Test Procedures:

Test Case ID: TS027.006	
Test Conductor: Review a Data Processing Request	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Type **cd /usr/testa/bin** to set to the directory where the GUI executable resides.	
3. Type **source /usr/testa/IT/tools/prreqed.cshrc** to source the environment config file.	
4. Type **pre_req_GUI** to invoke the production request GUI.	The GUI screen appears.
5. Select the DPR Review button on the GUI to review data processing requests.	
6. A window appears and shows the current data processing requests in the database. Parameters such as PGE id, priority, start/stop date/times can be viewed.	S-PLS-00470 partially satisfied. Part a) is fully satisfied in TS027.004. Part b) is fully satisfied here. Part c) is not satisfied.

7. You can find a particular data item by typing it into the Find window at the bottom of the GUI and then selecting Find.	
8. Exit the GUI by selecting the Exit option.	

4.7.2 Data Subscription Management Thread (TS029)

The Data Subscription Management CSCI is used to manage the receipt of a subscription notification from the Data Server. A subscription notification is used to notify Planning of the arrival of input data required by a given PGE. The Data Subscription Management CSCI updates the PDPS database to indicate when data become available. When all input data for the Data Processing Request is available, the job defined for that Data Processing Request is released in the Processing subsystem.

This software should be linked with the Data Server CSCI but due to the inability to interface with that piece of code, a driver has been delivered to simulate the Data Server subsystem. This driver will simulate the receipt of a message from the Data Server specifying the arrival of a data granule needed to execute a DPR. The driver will then query the PDPS database to match the universal reference (UR) of the arrived granule to URs of granules within the database that are used by DPRs. A match of the UR will signify a DPR that requires the newly-arrived granule. The driver will then 'look into' AutoSys to find the DPR from the database query and release it to execute.

The Data Subscription Management CSCI will perform the following functionality for phase 2:

- the ability to release a DPR to EXECUTE status within AutoSys

4.7.2.1 Test Case 1: Release a DPR for Execution (TS029.001)

This test verifies the steps associated with releasing a DPR in AutoSys to EXECUTE status.≠

Test Configuration:≠

Hardware: Planning and processing Workstations (Sun Sparc 20/50)≠

Software: PlSubscriptionManager, PlSubMsgCb, AutoSys 3.2, AutoSys database, Sybase≠

Data: A id used as an input granule to a DPR, a DPR id≠

Tools: Subscription Manager driver (subs_man), AutoSys Ops Console≠

Test Input:≠

Input to this test consists of a data granule id.≠

Test Output:≠

There is no output from this test case.≠

Success Criteria:

This test will be considered successful when a data granule receipt message is received (simulated) from the Data Server, the driver finds the DPR associated with that granule id and releases the DPR to execute in AutoSys.

Test Procedures:

Test Case ID: TS029.001	
Test Name: Release a DPR for Execution	
Test Steps:	Comments:
1. Login to the Planning workstation.	This will be the Planning terminal window.
2. Login to the Processing workstation.	This will be the AutoSys terminal window.
3. From the Planning window type **source /usr/testa/IT/tools/subman.csh** to source the Subscription Manager configuration file.	
4. Start the Subscription Management driver by typing **subs_man**	The driver will prompt the user to enter a message. Any string that can be entered since this parameter was stubbed out by the driver. The user is then asked to enter the message id which is the UR id. This id should be of a granule that is used by a DPR and is in the database. The user is finally asked to enter a response and sender id both of which are stubbed out in the driver code. Don't press enter until after step 7.
5. From the Processing window type **source /vendor/autotree2/autouser/autosys.csh.spre4sun** to source the AutoSys configuration file.	
6. To bring up the AutoSys Ops Console type **autocons &**	You will see the DPRs that are ON_HOLD, i.e. they are waiting for their input granules to arrive before they can begin execution.
7. From the Planning window press enter.	S-PLS-00830 In the Processing window you will see all DPRs that require the newly arrived granule be taken off HOLD status and onto EXECUTE status.

4.7.3 DPR Submission 2 (Manual) Thread (TS030)

DPR Submission 2 thread provides the capability to manually submit a DPR from the Planning CSC database to the Processing CSC's AutoSys COTS scheduler. The manual submission causes the DPR job box to be scheduled and the DPR jobs to be created within the job box.

4.7.3.1 Test Case 1: Submit a DPR for Processing (TS030.001)

This test verifies the steps associated with submitting a job from the Planning database to the Processing CSC's AutoSys scheduling package.

Test Configuration:

Hardware: Planning Workstation, Processing Workstation (SUN Sparc 20/50)

Software: PlProductionRequest, DpPrDb classes, PlDpr class, Sybase

Data: DPR id from the Planning database

Tools: DPR Submission driver (tmp_DpPrScheduler), AutoSys Ops Console

Test Input:

The DPR id.

Test Output:

Confirmation from the driver that the DPR was scheduled within AutoSys.

Success Criteria:

This test will be considered successful when a DPR can be successfully scheduled within AutoSys.

Test Procedures:

Test Case ID: TS030.001	
Test Name: Submit a DPR for Processing	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Type **source /usr/testa/IT/tools/prreqed.cshrc** to set the environment variables that are needed for this test.	
3. Type **isql -U**<*username*> to access Sybase. Type your password when prompted.	Login to the database.
4. Type **use plang_2** **go** to access the Planning database.	The Planning and Processing databases will be combined into one database for phase 3.
5. Type **select * from DATA_PROCESSING_REQUEST** to list what DPRs currently exist within the database.	Just keep one of the DPR ids in mind for subsequent steps.
6. Login to the Processing workstation.	
7. Type **cd /usr/testa/bin** to set directory to where the executables reside.	
8. Type **source /vendor/autotree2/autouser/autosys.csh.spre4sun** to source the AutoSys configuration file.	

9. Type **autocons &** to bring up the AutoSys Ops console.	
10. Type **tmp_DpPrScheduler** and enter the DPR id when prompted.	This DPR id is from step 5.
11. View the AutoSys Ops Console to see the DPR being scheduled within the job window display.	The DPR is moved fro the Planning database into AutoSys.
12. Seven jobs are associated with each scheduled DPR job.	They are: Allocate, Stage, Prepare, Execute, Postprocess, Destage, and Deallocate.

4.7.4 PGE Execution 2 Thread (TS031)

A Product Generation Executive (PGE) is defined as any processing job that requires Data Processing subsystem resources. A PGE can define different types of processing: science software, quality assurance, or science pre-processing. If there are standard types of processing jobs that are performed periodically, these jobs are planned and submitted to Processing from Planning. Most PGEs will be defined as science software PGEs. PGE Execution pertains to the preparation, monitoring during the execution of a PGE and post-processing activities to support the execution of the PGE. These activities include the following:

a. Staging the executables and binaries which define the PGE, if required.

b. ∝Creating the Process Control File (PCF) used to support the PGE. PCF contains input and output data information.

c. ∝Preparing the Production History File (PHF) to be destaged (inserted) into the Science Data Service CSCI with the science data products. The Production History File will contain information used as inputs to the PGE (the Data Processing Request information) as well as resource utilization information.

d. De-allocation of resources at the completion of data destaging.

Phase 2 provides execution services required to allocate processing resources and disk resources for executable files, execution of science software, and de-allocation of associated resources. Another function of phase 2 is to monitor and update the state of the completed PGE, the state of the Process Control File (PCF) and the state of the science software components. The PCF provides critical runtime information to the PGE, while the science software is executing.

4.7.4.1 Test Case 1: Resource Allocation Test (TS031.001)

This test verifies the resource allocation of a given DprId are obtained and that computer hardware resources are available to support execution of a PGE based on the computer resource information associated with the Data Processing Request ID (DprId). This is an interface test between Execution Manager and Resource Manager. Execution Manager calls the function in Resource Manager to allocate disk space and processors when needed to run a PGE.

Test Configuration:

Hardware: Queuing Management Workstation (SUN Sparc20)

Software: Execution Manager, PDPS database interface, Sybase

Data: Data Processing Request ID

Tools:∞ EMDriver (Driver to call resource manger function to perform resource allocation and de-allocation of disk resources for a PGE, prepare execution of actual PGE, perform actual execution of PGE, and retrieve the status of DprIds)

Test Input:

User inputs to execute driver

-alloc DprId machine

-status DprId

Test Output:

A row is inserted in the PGE table for the objects constructed. Two records, which contain information about the PCF and UNIX Profile, are generated and inserted in the PCF table. A message indicating that resources are allocated for the given DprId and machine is issued.

Test Success Criteria:

This test is considered successful if: the resources are allocated without any errors, the records are inserted into the PGE and PCF tables, the objects inserted into the PGE table are updated to the STANDBY state, and the runtime directory exists that is created at the location allocated by resource management.

Test Procedures:

Test Case ID: TS031.001	
Test Name: Resource Allocation Test	
Test Steps:	Comments:
1. Login to the Queuing Management Workstation	
2. Invoke Execution Manager test driver by typing at command line:	Driver to allocate resources
3. **cd /usr/testa/IT/tools**	
4. **EMDriver -alloc DprId machine**	DprId and name of machine the resources are to be allocated on; DprId must exist in the planning DB tables
5. Open new window and connect to database by typing from the command line: **'isql -U[username] -P[password]'**; hit enter	
6. Verify a successful connection with the return of a SQL command line	
7. Open PDPS database by typing from the SQL command line: **'use prong_it**;' hit enter	**prong_it** is the name of the PDPS database in the test environment

8. Type **'go'**	This should be done after every SQL command to display results on screen
9. Enter **'Select * from PGE'** at the command line to query database to retrieve PGE record from the table	Results are displayed on the screen from the PGE table
10. Verify the PGE record was inserted in the database and state updated to STANDBY	
11. Enter **'Select * from PCF'** at the command line to query database to retrieve record from the PCF table	Results are displayed on the screen from the PCF table
12. Verify the two PCF records were inserted in the database with the correct information by inspecting the results on the screen	
13. Return to main window	
14. Verify the existence of the runtime directory created at location allocated by changing the the directory of the partition created	Partition created from disk space allocated S-DPS-21000 option b) is fully satisfied.
15. Enter **EMDriver -status**	Driver option to retrieve status of DprIds
16. Verify the DprId is in STANDBY state on the machine	

4.7.4.2 Test Case 2: Pre-execution Creation of a PCF and UNIX Profile Test (TS031.002)

This test verifies that the pre-execution or the preparation of a PGE execution, creates a PCF and a UNIX Profile. This test case will also verify the following items relating to the PCF and PGE Execution:

- the ability to create a PCF to provide information to the SDP Toolkit CI about the input data required to execute a PGE
- the ability to create a PCF to provide information to the SDP Toolkit CI about the output data generated from the executing PGE
- the ability to create a mapping of logical file handles to physical file handles in the PCF for the input data required to execute a PGE
- the ability to create a mapping of logical file handles to physical file handles in the PCF for the output data required to execute a PGE
- the ability to create a Status Message File to be used by the SDP Toolkit CI to collect Toolkit status and error information about the execution of a PGE
- the ability to create User Status Message Files to be used by the SDP Toolkit CI during PGE execution if requested through the data defining the characteristics of the PGE.

Test Configuration:≠

Hardware: Queuing Management Workstation (SUN Sparc20)≠

Software: Execution Manager, PDPS database interface, Sybase, SDP Toolkit

Data: Data Processing Request ID

Tools:∞ EMDriver (Driver to perform resource allocation, prepare execution of actual PGE, perform actual execution of PGE, de-allocate disk resources of a PGE, and retrieve the status of DprIds)

Test Input:

User inputs to to execute driver

-prep DprId machine

-status DprId

Test Output:

Physical PCF, UNIX Profile files, User Status Message Files and Status Message files are created in the runtime location directory

Test Success Criteria:

This test is considered successful if the files are created without errors in the location of the runtime directory and with the DprId used to run driver. Also it is successful if the PGE record is updated to the state of STARTING in the PDPS database.

Test Procedures:

Test Case ID: TS031.002	
Test Name: Pre-Execution Creation of a PCF and UNIX Profile Test	
Test Steps:	Comments:
1. Login to the Queuing Management Workstation	
2. Invoke Execution Manager test driver by typing at command line: **cd /usr/testa/IT/tools**	
3. **EMDriver -prep DprId**	Driver to perform execution preparation
4. Verify Prep-execution began and PCF and UNIX Profile files were created	Message displayed on screen
5. Open new window and connect to database by typing from the command line: **'isql -U[username] -P[password]'**; hit enter	
6. Verify a successful connection by the return of SQL command line	
7. Open PDPS database by typing from the SQL command line: **'use prong_it**;' hit enter	**prong_it** is the name of the PDPS database in the test environment
8. Type **'go'**	This should be done after every SQL command to display results on screen
9. Enter **'Select * from PGE'** at the command line to query database to retrieve PGE record from the table	Results are displayed on the screen from the PGE table

10. Verify the PGE record state was updated to STARTING in the PDPS database	
11. Return to main window	
12. **cd <runtime directory>**	
13. Verify that the PCF file exists and that inside the file is the User Message Files and Status Message files	cat directory including: Partition name/PGE Id//Runtime directory/ PCF file name S-DPS-21120, S-DPS-21130, S-DPS-21140, S-DPS-21150, S-DPS-21160, S-DPS-21170
14. Verify that a physical UNIX Profile file exists in the runtime location directory	cat directory including: Partition name/PGE Id/Runtime directory/ UNIX Profile name
15. Enter **EMDriver -status**	Driver option to retrieve status of DprIds
16. Verify the DprId is in STARTING state	

4.7.4.3 Test Case 3: PGE Execution Test (TS031.003)

This test verifies the execution of an actual PGE by invoking the PGE software at the runtime location that has been allocated.

Test Configuration:

Hardware: Queuing Management Workstation (SUN Sparc20)

Software: Execution Manager, PDPS database interface

Data: Data Processing Request ID

Tools:∞ EMDriver (Driver to perform resource allocation, prepare execution of actual PGE, perform actual execution of PGE, de-allocate disk resources of a PGE, and retrieve the status of DprIds)

Test Input:

User inputs to execute driver

-exec DprId machine

-status DprId

Test Output:

A prototype shell is created to execute the science software and a core file may be created by the science software.

Test Success Criteria:

This test is considered successful if the PGE is executed without failure and a prototype shell is created indicating the PGE is running. The PGE record is also updated to change the state to RUNNING during runtime and when the run is completed, the state is updated to STOPPING.

Test Procedures:

Test Case ID: TS031.003	
Test Name: PGE Execution Test	
Test Steps:	Comments:
1. Login to the Queuing Management Workstation	
2. Invoke Execution Manager test driver by typing at command line: **cd /usr/testa/IT/tools**	
3. **EMDriver -exec DprId**	Driver to perform execution of a PGE
4. Verify that the execution of the PGE began and that a prototype shell invoked the PGE software in the runtime location that has been allocated	Executing shell displayed
5. Enter **EMDriver -status**	
6. Verify the DprId is in RUNNING state	
7. **cd<runtime directory>**	
8. Verify that a core file was created and exists in the runtime location if it was created	S-DPS-21000 option a,b,d,f) fully satisfied.
9. Verify that the Execution of the PGE is complete by the message of the PGS shell executing is displayed on screen	
10. Enter **EMDriver -status**	Driver option to retrieve status of DprIds
11. Verify the DprId is in STOPPING state	

4.7.4.4 Test Case 4: Resource De-Allocation Test (TS031.004)

This test verifies the capability to de-allocate resources of a given DprId. The de-allocation is completed when the runtime directory, PCF and UNIX profile is removed and the records are deleted from the PGE and PCF tables.

Test Configuration:

Hardware: Queuing Management Workstation (SUN Sparc20)

Software: Execution Manager, PDPS database interface

Data: Data Processing Request ID

Tools:∞ EMDriver (Driver to perform resource allocation, prepare execution of actual PGE, perform actual execution of PGE, de-allocate disk resources of a PGE, and retrieve the status of DprIds)

Test Input:

User inputs execute driver

-dealloc DprId machine

-status DprId

Test Output:

The PCF record is deleted from the PCF table that monitors the PCF and UNIX profile. The PGE record is also deleted from the PGE table.

Test Success Criteria:

This test is considered successful if the runtime directory, runtime files, PCF and UNIX profile are removed relating to that DprId, and the records in the PGE and PCF tables are deleted from the PDPS database when the DprId is de-allocated.

Test Procedures:

Test Case ID: TS031.004	
Test Name: Resource Allocation Test	
Test Steps:	Comments:
1. Login to the PGE Execution workstation	
2. Invoke Execution Manager test driver by typing at command line: **cd /usr/testa/IT/tools**	
3. **EMDriver -status**	Driver to retrieve status of DprId
4. Verify the status of the DprIds listed on screen	
5. Open new window	
6. Invoke Execution Manager test driver by typing at command line: **cd /usr/testa/IT/tools**	
7. **EMDriver -dealloc DprId**	Driver to de-allocate resources
8. Verify that the de-allocation process began from message displayed on screen	
9. **cd<Runtime directory>**	Runtime directory created from PGE Execution
10. Confirm runtime directory and files were removed by error **"no such directory found"** displayed	
11. Open new window and connect to database by typing from the command line: **'isql -U[username] -P[password]'**; hit enter	
12. Verify a successful connection and a SQL command line	
13. Open PDPS database by typing from the SQL command line: **'use prong_it**;' hit enter	**prong_it** is the name of the PDPS database in the test environment
14. Type **'go'**	This should be done after every SQL command to display results on screen
15. Enter **'Select * from PGE'** at the command line to query database to retrieve PGE record from the table	Results are displayed on the screen from the PGE table
16. Verify the PGE record was deleted from the PGE table by the record not being displayed after queried from the PGE table	
17. Enter **'Select * from PCF'** at the command line to query database to retrieve record from the PCF table	Results are displayed on the screen from the PCF table
18. Verify the two PCF records were deleted from the PCF table by the records not displayed after the query of the PCF table	
19. Return to main window	
20. Enter **EMDriver -status**	Driver option to retrieve status of DprIds
21. Verify the status of the DprId is not displayed	It has been deleted so it will no longer have a status

4.7.5 Subscription Editor Thread (TS064)

The Subscription Editor application provides the capability to submit subscriptions to the Data Servers responsible for the storage of ingested data. Registration of a subscription at a Data Server is required for the Planning CSCI to receive notification when data arrive within the ECS.

Phase 2 functionality does not integrate with a Data Server CSCI. This thread tests the functionality associated with submitting and withdrawing subscriptions in the database.

4.7.5.1 Test Case 1: Submit a Subscription of a Valid Datatype (TS064.001)

This test verifies the steps associated with submitting a subscription to a valid datatype in the Planning database.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlDataType, Sybase

Data: Datatype id loaded into the DATA_TYPE_MASTER Sybase table.

Tools: Subscription Editor driver (sub_editor), database query script (check_dtm.sql)

Test Input:

Data type for which a subscription is to be submitted.

Test Output:

Output from the database query script listing the subscription.

Messages from the Subscription Editor driver stating the subscription verification.

Success Criteria:

This test will be considered successful when a subscription to a valid data type can be submitted.

Test Procedures:

Test Case ID: TS064.001	
Test Name: : Submit a Subscription of a Valid Datatype	
Test Steps	Comments:
1. Login to the Planning workstation.	
2. Source the Subscription Editor configuration file by typing: **/usr/testa/IT/tools/subed.cshrc**.	This file contains environment variables that must be set prior to running the software.
3. Type **cd /usr/testa/bin** to set to the directory where the Subscription Editor driver resides.	
4. Type **sub_editor** to invoke the Subscription Editor driver.	
5. Enter the data product id when prompted.	This product id must be of a valid data type in the DATA_TYPE_MASTER table.

6. Enter **Submit** to submit the subscription.	S-PLS-00870 S-PLS-00872 The driver will verify that the data type being subscribed to is in the DATA_TYPE_MASTER table.
7. To verify that the data type was subscribed to, type **cd /usr/testa/IT/tools**.	Set directory to where the check_dtm.sql script resides.
8. Then type **isql -U<username> -i check_dtm.sql** and enter the password when prompted.	The script will list all records in the DATA_TYPE_MASTER table. The records subscribed to contain a 'Y' in the SUBSCRIPTION_FLAG field.

4.7.5.2 Test Case 2: Invalid Datatype Handling Test (TS064.002)

This test verifies the steps associated with erroneous input, specifically to test how the software deals with invalid input.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlDataType, Sybase

Data: None

Tools: Subscription Editor driver (sub_editor), database query script (check_dtm.sql)

Test Input:

An invalid data type for which a subscription is to be submitted/withdrawn.

Test Output:

Messages from the Subscription Editor driver stating the rejection of the action.

Success Criteria:

This test will be considered successful when the submittal/withdrawal is rejected.

Test Procedures:

Test Case ID: TS064.002	
Test Name: Invalid Datatype Handling Test	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Source the Subscription Editor configuration file by typing **/usr/testa/IT/tools/subed.cshrc**.	This file contains environment variables that must be set prior to running the software.
3. Type **cd /usr/testa/bin** to set to the directory where the Subscription Editor driver resides.	
4. Type **sub_editor** to invoke the Subscription Editor driver.	

5. Enter the data product id when prompted.	This product id must be of an invalid data product, i.e. data that is not in the DATA_TYPE_GRANULE table of the Planning database.
6. Enter to either **Submit** or **Withdraw** the subscription.	The driver will return an error message stating the reason for rejection of the action.

4.7.5.3 Test Case 3: Withdraw a Subscription of a Valid Datatype (TS064.003)

This test verifies the steps associated with withdrawing a subscription of a valid datatype in the Planning database.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlDataType, Sybase

Data: Datatype id loaded into the DATA_TYPE_MASTER Sybase table.

Tools: Subscription Editor driver (sub_editor), database query script (check_dtm.sql)

Test Input:

A valid data type for which a subscription is to be withdrawn.

Test Output:

Messages from the Subscription Editor driver stating the acceptance of the withdrawal.

Success Criteria:

This test will be considered successful when the withdrawal of the valid data type is accepted.

Test Procedures:

Test Case ID: TS064.003	
Test Conductor: Withdraw a Subscription of a Valid Datatype	
Test Steps:	Comments:
1. Login to the Planning workstation PLNE2SUN.	
2. Source the Subscription Editor configuration file by typing: **/usr/testa/IT/tools/subed.cshrc**.	This file contains environment variables that must be set prior to running the software.
3. Type **cd /usr/testa/bin** to set to the directory where the Subscription Editor driver resides.	
4. Type **sub_editor** to invoke the Subscription Editor driver.	
5. Enter the data type id when prompted.	This id must be of an valid data type.
6. Enter the option to Withdraw the subscription.	S-PLS-00880 The driver will return a status message stating that the withdrawal was accepted.
7. To verify that the subscription was withdrawn, type **cd /usr/testa/IT/tools**.	Set directory to where the check_dtm.sql script resides.

8. Type **isql -U<username> -I check_dtm.sql** and enter the password when prompted.	The script will list all records in the DATA_TYPE_MASTER table. The records not subscribed to contain a 'N' in the SUBSCRIPTION_FLAG field.

4.7.6 Ancillary Preprocessing Thread 2/3 (TS066)

Orbit and attitude data are ancillary data items that are essential to processing the TRMM science data.

Orbit ephemeris data is acquired from both the platform ancillary data packets downlinked in the telemetry computed on-board the TRMM spacecraft and FDF (Flight Dynamics Facility). Because the on-board orbit data is not of sufficient accuracy to be used in scientific processing, the daily definitive orbit product generated by FDF will be the official source of TRMM orbit data used in the processing of TRMM-platform CERES and LIS Level 0 science data.

The TRMM platform ancillary data is downlinked along with the science data packets for use in ground processing. The platform ancillary data packet (which contains TRMM attitude data) is the primary source for attitude data and is intended to provide all the TRMM spacecraft telemetry information needed for processing TRMM-platform CERES and LIS Level 0 science data.

Attitude and FDF ephemeris data in its original form is unacceptable to services within ECS, and therefore requires preprocessing. The preprocessing of FDF ephemeris and attitude data modifies the original data format to the format expected by the toolkit. The modifications performed during the preprocessing stage do not alter or modify the FDF ephemeris and attitude data's content, but converts it to a format known to the PDPS system.

The purpose of this thread is to verify the capability of TRMM ephemeris and attitude preprocessing to accept and convert FDF orbit ephemeris data and platform ancillary attitude data using J2000 reference frame for spatial coordinates, into native and HDF formats that are acceptable to PGE processing. The SDP toolkit tools are used in preprocessing of ephemeris and attitude data. Rogue-wave is used for writing the native (binary) format file.

4.7.6.1 Test Case 1: Preprocess Valid Orbit Ephemeris Data - J2000 (TS066.001)

This test verifies the capability to produce orbit which consists of position and velocity vectors using the J2000 reference frame for spatial coordinates in both native format of host hardware (binary format) and HDF format. In addition, orbit metadata production is verified.

Test Configuration:≠

Hardware: Science Processing Workstation (SGI, SUN)≠

Software: FDF Ephemeris Pre-processor (DpPrMakeTrmmEphemeris.cxx)≠

Data: Valid FDF Orbit Ephemeris datasets (using J200 reference frame)

Tools: SDP toolkit

Custom Test Drivers (TrmmFdfEphemerisTestDriver)

Unix Diff Utility

Custom Dump Utility (DumpEphemeris.cxx)

Rogue Wave (used for writing the native format file)

Test Inputs

The inputs to this test are simulated FDF Ephemeris Datasets (for TRMM), an associated PCF (Process Control File - required by the toolkit), and baselined data output used for comparing program output against.

Test Output:

Output from this test include: TRMM orbit binary data reformatted in the native format of the host hardware, TRMM orbit data reformatted in HDF-EOS format (both using J2000 reference frame), a difference file produced from comparing the actual program output against the established baselines, orbit metadata, and an ODL format metadata file.

Success Criteria

This test is successful when input of a FDF ephemeris dataset to the FDF Ephemeris Dataset preprocessor, yields 2 verified orbit data files (using J2000 reference frame); 1) native format of host hardware and 2) HDF format. Orbit metadata is produced which consists of the following metadata items: time range, platform, orbit number range, orbit number, ascending node crossing time, descending node crossing time and descending node longitude. An ODL format orbit metadata file is produced.

Verification of the output files is proven when:

- no differences exist between baseline files and the test output files
- results from the DumpEphemeris utility show no differences..

Test Procedures:

Test Case ID: TS066.001	
Test Name: Preprocess Valid Orbit Ephemeris Data - J2000	
Test Steps:	Comments:
1. Receive TRMM orbit ephemeris ancillary data into the Processing subsystem.	data input required: · FDF Ephemeris Dataset for TRMM (aka binary Ephem format file) · Correlating PCF file input file used: TrmmFdfEphemeris.complete

2. Invoke the Trmm Ephemeris Preprocessing Test Driver by entering: >**cd /usr/testa/IT/tools** >**TrmmFdfEphemerisTestDriver.new**	TrmmFdfEphemerisTestDriver.new is the modified FDF Ephemeris Preprocessor Test Driver used to invoke the DpPrMakeTrmmEphemeris executable through a PCF (process control file). DpPrMakeTrmmEphemeris executable reformats the orbit ephemeris data input into two files with hdf format (*.hdf) and native format of the host hardware (*.nat). This executable also compares the output messages produced from this run against the comparable baseline file
3. At the program prompt, specify the PCF file to be used for processing. Please enter the name of the PCF file: **TrmmFDFEphemerisTestCase7.PCF**	Test Data input file : TrmmFdfEphemeris TestCase7.PCF is the process control file that processes the TrmmFdfEphemeris.complete input dataset. TrmmFdfEphemeris.complete is a valid orbit ephemeris file
4. Verify that the appropriate output files are produced by listing the directory: >**cd /usr/testa/IT/testdata/output/FDF** >**ll TrmmFdfEphemeris.complete.*** >**ll TrmmFdfEphemerisTestCase7.result**	There should be 5 files appearing in the directory: *.hdf *.nat *.met *.result *.odl Requirements satisfied: S-DPS-30700 (fully satisfiedl) S-DPS-30740 (partial) S-DPS-30760 (partial)
5. Compare the data output produced against the baseline output files by monitoring the program output to the screen.	No differences (other than file name) should be reported. The developer supplied test driver produces a *.result file. The test driver issues a unix diff command which reports any differences that are logged between the baseline file output messages and the output messages received from this run. (*.result file)
6. Confirm that the hdf file content and the native file content are the same.	Use the developer supplied dump utility (DumpEphemeris) that reads and compares *.nat and *.hdf files.
7. Invoke the Dump utility and direct the output to a file: >**cd /usr/testa/IT/testdata/output/FDF** >**/usr/testa/bin/DpPrDumpEphemeris -e TrmmFdfEphemeris.complete > TrmmFdfEphemeris.complete-dump**	Compares the *.hdf and *.nat file (record by record) and writes the output to the specified log file. No differences should be found.

8. Verify that the Dump Utility does not flag any inconsistencies by reviewing the log file. **>cd /usr/testa/IT/testdata/output/FDF** **>more TrmmFdfEphemeris.complete-dump**	Prints the log file contents to the screen

4.7.6.2 Test Case 2: Preprocess Invalid FDF Ephemeris Data - J2000 (TS066.002)

This test demonstrates the ability to properly provide error condition handling regard to orbit ephemeris preprocessing. An orbit ephemeris dataset that is not in the expected format and submitted to the FDF Ephemeris data preprocessor should produce corresponding error messages regarding the condition.

Test Configuration

Hardware: Science Processing Workstation (SGI, SUN)

Software: FDF Ephemeris Pre-processor (DpPrMakeTrmmEphemeris.cxx)

Data: Invalid FDF Orbit Ephemeris datasets (using J2000 reference frame)

Tools: SDP toolkit

Custom Test Drivers (TrmmFdfEphemerisTestDriver)

Unix Diff Utility

Custom Dump Utility (DumpEphemeris.cxx)

Rogue Wave (used for writing the native format file)

Test Inputs

The input to this test is a corrupted simulated FDF Ephemeris Dataset. The various forms of the corrupted datasets will include (but are not limited to) 1) an empty file, 2) a non-FDF format file, 3) a single header file, 4) a 2 header file, and 5) a file with no sentinel record. Additional inputs are an associated PCF (required by the toolkit) and baselined data output used to compare program output against.

Test Output:

Output from this test should consist of error messages indicating that the ephemeris file supplied to the FDF ephemeris dataset preprocessor is of an unidentifiable/unacceptable format.

Success Criteria

This test is successful when input of a corrupt/unidentifiable FDF ephemeris dataset to the FDF Ephemeris Dataset preprocessor, yields an error message indicating that the input file is corrupt or not in the expected format.

Test Procedures:

Test Case ID: TS066.002	
Test Name: Preprocess Invalid FDF Ephemeris Data - J2000	
Test Steps:	Comments:
1. Receive invalid TRMM orbit ancillary data into the Processing subsystem.	data input required: · a corrupt FDF Ephemeris Dataset for TRMM (aka binary Ephemeris format file) · correlating PCF file
2. Invoke the TRMM Ephemeris Preprocessing Test Driver by entering: >**cd /usr/testa/IT/tools** >**TrmmFdfEphemerisTestDriver.new**	TrmmFdfEphemerisTestDriver.new is the modified FDF Ephemeris Preprocessor Test Driver used to invoke the DpPrMakeTrmmEphemeris executable through a PCF (process control file). It also compares the output messages produced from this run against the comparable baseline output file. DpPrMakeTrmmEphemeris executable reformats the orbit ephemeris data input into two files with hdf format (*.hdf) and native format of the host hardware (*.nat) . This executable also compares the output messages produced from this run against the comparable baseline file.

3. At the program prompt, specify the PCF file that corresponds to the dataset to be processed. Please enter the name of the PCF file: **TrmmFDFEphemerisTestCase#.PCF**	<u>Test Data Suite:</u> (Various Invalid orbit Ephemeris files): Trmm FdfEphemerisTestCase1.PCF corresponds to the invalid dataset TrmmFdfEphemeris.non-existant: a dataset that is missing the FDF file. Trmm FdfEphemerisTestCase2.PCF corresponds to the invalid dataset TrmmFdfEphemeris.null: an empty file. TrmmFdfEphemerisTestCase3.PCF corresponds to the invalid dataset TrmmFdfEphemeris.non_fdf: a dataset whose header is not in the specified FDF format. Trmm FdfEphemerisTestCase4.PCF corresponds to the invalid dataset TrmmFdfEphemeris.first_header: a dataset that only has one header (partial dataset). Trmm FdfEphemerisTestCase5.PCF corresponds to the invalid dataset TrmmFdfEphemeris.both_headers: a dataset that has both headers but no data following (partial dataset). · TrmmFdfEphemerisTestCase6.PCF corresponds to the invalid dataset FdfEphemeris.no_sentinel : a dataset whose header has no sentinel record.
4. Verify that the appropriate output files are produced by listing the directory: >**cd /usr/testa/IT/testdata/output/FDF** >**ll TrmmFdfEphemeris.**<dataset name>**.*** >**ll TrmmFdfEphemerisTestCase#.result**	There should be 5 files appearing in the directory for each input file used. *.hdf *.nat *.met *.result *.odl Requirements satisfied: S-DPS-30700 (fully satisfied) S-DPS-30740 (partially satisfied) S-DPS-30760 (partial satisfied)
5. Compare the data output produced against the baseline output files by monitoring the program output to the screen	No differences (other than file name) should be reported. The developer supplied test driver produces a *.result file. The test driver issues a unix diff command which reports any differences that are logged between the baseline file output messages and the output messages received from this run. (*.result file)

6. Verify that the *.result file for each run contains an error message appropriate for the invalid input file condition. >**cd /usr/testa/IT/testdata/output/FDF** >**more TrmmFDFEphemeris TestCase#.result**	Following are examples of appropriate error messages: TestCase1.PCF : Error opening FDF Ephemeris Dataset TestCase2&3.PCF: Error reading first header record TestCase4.PCF: Error reading second header record TestCase5&6.PCF: EOF found before sentinel flag

4.7.6.3 Test Case 3: Format Verification of Reformatted FDF Orbit Ephemeris Data - J2000 (TS066.003)

This test verifies that the FDF Ephemeris data preprocessor produces an HDF orbit file and a binary orbit file (in the format of the native host hardware) acceptable to the SDP toolkit (as specified in "EOSDIS Spacecraft Ephemeris and Attitude Data Specification: Contents and Structure, A Requirements Document for Incoming Data for the SDP Toolkit). The format of the file as well as record field contents will be verified by this test.

Test Configuration

Hardware: Science Processing Workstation (SGI, SUN)

Software: None

Data: Valid reformatted HDF Orbit Ephemeris file (using J2000 reference frame)

Tools: EOSView, HDF "vshow" utility

Test Inputs

The inputs to this test are valid reformatted HDF FDF orbit ephemeris data files (in J2000) that were produced as output from the DpPrMakeTrmmEphemeris executable in Test Case 1 (TS066.001).

Test Output:

Output from this test should consist of utility messages that display file formats and field contents.

Success Criteria

This test is successful when input of a reformatted FDF ephemeris dataset to the utilities, yields a printout of the expected file format and contents as outlined in "A Requirements Document for Incoming Data for the SDP Toolkit".

Test Procedures:

Test Case ID: TS066.003	
Test Name: Format Verification of Reformatted FDF Orbit Ephemeris Data - J2000	
Test Steps:	Comments:
1. Receive valid reformatted FDF Ephemeris orbit data for format verification.	data input required: Valid HDF file Input file used: TrmmFDFEphemeris.complete
2. Invoke the HDF "vshow" utility to verify the format and the contents of the hdf format files produced. >/**tools/toolkit/hdf/sun5/HDF4.0r1p1/hdf/bin/vshow TrmmFDFEphemeris.complete.hdf** >/**tools/toolkit/hdf/sun5/HDF4.0r1p1/hdf/bin/vshow TrmmFDFEphemeris.complete.hdf +2** >**TrmmFDFEphemeris.complete.hdf +3** >**TrmmFDFEphemeris.complete.hdf +788**	A listing of the file format will be produced. Allows user to examine field declarations and contents of the header (vdata1). Allows user to examine field declarations and contents of each ephemeris record processed (vdata2) Allows the user to examine the field declarations and associated metadata for each ephemeris record (vdata3).
3. Verify that the HDF file is in the documented format . Visually compare the file format produced by "vshow" with the documented file format.	See document titled: "EOSDIS Spacecraft Ephemeris and Attitude Data Specification: Contents and Structure, A Requirements Document for Incoming Data for the SDP Toolkit, Author: Peter Noerdlinger, (Ephemeris Record Standard) Requirements satisfied: S-DPS-30700 (fully satisfied) S-DPS-30740 (partially satisfied) S-DPS-30760 (partially satisfied) S-DPS-31020 (partially satisfied)
4. Verify the correctness of the contents of each field in the record format via the EOSView Utility. >**cd /usr/testa/IT/tools/EOSView** **EOSView**	Launches the EOSView utility. An EOSView pop-up window will appear.
5. From the EOSView - Main Window, Select the **FILE>OPEN** option from the menu bar	A pop-up window will appear that allows the user to enter the desired filter and file to be viewed.

6. Set the filter to the hdf output file directory location: Enter: **/usr/testa/IT/testdata/FDF/output/*** in the Filter window of the pop-up window and click the **FILTER** button.	Sets the directory where EOSView looks for hdf files.
7. Select and highlight the **TrmmFdfEphemeris.complete.hdf** file by single clicking on the filename in the Files window and click the **OK** button.	An EOSView - TrmmEphemeris.complete.hdf window should appear with these 3 Vdatas listed: Ephemeris Header HDF Vdata Ephemeris Data HDF Vdata Ephemeris Orbit Metadata
8. View the contents of a Vdata by double clicking on a Vdata title.	A new window will appear for each Vdata you double click on. This window will indicate the field contents of the chosen Vdata.
9. Verify that the fields contain valid data by inspection.	
10. Verify that the number of records specified in the first vdata exist in the second vdata by double clicking on the second vdata. Verify that there is a record entry for the number of records indicated in the first vdata.	You should find a record entry for the number of records specified in the vdata.
11. Verify that all orbit metadata items are included in the 3rd Vdata	

4.7.6.4 Test Case 4: Preprocess All Valid ACS Control Mode Attitude Data - J2000 (TS066.004)

This test verifies the capability of the Attitude Data Preprocessor to produce attitude rates and attitude data from all ACS Control Mode Attitude Data using the J2000 reference frame in both native format of the host hardware (binary format) and HDF format. In addition, data flagging is performed and attitude quality metadata production is verified.

Test Configuration

Hardware: Science Processing Workstation (SGI, SUN)

Software: Attitude Data Preprocessor (DpPrMakeTrmmAttitude.cxx)

Data:∞ Valid TRMM L0 Ancillary Datasets in all ACS control modes (using J2000 reference frame)

Tools: SDP toolkit

Custom Test Drivers (TrmmL0AttitudeTestDriver)

Unix Diff Utility

Rogue Wave (used for writing the native format file)

Test Inputs

The inputs to this test are valid TRMM L0 Ancillary data files in all ACS control modes, an associated PCF file (required by toolkit) and baselined data output used for comparing program output against.

Test Output:

Output from this test include: TRMM L0 Attitude binary data (using J2000 reference frame for spatial coordinates) reformatted in the native format of the host and TRMM L0 Attitude data (using J2000 reference frame for spatial coordinates) reformatted in HDF format, a difference file produced from comparing the actual program output against the established baselines, and an ODL format data quality metadata file.

Success Criteria

This test is successful when input of a TRMM L0 Attitude dataset to the TRMM L0 Ancillary data preprocessor, yields 2 verified attitude data files (using J2000 reference frame for spatial coordinates); 1) native format of host hardware and 2) HDF format. An ODL format data quality metadata file is produced.

Test Procedures:

Test Case ID: TS066.004	
Test Name: Preprocess All Valid ACS Control Mode Attitude Data - J2000	
Test Steps:	Comments:
1. Receive TRMM L0 ancillary data into the Processing subsystem.	data input required: · TRMM L0 ancillary dataset · Correlating PCF file
2. Invoke the TRMM L0 Preprocessing Test Driver	TrmmL0AttitudeTestDriver.new is the modified Trmm L0 Preprocessor Test Driver used to invoke the DpPrMakeTrmmAttitude executable through a PCF (process control file). It also compares the output messages produced from this run against the comparable baseline output file. The DpPrMakeTrmmAttitude executable reformats the Trmm L0 Attitude data into hdf format (*.hdf) and native format of the host hardware (*.nat).
3. Specify the dataset to be processed.	

4. Verify that the appropriate output files are produced:	There should be 5 files appearing in the directory: *.hdf *.nat *.result *.met *.odl Requirements satisfied: S-DPS-30610 (fully satisfied) S-DPS-30740 (partially satisfied) S-DPS-30760 (partially satisfied)
5. Compare the data output with baseline output files.	No differences (other than file name) should be seen. The developer supplied test driver produces a *.result file. The test driver issues a unix diff command which reports any differences that are logged between the baseline file output messages and the *.result file messages.
6. Confirm that the hdf file data content and the native file data content are the same.	
7. Invoke the Dump utility:	Compares the *.hdf and *.nat files record by record and writes the output to the specified log file. No differences should be found . (except the filename)
8. Verify that the Dump Utility does not flag any errors by reviewing the log file	Prints the log file contents to the screen

4.7.6.5 Test Case 5: Preprocess Invalid ACS Control Mode Attitude Data - J2000 (TS066.005)

This test demonstrates the ability to properly provide error condition handling with regard to nominal ACS control mode attitude data. A L0 Attitude dataset that is not in the expected format and submitted to the L0 Attitude data preprocessor should produce corresponding error messages regarding the condition.

Test Configuration

Hardware: Science Processing Workstation (SGI, SUN)

Software: Attitude Data Preprocessor (DpPrMakeTrmmAttitude.cxx)

Data:∞ Invalid TRMM L0 Ancillary Datasets in all ACS control mode (using J2000 reference frame)

Tools: SDP toolkit

Custom Test Drivers (TrmmL0AttitudeTestDriver)

Unix Diff Utility

Rogue Wave (used for writing the native format file)

Test Inputs

The input to this test is a corrupted TRMM L0 attitude dataset. The various forms of the corrupted datasets will include (but are not limited to) 1) an empty file, 2) a non-L0 format file, 3) a file containing only a header and 4) a file that contains no L0 dataset. Additional inputs are an associated PCF file (required by toolkit) and baselined data output used for comparing program output against.

Test Output:

Output from this test should consist of error messages indicating that the L0 Attitude dataset supplied to the L0 Attitude preprocessor is of an unidentifiable/unacceptable format.

Success Criteria

This test is successful when input of a corrupt/unidentifiable TRMM L0 Attitude dataset to the L0 Attitude preprocessor, yields an error message indicating that the input file is corrupt or not in the expected format..

Test Procedures:

Test Case ID: TS066.005	
Test Name: Preprocess Invalid ACS Control Mode Attitude Data - J2000	
Test Steps:	Comments:
1. Receive TRMM Attitude ancillary data into the Processing subsystem.	data input required: · a corrupt TRMM L0 Ancillary Attitude dataset · Correlating PCF file
2. Invoke the TRMM L0 Preprocessing Test Driver	TrmmL0AttitudeTestDriver.new is the modified Trmm L0 Preprocessor Test Driver used to invoke the DpPrMakeTrmmAttitude executable through a PCF (process control file). It also compares the output messages produced from this run against the comparable baseline output file. The DpPrMakeTrmmAttitude executable reformats the Trmm L0 Attitude data into hdf format (*.hdf) and native format of the host hardware (*.nat).
3. Specify the invalid dataset to process.	
4. Verify that the appropriate output files are produced:	There should be 4 files appearing in the directory: *.hdf *.nat *.result *.met Requirements satisfied: S-DPS-30610 (fully satisfied) S-DPS-30740 (partially satisfied) S-DPS-30760 (partially satisfied)

5. Compare the data output produced against the baseline output files.	No differences (other than file name) should be reported. The developer supplied test driver produces a *.result file. The test driver issues a unix diff command which reports any differences that are logged between the baseline file output messages and the output messages received from this run. (*.result file messages)
6. Verify that the *.result file for each run contains an error message appropriate for the invalid input file condition.	

4.7.6.6 Test Case 6: Format Verification of Reformatted LO Attitude Data - J2000 (TS066.006)

This test verifies that the L0 Attitude data preprocessor produces an HDF attitude file in the formats expected by the SDP toolkit (as specified in "EOSDIS Spacecraft Ephemeris and Attitude Data Specification: Contents and Structure, A Requirements Document for Incoming Data for the SDP Toolkit,). The format of the file as well as the record field contents will be verified by this test.

Test Configuration

Hardware: Science Processing Workstation (SGI, SUN)

Software: None

Data: Valid reformatted ACS Control Mode Attitude file (using J2000 reference frame)

Tools: EOSView, HDF "vshow" utility, Mosaic Scientific Data-Brows-o-rama

Test Inputs

The inputs to this test are valid reformatted L0 Attitude data files (in J2000) that were produced as output from the DpPrMakeTrmmAttitude executable in Test Case 4 (TS066.004).

Test Output:

Output from this test should consist of utility messages that display file formatting and field contents.

Success Criteria

This test is successful when input of a reformatted L0 Attitude dataset to the utilities, yields a printout of the expected file format and contents outlined in "A Requirements Document for Incoming Data for the SDP Toolkit".

Test Procedures:

Test Case ID: TS066.006	
Test Name: Format Verification of Reformatted L0 Attitude Data - J2000	Comments:
Test Steps:	Comments:
1. Receive valid reformatted L0 Attitude data for format verification.	data input required: Valid HDF file :
2. Invoke the HDF "vshow" utility.	A listing of the file format will be produced.
3. Verify that the HDF file is in the documented format . Visually compare the file format produced by "vshow" with the documented file format.	See document titled: "EOSDIS Spacecraft Ephemeris and Attitude Data Specification: Contents and Structure, A Requirements Document for Incoming Data for the SDP Toolkit, Author: Peter Noerdlinger, (Attitude Record Format) Requirements satisfied: S-DPS-30610 (fully satisfied) S-DPS-30740 (partially satisfied) S-DPS-30760 (partially satisfied)
4. Verify that the contents of each field in the record format via the EOSView Utility.	Launch the EOSView utility.
5. From the EOSView - Main Window , Select the **FILE>OPEN** options from the menu bar	
6. Set your filter to the hdf output file directory location	
7. Select the L0 Attitude file.	An EOSView window should appear with these 2 Vdatas listed: Attitude Header Attitude Record
8. View the contents of a Vdata by double clicking on a Vdata title.	A new window will appear for each Vdata you double click on. This window will indicate the field contents in the chosen Vdata.
9. Verify that the fields contain valid data by inspection.	
10. Verify that the number of attitude records specified in the first vdata exist in the second vdata by double clicking on the second vdata and verifying that there is an entry for all the records indicated in the first vdata.	

4.7.7 Data Management 2/3 Thread (TS067)

Data Management is used to manage the flow of science data to and from science processing resources. This includes the communication mechanisms needed to interface with other subsystems. Data Management also provide additional functions to manage the retention of data on science processing resources which is used to support many PGE executions.

The Data Management 2 software is used to initialize, stage and destage data between the Processing CSCI and the Science Data Server CSCI. Phase 2 functionality also consists of verifying data persistency of the DpPrDataMap class.

Data Staging defines the transfer of data from the Science Data Server to the Processing subsystem and Data Destaging defines the transfer of data from the Processing CSCI to the Science Data Server CSCI.

Since there is no interface to the Science Data Server CSCI in this phase, the process of staging and destaging will be tested to the extent that the database is properly populated for the desired process. Valid data includes PGE scripts, algorithm executables, PGE status message files, PGE process control files, metadata, calibration data files, ancillary data products, or ECS Data Products.

These test cases will verify the software's ability to stage and destage data and to maintain references of that data within the Processing CSCI database. The first four test cases are regression tests of phase 1 functionality. The remaining tests verify the process of staging and destaging data.

4.7.7.1 Test Case 1: Create an object in the DATA_MAP table (TS067.001)

This test verifies the steps associated with creating an object in the Processing CSCI's DATA_MAP table.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20)

Software: DpPrDataMap, DpPrDataManager, Sybase

Data:∞ Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine, Data Map Filename, Data Map Filesize, Data Map Filetype

Tools:∞ Data Map test driver (Test_DataMap), Shell script to query the database (check_datamap.sql)

Test Input:

DATA_MAP object attributes: Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine, Data Map Filename, Data Map Filesize, Data Map Filetype.

Test Output:

Output from the driver and the script validating the creation of the object.

Success Criteria:

This test will be considered successful when an object is created within the DATA_MAP table of the Processing CSCI's database.

Test Procedures:

Test Case ID: TS067.001	
Test Name: Create an object in the DATA_MAP table	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Change directory to the Release A bin directory by typing **cd /usr/testa/bin**	
3. Type **source /usr/testa/IT/tools/dataman.csh** to source the DataManager environment file.	This file sets environment variables that are used during the test run.
4. At the command line, type **Test_DataMap** to start the Data Map driver.	
5. Type **I** to insert an object in the DATA_MAP table.	
6. You will be prompted to enter information for each of the following fields: UR_ID, LOCATION, NUMBER_OF_USAGE, STATUS, MACHINE, FILENAME, FILESIZE, and FILETYPE.	
7. After you have provided the above information and pressed enter, the driver will return the row that was inserted into the DATA_MAP table.	
8. Create another terminal window by depressing the right mouse button, selecting **Programs** and then selecting **Terminal**.	You must now verify that the object was created in the database.
9. Type **cd /usr/testa/IT/tools** to change directory to where the SQL script resides.	
10. Type **isql -U**<*username*> **-icheck_datamap.sql** to invoke the script. Type in your database password when prompted.	This script is used to query the PRONG database's DATA_MAP table. It will list the contents of the Processing database's DATA_MAP table.
11. Go back to the Data Map window and type **I** to create another object.	Create three more objects in the DATA_MAP table.
12. When finished type **D** to delete an object.	To test NCR ECSed01754, you must have more than 2 objects in the database. Delete an object that is not last in the DATA_MAP table. The reason being is that if the last object is deleted, the counter that updates the DATA_MAP_ID field cannot be properly tested. It can only be tested if you delete an object in the middle of the list.
13. You will be prompted to enter the 'where' field name and value.	
14. The driver will return with a status message stating that the object was deleted.	
15. Go to the database window and verify that the record was deleted.	
16. Go back to the Data Map window and select the option to create an object. Type the attributes of the object as requested and press enter.	
17. Go back to the database window and verify that the object was created.	Look closely at the DATA_MAP_ID field. It should contain a unique value for each object.

18. Exit from the database window by typing **exit**.	
19. When you have finished, type **X** to exit the Data Map driver.	

4.7.7.2 Test Case 2: Select an object in the DATA_MAP table (TS067.002)

This test verifies the steps associated with selecting an object in the Processing CSCI's DATA_MAP table.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20)

Software: DpPrDataMap, DpPrDataManager, Sybase

Data:∞ Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine, Data Map Filename, Data Map Filesize, Data Map Filetype

Tools: Data Map test driver (Test_DataMap)

Test Input:

DATA_MAP object attributes: Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine, Data Map Filename, Data Map Filesize, Data Map Filetype.

Test Output:

Output from the driver showing the object.

Success Criteria:

This test will be considered successful when an object can be selected from the DATA_MAP table of the Processing CSCI's database.

Test Procedures:

Test Case ID: TS067.002	
Test Name: Select an object in the DATA_MAP table	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Change directory to the Release A bin directory by typing **cd /usr/testa/bin**.	
3. Type **source /usr/testa/IT/tools/dataman.csh** to source the DataManager environment file.	This file sets environment variables that are used during the test run.
4. At the command line, type **Test_DataMap** to start the Data Map driver.	
5. Type **S** to select an object from the DATA_MAP table.	

6. You will be prompted to enter information for each of the following fields: UR_ID, LOCATION, NUMBER_OF_USAGE, STATUS, MACHINE, FILENAME, FILESIZE, and FILETYPE.	
7. After you have provided the above information and pressed enter, the driver will return the first object that matched the search criteria.	
8. When you have finished type **X** to exit the driver.	

4.7.7.3 Test Case 3: Update an object in the DATA_MAP table (TS067.003)

This test verifies the steps associated with updating an object in the Processing CSCI's DATA_MAP table.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20)

Software: DpPrDataMap, DpPrDataManager, Sybase

Data:∞ Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine, Data Map Filename, Data Map Filesize, Data Map Filetype

Tools:∞ Data Map test driver (Test_DataMap), Shell script to query the database (check_datamap.sql)

Test Input:

DATA_MAP object attributes: Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine, Data Map Filename, Data Map Filesize, Data Map Filetype.

Test Output:

Output from the driver and the script showing the contents of the updated object.

Success Criteria:

This test will be considered successful when an object can be updated in the DATA_MAP table of the Processing CSCI's database.

Test Procedures:

Test Case ID: TS067.003	
Test Name: Update an object in the DATA_MAP table	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Change directory to the Release A bin directory by typing **cd /usr/testa/bin**.	
3. Type **source /usr/testa/IT/tools/dataman.csh** to source the DataManager environment file.	This file sets environment variables that are used during the test run.

4. At the command line, type **Test_DataMap** to start the Data Map driver.	
5. Type **O** to update an object in the DATA_MAP table.	
6. Enter information for the DATA_MAP_PATH field.	Enter the value for the path, the filename, and the machine on which the file resides.
7. After you have provided the above information and pressed enter, the driver will return the object that was updated.	
8. Create another terminal window by depressing the right mouse button, selecting Programs and then selecting Terminal.	You must now verify that the object was updated in the database.
9. Type **cd /usr/testa/IT/tools** to change directory to where the SQL script resides.	
10. Type **isql -U**<*username*> **-icheck_datamap.sql** to invoke the script. Type in your database password when prompted.	This script is used to query the PRONG database's DATA_MAP table. It will list the contents of the Processing database's DATA_MAP table. Verify that the update was accepted in the database.
11. When you have finished type **X** to exit the driver.	

4.7.7.4 Test Case 4: Delete an object in the DATA_MAP table (TS067.004)

This test verifies the steps associated with deleting an object in the Processing CSCI's DATA_MAP table.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20)

Software: DpPrDataMap, DpPrDataManager, Sybase

Data:∞ Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine, Data Map Filename, Data Map Filesize, Data Map Filetype

Tools:∞ Data Map test driver (Test_DataMap), Shell script to query the database (check_datamap.sql)

Test Input:

DATA_MAP object attributes: Data Map ID, Data Map Location, Data Map Status, Number of Usage, Data Map Machine, Data Map Filename, Data Map Filesize, Data Map Filetype.

Test Output:

None.

Success Criteria:

This test will be considered successful when an object can be deleted from the DATA_MAP table of the Processing CSCI's database.

Test Procedures:

Test Case ID: TS067.004	
Test Name: Delete an object in the DATA_MAP table	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Change directory to the Release A bin directory by typing **cd /usr/testa/bin**.	
3. Type **source /usr/testa/IT/tools/dataman.csh** to source the DataManager environment file.	This file sets environment variables that are used during the test run.
4. At the command line, type **Test_DataMap** to start the Data Map driver.	
5. Type **D** to delete an object from the DATA_MAP table.	
6. You will be prompted to enter the 'where' field and its value.	
7. After you have provided the above information and pressed enter, the driver acknowledges that the transaction successfully completed.	Since this method of deletion is consistent with object-oriented methodology, only one object matching the query criteria will be deleted from the database.
8. Create another terminal window by depressing the right mouse button, selecting Programs and then selecting Terminal.	You must now verify that the object was deleted in the database.
9. Type **cd /usr/testa/IT/tools** to change directory to where the SQL script resides.	
10. Type **isql -U**<*username*> **-icheck_datamap.sql** to invoke the script. Type in your database password when prompted.	This script is used to query the PRONG database's DATA_MAP table. It will list the contents of the Processing database's DATA_MAP table. The query should return with a message stating that no objects were found to match the query criteria.
11. When you have finished, input **X** to exit the Data Map driver.	

4.7.7.5 Test Case 5: Initialize Data in the Database (TS067.005)

Data initialization is required to ensure proper execution of a DPR. The Data Manager application is called by Execution Manager through AutoSys when execution time for a DPR arrives. DPR information in the PDPS database is used to setup subsequent executions of a DPR. This test verifies the steps associated with initializing data in the PDPS database.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20)

Software: DpPrDataManager, Sybase, Planning database, Processing database

Data: Data Processing Request (DPR) id

Tools:∞ Data Manager test driver (DpPrDM), Shell script to query the database (check_datamap.sql, check_plangit.sql)

Test Input:

DPR id

Test Output:

Output contents of the DATA_MAP table.

Output contents of the PRODUCTION_REQUEST, DATA_PROCESSING_REQUEST, DPR_DATA_LIST_EXPLOSION, PRODUCTION_REQUEST_PARAMETERS and DATA_TYPE_GRANULE tables.

Success Criteria:

This test will be considered successful when data in the form of data granules from the Planning database are initialized in the Processing database.

Test Procedures:

Test Case ID: TS067.005	
Test Names: Initialize Data in the Database	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Type **source /usr/testa/IT/tools/dataman.csh** to source the DataManager environment file.	This file sets environment variables that are used during the test run.
3. Change directory to the Release A bin directory by typing **cd /usr/testa/bin**.	
4. At the command line, type **DpPrDM -i** <*DPR_id*> to run the driver and initialize data in the Processing database.	The DPR id must be of a valid DPR within the Planning database.
5. The driver will locate the entry for the specific DPR id in the Planning database.	The DPR and its corresponding granule information is searched for in the Planning database's DATA_PROCESSING_REQUEST and DATA_TYPE_GRANULE tables.
6. Once found, the DPR and its input and output data granule information are used to create a master record object within the DATA_MAP table.	S-DPS-21530
7. The NUMBER_OF_USAGE field for each object tells how many DPRs currently use that data granule.	By comparing this field within the DATA_MAP table to the GRANULE_TYPE field in the Planning database's DATA_TYPE_GRANULE table, one can check whether the initialization was performed properly. Additionally the DATA_MAP_PATH and DATA_MAP_MACHINE fields for the master records should have NULL values when being initialized.

8. Type **cd /usr/testa/IT/tools** to change directory to where the SQL script resides.	Verify that the record was initialized in the Processing database.
9. Type **isql -U**<*username*> **-icheck_datamap.sql** to invoke the script. Type in your database password when prompted.	This script is used to query the PRONG database's DATA_MAP table. It will list the contents of the Processing database's DATA_MAP table.
10. Create another terminal window by depressing the right mouse button, selecting Programs and then selecting Terminal.	This PLANG database window will be used to query the Planning database's DPR_DATA_LIST_EXPLOSION and DATA_TYPE_GRANULE tables.
11. Type **cd /usr/testa/IT/tools** to change directory to where the SQL script resides.	
12. Type **source /usr/testa/IT/tools/dataman.csh** to source the DataManager environment file.	
13. Type **isql -U**<*username*> **-icheck_plangit.sql** to invoke the script. Type in your database password when prompted.	You must now verify that the data granules in the Planning database correspond to the data granules initialized in the Processing database for the specified DPR.
14. Verify that the granule names listed as 'I' or 'O' are the same as the names in the output generated in Step 9 above.	Since the DPR ids are the same in the two search queries, you should pay attention to the contents of the IO_FLAG field in the listing.
15. Type **exit** to exit the PLANG database window.	
16. Type **exit** to exit the driver window.	

4.7.7.6 Test Case 6: Stage Data in the Database (TS067.006)

Data staging is necessary when data is not available on the production platform. Data Staging refers to the transfer of data from the Data Server to the local platform. Since there is no interface to the Data Server CSCI in phase 2, only functionality associated with preparing the database for staging will be tested. This test verifies the steps associated with staging data for a DPR in the Processing database.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20)

Software: DpPrDataManager, Sybase, Planning database, Processing database

Data: Data Processing Request (DPR) id

Tools:∞ Data Manager test driver (DpPrDM), Shell script to query the database (check_dm_pge.sql)

Test Input:

DPR id and Machine id

Test Output:

Output from the database query shell script with implicit references to staged data objects.

Success Criteria:

This test will be considered successful when data in the form of data granules can be staged in the Processing database.

Test Procedures:

Test Case ID: TS067.006	
Test Name: Stage Data in the Database	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Type **source /usr/testa/IT/tools/dataman.csh** to source the DataManager environment file.	This file sets environment variables that are used during the test run.
3. Change directory to the Release A bin directory by typing **cd /usr/testa/bin**	
4. At the command line, type **DpPrDM -stage** <*DPR_id*> to run the driver and stage data in the Processing database.	The DPR id must be of an initialized DPR within the Planning database.
5. The driver will create an object for each input and output data granule for that DPR, increment its DATA_MAP_USAGE field value by 1, fill in the DATA_MAP_PATH where the output data granule will reside and fill in the DATA_MAP_MACHINE that the PGE will run on.	S-DPS-20600, S-DPS-20610, S-DPS-20620, S-DPS-20630, S-DPS-20640, S-DPS-20650, S-DPS-20660, S-DPS-20670 Concurrently, the driver will also decrement the master record's DATA_MAP_USAGE field value by 1.
6. To verify that this was done, type **cd /usr/testa/IT/tools** to change directory to where the SQL script resides	
7. Type **isql -U**<*username*> **-icheck_dm_pge.sql** to invoke the script. Type in your database password when prompted.	This script is used to query the PRONG database's DATA_MAP and PGE tables. It will list the contents of the Processing database's DATA_MAP table.
8. Verify that the objects and their corresponding fields were updated.	
9. Type **exit** to exit the driver window.	

4.7.7.7 Test Case 7: Destage Data in the Database (TS067.007)

Data Destaging is necessary when data has been utilized on the local machine and disk space needs to be freed so that other PGEs may stage their data. Data Destaging refers to the transfer of data from the local platform to the Data Server when a PGE has successfully run and its output must be placed onto the Data Server. Since there is no interface to the Data Server CSCI in phase 2, only functionality associated with preparing the database for destaging will be tested. This test verifies the steps associated with destaging data for a DPR or PGE in the Processing database.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20)

Software: DpPrDataManager, Sybase, Planning database, Processing database

Data: Data Processing Request (DPR) id

Tools:∞ Data Manager test driver (DpPrDM), Shell script to query the database (check_datamap.sql)

Test Input:

DPR id

Test Output:

Output from the database query shell script.

Success Criteria:

This test will be considered successful when data in the form of data granules can be destaged in the Processing database.

Test Procedures:

Test Case ID: TS067.007	
Test Name: Destage Data in the Database	
Test Steps:	Comments:
1. Login to the Data Management workstation.	
2. Type **source /usr/testa/IT/tools/dataman.csh** to source the DataManager environment file.	This file sets environment variables that are used during the test run.
3. Change directory to the Release A bin directory by typing **cd /usr/testa/IT/bin**	
4. At the command line, type **DpPrDM -destage** <*DPR_id*> to run the driver and destage data in the Processing database.	The DPR id must be of a valid DPR within the Planning database.
5. The driver will locate the entry for the specific DPR id in the Planning database.	The DPR and its corresponding granule information is searched for in the Planning database's DATA_PROCESSING_REQUEST and DATA_TYPE_GRANULE tables.
6. Once located, the driver then searches the Processing database's DATA_MAP table for the input and output data granule entries for that DPR.	
7. When found, the driver will decrement the DATA_MAP_USAGE field value by 1 for all data granules records used by this DPR.	S-DPS-20850 S-DPS-20860 S-DPS-21540 This means that one less DPR requires the use of this data granule. When no DPRs require the granule, the NUMBER_OF_USAGE field should be 0.

8. To verify that this was done, type **cd /usr/testa/IT/tools** to change directory to where the SQL script resides	Verify that the record was initialized in the Processing database.
9. Type **isql -U**<*username*> **-icheck_datamap.sql** to invoke the script. Type in your database password when prompted.	This script is used to query the PRONG database's DATA_MAP table. It will list the contents of the Processing database's DATA_MAP table.
10. Verify that the objects and their corresponding fields have been updated.	
11. Type **exit** to exit the driver window.	

4.7.7.8 Test Case 8: Acquiring of Data from the Science Data Server for Staging Test (TS067.008)

The processing subsystem has an interface to the Science Data Server to support the staging of data. Data Management requests the Science Data Server to stage data as required to support the generation of a data product. Data processing will inform the Science Data Server where the data should be staged This test case verifies that the processing interface can receive the data from the science data server for staging.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20)

Software: Data Manager, Science Data Server, Sybase, SDPS database

Data: Data Request Command

Tools: None

Test Input:

Acquire commands

Test Output:

Success status message of the staging operations is returned.

Success Criteria:

This test will be considered successful when data is staged after making a request to the science data server. A message will be returned indicating that the staging of data was a success.

Test Procedures:

Test Case ID: TS067.008	
Test Name: Acquiring of Data from the Science Data Server for Staging Test	
Test Steps:	Comments:
1. Login to the Data Management workstation.	

2. Build a request to the Science Data Server	Request consists of a series of commands which will be the Acquire commands needed to stage all of the data required for the PGE associated with the data processing request S-DPS-20700, S-DPS-20770, S-DPS-20780, S-DPS-20800, S-DPS-20810, S-DPS-20820
3. Submit request to the science data server	A notification is received back from the science data server that the request was fulfilled successfully. S-DPS-20710 S-DPS-20720
4. Verify transfer was successful	i.e., the PGE Preparation Job can be initiated

4.7.7.9 Test Case 9: Stage Data to Local Platform Test (TS067.009)

This test case verifies the capability to transfer data from the Data Server to the local platform when data is not available on the production platform.

Test Configuration:

Hardware: Science Processing workstation (SunSparc 20)

Software:∞ Data Manager, Sybase, SDPS database, Autosys, Execution Management, Resource Management, Science Data Server

Data: Data Processing Request Id

Tools: None

Test Input:

Data Processing Request Id, Data map attributes

Test Output:

Updates to the PDPS database with the location of science processing hardware resources and status, once data has been staged successfully.

Success Criteria:

This test will be considered successful if the initiation of the persistent data and its knowledge about the location of the science processing hardware resources is retained after being modified. The data is staged and updates are made to the PDPS database tables with the correct status.

Test Procedures:

Test Case ID: TS067.009	
Test Name: Stage Data to Local Platform Test	
Test Steps:	Comments:
1. Login to the Science Processing workstation	
2. Initialize data in the processing database	The Dpr id must be valid within the planning database tables

3. Run DpPrScheduler to retrieve information from the PDPS database	
4. Verify DATA_MAP was updated and record initialized by querying the PRONG database	
5. Start-up Autosys	
6. Kick off the allocate job box to allocate resources for the output data	Iterate through the output data granule list
7. Verify resources were allocated successfully	
8. Determine if data is available on machine; and if so, query PDPS database to verify the entry was updated	
9. If data is not located on the local science processing hardware resource, allocate space for this data on this local resource	S-DPS-20680
10. Request Data Server to stage data to the local science processing resource	
11. Request Data Server to stage TAR files of binaries	S-DPS-20790
12. Query database and verify entry for this data was updated with new location	
13. Verify status is set to STAGING	

4.7.7.10 Test Case 10: Termination of Data Staging Test (TS067.010)

This test case verifies the capability to terminate the data staging process by sending a Data Request message to the Science Data Server.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20), Data Server workstation

Software:∞ DpPrDataManager, Sybase, SDPS database, Autosys, Execution Management, Resource Management, Science Data Server

Data: Data Processing Request Id

Tools: None

Test Input:

Data Processing Request Id

Test Output:

Notification that the staging has been terminated

Success Criteria:

This test will be considered successful when data is terminated after receiving the Data Request message to terminate the data stage processs.

Test Procedures:

Test Case ID: TS067.010	

Test Name: Termination of Data Staging Test	
Test Steps:	Comments:
1. Login to the Science Processing	
2. Initialize data in the processing database	The Dpr id must be valid within the planning database tables
3. Query PRONG database 'DATA_MAP' table and verify the record was initialized in the table	
4. Query planning tables and verify that the data granules correspond to the data granules initialized in the processing tables for the specified DPR	
5. Start-up Autosys	
6. Select the allocation job box in autosys to allocate resources for the selected DPR	
7. Verify resources were allocated successfully	S-DPS-20690
8. Select the stage job box in autosys to stage data for processing	S-DPS-60020
9. Send a request to the science data server to terminate data staging	S-DPS-20730
10. Select the prep job box in autosys do the pre-processing	
11. Verify that the notification was sent to the science data server and the stage was terminated	S-DPS-20740

4.7.7.11 Test Case 11: Transferring data from Data Server Failure Test (TS067.011)

This test case verify the capability of the interface between Science Data Server to transfer data to the Data Processing Subsystem for processing a generated data product and the error recovery actions.

Test Configuration:

Hardware: Science Processing workstation (SunSparc 20)

Software:∞ Data Manager, Sybase, SDPS database, Science Data Server, Resource Manager, AutoSys

Data: Data Request Id

Tools: None

Test Input:

Acquire command. Error-induced DPR to create an error during data staging

Test Output:

Failure status of the staging operations.

Success Criteria:

This test will be considered successful when an error occurs during the data staging process and the appropriate error recovery actions are taken.

Test Procedures:

Test Case ID: TS067.011	
Test Name: Transferring data from Data Server Failure Test	
Test Steps:	Comments:
1. Login to the Science Processing workstation.	
2. Initialize data to create a DPR Id and data granules for processing	
3. Explode DprId into AutoSys	A job boxes are created for processing the selected DPR
4. Select alloc job box in Autosys to allocate resources	
5. Verify resources were allocated succesfully	
6. Select stage job box in Autosys to stage data	Error should occur
7. Verify that an alarm is activated and the Processing Queue Display is updated	This is updated information with an alert message S-DPS-20460 S-DPS-21920
8. Send a Complete Notification Status message to the source of the Data Processing Request	S-DPS-20710 S-DPS-20720 S-DPS-20750
9. Verify that the Complete Notification Status message contain error information	This is a result of the failure of data staging S-DPS-20760
10. Check local resources for problems which may have caused the de-staging failure	
11. Delete the input data that has been staged thus far	
12. De-allocate the remaining resources initially allocated for this run of the PGE	

4.7.8 Resource Management 2/3 (TS068)

Resource management supports the management of science processing and storage resources. It provides mappings of logical to the physical resources to allow the Processing CSCI to manage, control and monitor science processing resources (ie. Disk space, memory, CPU, and data) being used to support science data production.

The primary function of phase 2 is to perform CPU and disk allocations and de-allocations. It also verifies that the persistent storage of the objects in the PDPS database reflect their current state and modifications to that state. This is a reproduction of the testing in Phase 1 which is being done due to the significant number of modifications which were made to the Database Interface tool.

The Processing CSCI provides resource management capabilities to control the allocation of processing tasks to processors. This capability allocates and de-allocates processing resources as required for PGE Execution Management and Data Management CSC's. Phase 3 allows functionality between the CSC's to be initiated. This capability maintains information on the

processors allocated to the Processing CSCI for use in the management of science data processing. In Phase 3, as tasks terminate and processors become available for other activities, the resource management function keeps track of the state of the processors. Phase 3 has added the functionality to control the resource locking mechanism and the error recovery actions..

4.7.8.1 Test Case 1: Insertion of Resource Management objects into Database Test (TS068.001)

This test verifies the PDPS database interface with Resource Management objects by the Resource Management's insertion of the objects into the RSC_STRING, RSC_COMPUTER, RSC_DISK_PARTITION, RSC_DISK_ALLOCATION, and RESOURCE_MASTER tables. This test also verifies the construction of objects and the retrieval of the objects from the PDPS database.

Test Configuration:≠

Hardware: Science Processing Workstation (Sun Sparc 20)≠

Software: Resource Management, PDPS database interface, Sybase

Data: ∞ Attributes of string, computer, disk partition, and disk allocation objects in a test data file

Tools:∞ RMDriver1 (Connects to the PDPS database and create objects from the input file and load them into the PDPS database)

RMDriver2 (Connects to the PDPS database, create objects from the database and write them to an output file

Test Input:

Test data file consisting of : 1) Resource type- S (String), C (Computer), P (Disk Partition), A (Disk Allocation); 2) String attributes- String name; 3) Computer attributes- Computer name, memory size, processors, total attached disk space; 4) Disk partition attributes- Partition name, partition size; 5) Disk allocation attributes- Allocation path, data processing request ID, allocation size

The input should be structured in the data file in the following format: a computer object can only belong to one string; a partition object can only belong to one computer; and a disk allocation object may belong to one or more partitions

Test Output:

Output files test1.log, which create objects from the input file, and DpPrRMdriver_2.output, which create objects from the database, are written. A row is inserted in the RSC_STRING, RSC_COMPUTER, RSC_DISK_PARTITION, RSC_DISK_ALLOCATION, and RESOURCE_MASTER tables of the PDPS database for each record created by the resource manager objects constructed

Test Success Criteria:

This test is considered successful if the records created by the objects are inserted into the Resource Manager tables and can be queried and viewed from the PDPS database.

Test Procedures:

Test Case ID: TS068.001	
Test Name: Insertion of Resource Manager Objects into Database Test	
Test Steps:	Comments:
1. Login to the Resource Manager workstation	
2. Invoke Resource Manager test driver1 by typing at command line: **cd /usr/testa/IT/tools**	
3. Enter **RMDriver1 spete spete27 prong_2 spre4sun_srvr<test2.input>test1.log**	Driver name, Database user name, password, database name, database server name<input file>output file
4. Enter **more test1.log**	
5. Verify output log file has data that was loaded into the PDPS database	
6. Invoke Resource Manager test driver2 by typing at command line:	Displays an output file of objects created and inserted in PDPS database
7. Enter **RMDriver2 spete spete27 prong_2 spre4sun_srvr**	Driver name, Database user name, password, database name, database server name.
8. Enter **cp DpPrRMdriver_2.output test2.output**	
9. Verify that an output file is displayed with the records inserted in the PDPS database	
10. Open new window and connect to database by typing from the command line: **'isql -U[username] -P[password]'**; hit enter	
11. Open PDPS database by typing from the command line: **'use prong_2'**; hit enter	
12. Enter **GO**	This should be done after every SQL command to display results on screen
13. Do a **'Select * from RESOURCE_MASTER'** at the command line to query database to retrieve objects from RSC_STRING table and verify data was loaded	Records should match what is displayed from the output file
14. Do a **'Select * from RSC_STRING'** at the command line to query database to retrieve objects from RSC_STRING table and verify data was loaded	Records should match what is displayed from the output file
15. Do a **'Select * from RSC_COMPUTER'** at the command line to query database to retrieve objects from RSC_COMPUTER table and verify that the data was loaded	Records should match what is displayed from the output file
16. Do a **'Select * from RSC_DISK_PARTITION'** at the command line to query database to retrieve objects from RSC_DISK_PARTITION table and verify that the data was loaded	Records should match what is displayed from the output file

17. Do a **'Select * from RSC_DISK_ALLOCATION'** at the command line to query database to retrieve objects from RSC_ALLOCATION table and verify that the data was loaded	Records should match what is displayed from the output file
18. Exit Driver	

4.7.8.2 Test Case 2: Allocation of Disk Space and CPU Test (TS068.002)

This test verifies that the disk space and processing resources to support a PGE Execution can be allocated. The amount of currently available disk space is obtained to determine how many processing resources are currently allocated. These allocations are performed for the specified machine and job activation.

Test Configuration:

Hardware: Science Processing Workstation (Sun Sparc 20)

Software: Resource Management, PDPS Database Interface, Sybase

Data: ∞ Test data (multiple instances of string, computer, and disk partition classes) populated in PDPS database from test case TS068.001.

Tools: RogueWave Tools.h++, DbTools.h

RMDriver3 (Connect to PDPS database, accepts resource management transactions in the format as listed under test input and reports query and transaction statements performed to an output file

Test Input:≠

Resource management transactions-≠

Q≠	For query operations which≠
	lists the current resource allocations≠
A C (machine) (# processors)≠	For processor allocations on a≠
	specific machine≠
A D (machine) (partial file path) (file size)≠	For disk allocations on a≠
	specific machine≠

Test Output:≠

A running query of initial and current resource allocations is generated before and after a given allocation operation. Transaction statements of allocations performed are issued and errors detected if any are reported to an output file

Test Success Criteria:

This test is considered successful if the disk and processing allocations are performed for a given machine. These transactions are taken from available disk space and available processors. Errors are detected when requests for disk allocation exceeds free disk space available, and when the number of processors requested exceeds the number available.

Test Procedures:

Test Case ID: TS068.002	
Test Name: Allocation of Disk Space and CPU Test	
Test Steps:	Comments:
1. Login to the Resource Manager workstation	
2. Invoke Resource Manager test driver3 by typing at command line: **cd /usr/testa/IT/tools**	
3. Enter **RMDriver3**	
4. Enter **Q** for operation to query database and report initial CPU and disk resource levels as defined from PDPS data	Initial count of CPU and disk resources are displayed
5. Enter **A**	Operation transaction to direct resource management allocation requests
6. Enter **C** for computer allocation	
7. Enter prompted data: **3**	Number of machines for processing resources
8. Enter prompted data: machine name, and CPU to be allocated:	Repeat for each set of computer processing allocation requests
9. Enter machine: **redskins**, CPU: 2	Transaction completed
10. Enter **eagles 1**	Transaction completed
11. Enter **redskins 2**	Error-unable to allocated resources, none available
12. Enter **raiders 2**	Transaction completed
13. Enter **D**	Operation transaction to direct disk allocation requests
14. Enter the number of times machines are to allocate disk resources	
15. Enter prompted data: machine, file, disk space	Repeat for each set of disk computer processing allocation requests
16. Enter **redskins boutte 200** **redskins green 500** **redskins palmer 1000**	All transactions all successful
17. Enter **Q** to query database and report current CPU and disk resource levels; verify report has correct data after executing the allocations	File placed in the RM directory in the first partition with available space and 2 processors added to redskins machine S-DPS-21000 parts d) and f) are fully satisfied. No other parts are satisfied. S-DPS-21070 fully satisfied S-DPS-21080 fully satisfied S-DPS-21090 fully satisfied
18. Enter prompted data: machine, file, disk space	Repeat for each set of disk computer processing allocation requests
19. Enter **eagles peete 2000** **eagles cunning 2000** **eagles waters 3890**	Error on machine eagles trying to allocate space for waters. Not enough space available; other transactions successful

20. Return to other window enter **Q** to query database and report current CPU and disk resource levels; verify report has correct data after executing the allocations	Files peete and cunning were allocated at the appropriate RM directory and cpu in use for eagles machine is 2
21. Enter prompted data: machine, file, disk space	
22. Enter **raiders evans 3000** **raiders hostet 550** **raiders ismail 1500**	All transactions are successful
23. Return to other window enter **Q** to query database and report current CPU and disk resource levels; verify report has correct data after executing the allocations	File placed in the RM directory in the first partition with available space and 2 processors added to machine raiders S-DPS-21000 parts d) and f) are fully satisfied. S-DPS-21070 fully satisfied S-DPS-21080 fully satisfied S-DPS-21090 fully satisfied
24. Enter **X** to Exit Driver	

4.7.8.3 Test Case 3: De-Allocation of Disk Space and CPU Test (TS068.003)

This test verifies that the disk space and processing resources to support a particular PGE can be≠ de-allocated at the conclusion of processing. The de-allocation process frees up processing and≠ disk resources for other requests.≠

Test Configuration:≠

Hardware: Science Processing Workstation (Sun Sparc 20)≠

Software: Resource Management, Sybase, PDPS Database Interface≠

Data: ∞ Test data (multiple instances of string, computer, and disk partition classes) populated in PDPS database from test case 1;

Tools: RogueWave Tools.h++, DbTools.h

RMDriver3 (Connect to PDPS database, accepts resource management transactions in the form as listed under test input and reports query and transaction statements performed in an output file

Test Input:≠

Resource management transactions-≠

Q≠	For query operations which lists the≠ current resource allocations≠
D C (machine) (# processors)≠	For processor de-allocations on a≠ specific machine≠
D D (machine) (full file path) ≠	For disk de-allocations on a≠ specific machine≠

Test Output:

A running query of initial and current resource allocations is generated before and after a given de-allocation operation. Transaction statements of de-allocations performed are issued and errors detected, if any, are reported.

Test Success Criteria:

This test is considered successful if the disk and processing de-allocations are performed for a given machine and disk space and processors are freed up as needed for processing. Errors are detected when files can not be found, when unable to de-allocate processors, or when attempting to de-allocate processors that have not been allocated.

Test Procedures:

Test Case ID: TS068.003	
Test Name: De-allocation of Disk Space and CPU Test	
Test Steps:	Comments:
1. Login to the Resource Manager workstation	
2. Invoke Resource Manager test driver3 by typing at command line: **cd /usr/testa/IT/tools**	
3. Enter **RMDriver3**	
4. Enter **Q** for operation to query database an d report initial CPU and disk resource levels as defined from PDPS data	Current count of CPU and disk resources are displayed
5. Enter **D**	Operation transaction to direct resource management de-allocation requests
6. Enter **C** for computer de-allocation	Repeat for each set of computer de-allocation requests
7. Enter prompted data: **3**	Number of machines for processing resources
8. Enter prompted data: machine name, and CPU to be de-allocated	Repeat for each set of computer processing allocation requests
9. Enter machine: **redskins,** CPU: **2**	Transaction completed
10. Enter **eagles 1**	Transaction completed
11. Enter **redskins 2**	Error indicating there are no processors to de-allocate
12. Enter **raiders 2**	Transaction completed
13. Enter **D**	Operation transaction to direct resource management de-allocation requests
14. Enter **D** for disk de-allocation and the number of machines	Repeat for each set of disk de-allocation requests
15. Enter prompted data: **REDSKINS /usr/testa/IT/PDPS/data1/RM /BOUTTE** **REDSKINS /usr/testa/IT/PDPS/data1/RM /GREEN** **REDSKINS /usr/testa/IT/PDPS/data1/RM /PALMER**	All transactions should work without errors

16. Return to other window enter **Q** to query database and report current CPU and disk resource levels; verify report has correct data after executing the de-allocations	Partitions removed from directory
17. Enter **D** for disk de-allocation and the number of machines	Repeat for each set of disk de-allocation requests
18. Enter prompted data: **EAGLES /usr/testa/IT/PDPS/data4/RM /PEETE** **EAGLES /usr/testa/IT/PDPS/data4RM /CUNNING** **EAGLES /usr/testa/IT/PDPS/data/RM /WATERS**	Error indicating file could not be found to de-allocate for file waters
19. Return to other window enter **Q** to query database and report current CPU and disk resource levels; verify report has correct data after executing the de-allocations	
20. Enter **D** for disk de-allocation and the number of machines	Repeat for each set of disk de-allocation requests
21. Enter prompted data: **RAIDERS /usr/testa/IT/PDPS/data7/RM /EVANS** **RAIDERS /usr/testa/IT/PDPS/data8/RM /HOSTET** **RAIDERS /usr/testa/IT/PDPS/data7/RM /ISMAIL**	All transactions should work without errors
22. Return to other window enter **Q** to query database and report current CPU and disk resource levels; verify report has correct data after executing the de-allocations	Partitions removed from directory
23. Enter **X** to exit driver	

4.7.8.4 Test Case 4 : Resource Management Locking Test (TS068.004)

This test verifies that multiple instantiations of Resource Management can perform properly when under the control of the resource locking mechanism.

Test Configuration:

Hardware: Science Processing Workstation (Sun Sparc 20)

Software: Resource Management, Sybase, PDPS Database Interface

Data: ∞ Multiple instances of string, computer, and disk partition attributes populated in the PDPS database

Tools:∞ RMDriver1 (Connects to the PDPS database and create objects from the input file and load them into the PDPS database)

RMDriver3 (Connect to PDPS database, accepts resource management transactions in the format listed under test input and reports query and transaction statements performed in an output file)

Test Input:∞ Test data file consisting of : 1) Resource type- S (String), C (Computer), P (Disk Partition), A (Disk Allocation); 2) String attributes- String name; 3) Computer attributes- Computer name, memory size, processors, total attached disk space; 4) Disk partition attributes- Partition name, partition size; 5) Disk allocation attributes- Allocation path, data processing request ID, allocation size

RMDriver3 transactions

Test Output:

A row is inserted in the RSC_STRING, RSC_COMPUTER, RSC_DISK_PARTITION, RSC_DISK_ALLOCATION, and RESOURCE_MASTER tables of the PDPS database for each record created by the resource manager objects constructed

Test Success Criteria:

This test is considered successful if multiple instantiations of resource manager performs properly when under the control of the resource locking mechanism.

Test Procedures:

Test Case ID: TS068.004	
Test Name: Resource Management Locking Test	
Test Steps:	Comments:
1. Login to the Resource Manager workstation	
2. Invoke Resource Manager test driver3 by typing at command line: **cd /usr/testa/IT/tools**	
3. Enter **RMDriver1 spete spete27 prong_2 spre4sun_srvr<test4.input>test4.log**	Driver name, Database user name, password, database name, database server name<input file>output file
4. Enter **more test4.log**	
5. Verify output log file has data that was loaded into the PDPS database	
6. Enter **RMDriver3**	
7. Enter **Q** for operation to query database and report initial CPU and disk resource levels as defined from PDPS data	Current count of CPU and disk resources are displayed
8. Activate several instances of allocations	
9. Enter **A**	Operation transaction to direct resource management allocation requests
10. Enter **C** for computer allocation	
11. Enter prompted data: **3**	Number of machines for processing resources
12. Enter prompted data: machine name, and CPU to be allocated:	Repeat for each set of computer processing allocation requests
13. Enter machine: **redskins**, CPU: **2000**	Request allocation for a large number of CPUs
14. Enter **eagles 1000**	Transaction completed
15. Enter **ravens 2000**	Error-unable to allocated resources, none available
16. Enter **raiders 2000**	Transaction completed
17. Verify that only 1 instance has received a lock	
18. Wait 1 minute before de-allocating CPUs	

19. Have one machine wait for a long time before releasing the CPUs	
20. Verify that some machines timed-out after the prescribed time established	

4.7.8.5 Test Case 5 : Failure of Processing Resource Test (TS068.005)

This test verifies that the error recovery action is properly activated if the resource is unavailable or fails during the execution of a PGE. If a resource fails during execution of a PGE and the Data Processing Request information is transferable, the Job Scheduler will attempt to re-initiate the PGE using other resources.

Test Configuration:

Hardware: Science Processing Workstation (Sun Sparc 20)

Software: Execution Manager, Resource Management, Sybase, PDPS Database Interface, Autosys

Data: Data Processing Request Id

Tools: None

Test Input:

User inputs to generate a resource failure-induced error.

Test Output:

A message indicating that the PGE has failed to allocate a resource, is received and an

attempt is made to re-initiate the PGE if the resource information is transferable

Test Success Criteria:

This test is considered successful if the error recovery action of re-initiating a PGE after it has been terminated is properly done.

Test Procedures:

Test Case ID: TS068.005	
Test Name: Failure of Processing Resource Test	
Test Steps:	Comments:
1. Login to the Science Processing Workstation	
2. Initialize data in the processing database	The Dpr id must be valid within the planning database tables
3. Set-up a resource-induced Data processing request to create an error during execution of the PGE	
4. Query PRONG database 'DATA_MAP' table and verify the record was initialized in the table	

5. Query planning tables and verify that the data granules correspond to the data granules initialized in the processing tables for the specified DPR	
6. Start-up Autosys	
7. Select the allocation job box in autosys to allocate resources for the selected DPR	
8. Verify resources were allocated successfully	
9. Select the stage job box in autosys to stage data for processing	
10. Verify data was staged successfully	
11. Select the prep job box in autosys do the pre-processing	
12. Verify prep was successful	
13. Select the exec job box in autosys to start the execution	The execution is terminated and an error message is returned -failed due to resource S-DPS-20480
14. Verify that the appropriate recovery job is performed: re-initiating of PGE	This is done if the resource information is transferable S-DPS-21560
15. Select the destage job box in autosys	
16. Verify destage was successful	
17. Select dell to deallocate resources that were used	

4.7.8.6 Test Case 6: Canceled DPR De-allocation of Resources Test (TS068.006)

This test case verifies that the memory, disk storage, and CPU resources that were allocated to the executing PGE, are de-allocated if the associated Data Processing Request is canceled.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20), Data Server workstation

Software: Data Manager, Sybase, SDPS database, Execution Management, Resource Management, AutoSys

Data: Data Processing Request Id

Tools: None

Test Input:

Data Processing Request Id

Test Output:

Successful de-staging from Autosys; data transferred to the science data server

Success Criteria:

This test will be considered successful if all the pre jobs submitted by the AutoSys jobbox are successful and the data de-staging process is initiated.

Test Procedures:

Test Case ID: TS068.006	
Test Name: Canceled DPR De-allocation of Resources Test	
Test Steps:	Comments:
1. Login to the Science Processing Workstation	
2. Initialize data in the processing database	The Dpr id must be valid within the planning database tables
3. Query PRONG database 'DATA_MAP' table and verify the record was initialized in the table	
4. Query planning tables and verify that the data granules correspond to the data granules initialized in the processing tables for the specified DPR	
5. Start-up Autosys	
6. Select the allocation job box in autosys to allocate resources for the selected DPR	
7. Verify resources were allocated successfully	
8. Select the stage job box in autosys to stage data for processing	
9. Verify data was staged successfully	
10. Select the prep job box in autosys do the pre-processing	
11. Verify prep was successful	
12. Select the exec job box in autosys to start the execution	
13. Verify that the execution was successful	
14. Cancel Data Processing Request	
15. Verify the CPU and memory of the canceled DPR has been de-allocated	S-DPS-22490 S-DPS-22510
16. Verify the disk storage allocated for the canceled DPR has been de-allocated	S-DPS-22500

4.7.9 Database Interface (TS069)

The Database Interface is a tool that is used to interface classes of the Planning and Data Processing subsystem with the database. The classes provide methods for application programs to interface with the database. The database interface allows the SQL functions such as update, select, insert and delete of objects to the database. Simple and complex logical (i.e. and, or) functions with multiple clauses can also be invoked to the interface with the database. Database rollback and commit functions are invoked through the database interface classes. A rollback stops the actual SQL function before it is completed and a commit confirms to complete the SQL function.

Users can share the same connection with multiple database interface objects to minimize the number of connections to database.

Operations in this class are only exercised by application programs. For application testing, temporary Pge and Pcf classes were created to construct objects. Also, a set of temporary test tables will be created to test the database interface classes. The reason being is that the test organization does not want to inadvertently remove test data from any table in the database during the combined testing process. For integration level testing, the classes will be tested by using other CSCIs (Job Management, Data Management, Resource Management, and Execution Management) at the build level.

4.7.9.1 Test Case 1: Database Interface Insertion of Objects into Table Test (TS069.001)

This test verifies the insert-related operations: begin, rollback, and commit of the database interface classes. Objects of the PGE, PCF and Executable classes will be inserted into the PGE and PCF tables. This test also verifies error handling of insertions to the database such as variable type and size and referential integrity.

Test Configuration:

Hardware: Science Processing Workstation (Sun Sparc 20)

Software: Sybase, PDPS database interface, Temporary object classes (DpPrDbPcf, DpPrDbPge)

Data: Records of data to load into PDPS Database tables

Tools: DbInsertDriver (Connects to the database and invokes the insert operation)

Test Input:

DbInsertDriver action codes	Description
INSERT_PGE	Insert Pge object into PGE table
INSERT_PCF	Insert Pcf object into PCF table
PGE_BEGIN_TRAN	Perform initiation of SQL transaction on Pge object
PCF_BEGIN_TRAN	Perform initiation of SQL transaction on Pcf object
PGE_ROLL_TRAN	Perform rollback transaction on Pge object
PCF_ROLL_TRAN	Perform rollback transaction on Pcf object
PGE_COMMIT_TRAN	Perform DB commit on Pge object
PCF_COMMIT_TRAN	Perform DB commit on Pcf object

Variables for driver invovation such as table names, columns, and data to be inserted into the tables.

Test Output:

Rows are inserted in the PGE and PCF tables with the data from the input file. Messages identifying the beginning of a transaction, database rollback or commit are issued

Test Success Criteria:

This test will be considered successful if the objects are inserted into the tables without any errors when a database commit is performed and the correct errors occur when sql rules are broken.

Test Procedures:

Test Case ID: TS069.001	
Test Name: Database Interface Insertion of Objects into Table Test	
Test Steps:	Comments:
Login to the Processing workstation	
Invoke Database interface insert test driver by typing at command line: **cd /usr/testa/IT/tools**	Driver to insert into database table.
Enter **DbInsertDriver** > **(INPUT FILE)**	INPUT.PGE (Input file that contains action codes and data to load in the PGE table and invalid data that would cause an error to occur because of invalid data type.
Open a new window and connect to database by typing from the command line: **'isql -U[username] -P[password]'**; hit enter	
Open PDPS database by typing from the command line: **'use prong_it'**; hit enter	
Enter **GO**	This should be done after every SQL command to display results on screen.
Enter **'Select * from PGE'** at the command line to query database and retrieve objects from PGE table.	Data from PGE table displayed on screen
Verify that an object was inserted in PGE table after the begin and commit transactions.	Same record that is in the input file
Verify that an object was not inserted because of a invalid data type.	Row of data contains a character; conversion required error
Verify that the same DPR_ID cannot be loaded in the PGE table	DPR_ID is the primary key field and must contain a unique value.
Invoke insert driver again to load PCF table Enter: **DbInsertDriver** > **(INPUT FILE)**	INPUT.PCF (Input file that contains action codes and data to load in the PCF table.)
Invoke insert driver again to load EXEC table Enter: **DbInsertDriver** > **(INPUT FILE)**	INPUT.EXEC (Input file that contains action codes and data to load in the EXEC table.)
Return to Database window.	
Enter **'Select * from PCF'** at the command line to query the database and retrieve objects from PCF table.	Data from PCF table will be displayed on screen.
Verify record was loaded in the PCF table	
Enter **'Select * from EXECUTABLE'** at the command line to query the database and retrieve objects from EXECUTABLE table.	Data from EXECUTABLE table will be displayed on screen.
Verify record was loaded in the EXECUTABLE table	

Invoke insert driver again to load EXEC table Enter: **DbInsertDriver** > **(INPUT FILE)**	INPUT.PCF_ERR (Input file that contains action codes and data to load in the PCF table will cause an error.)
Verify that the object was not inserted because a DPR_ID attempted to be loaded in the PCF table was not found in the PGE table.	RI test: the DPR_ID must be in the PGE table before it can be loaded into the PCF_TABLE.
Verify that a value must be inserted in the PGE_ID column.	Null test: column cannot be left blank. PGE_ID is NOT NULL.

4.7.9.2 Test Case 2: Database Interface Select and Read Test (TS069.002)

This test verifies the capability to read records from the database by generating different operations used to select the records from the tables. Selects can be done based on equality codes and single, multiple and complex where clauses.

Test Configuration:

Hardware: Science Processing Workstation (Sun Sparc 20)

Software: Sybase, PDPS database interface, Temporary object classes (DpPrDbPcf, DpPrDbPge)

Data: PGE and PCF tables and data loaded

Tools: DbSelect(Connects to the database and invokes the select and read operations)

Test Input:

DbSelectReadDriver action codes	Description
SELECT	Read records from a table GET_NUM_OF_ROWS Retrieve number of rows in table
SELECT_WHERE	Retrieve row based on where clause
EXECUTE_SQL	Perform SQL command

Equality codes

0: Equal, 1: Not Equal, 2: Greater Than, 3: Greater Than or Equal, 4: Less Than, 5: Less Than or Equal

Input file of driver action codes, table names, column names, where clause operations, and SQL commands.

Test Output:

Records read and selected based on the syntax of operations used.

Test Success Criteria:

This test will be considered successful if the correct results are read, selected and displayed from the queried tables.

Test Procedures:

Test Case ID: TS069.002	
Test: Database Interface Select and Read Test	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Invoke Database interface select and read test driver by typing at command line: **cd usr/testa/IT/tools**	Driver to insert data into database table.
3. Enter **DbSelect** > (**INPUT FILE)**	input.count (Input file that contain action code and table name; counts the number of rows in table
4. Open new window and connect to the database by typing from the command line: **'isql -U[username] -P[password]'**; hit enter	
5. Open PDPS database by typing from the command line: **'use prong_2'**; hit enter	
6. Enter **GO**	This should be done after every SQL command to display results on screen.
7. Enter **'Select * from PGE'** at the command line to query database and retrieve objects from PGE table.	Data from PGE table displayed on screen
8. Verify that the number of rows queried are the same number of rows displayed from the output of the driver.	
9. Invoke the select and read driver again to select using a where clause Enter: **DbSelect** > **(INPUT FILE)**	INPUT.SIMPLE (Input file that contains action codes, table names, and where clauses on columns to be selected.)
10. Verify output of selects and read data from table	
11. Return to database window.	
12. Enter SQL queries performing the same selections as the driver	
13. Verify that the rows displayed from the driver are the same rows retrieved from the SQL query.	
14. Invoke the select and read driver again to select using where clause Enter: **DbReadDriver** > **(INPUT FILE)**	INPUT.COMPLEX (Input file that contains action codes, table names, and where clauses to perform complex and multiple selections from the database.)
15. Return to database window	
16. Enter SQL queries performing the same selections from the driver.	
17. Verify that the rows displayed from the driver are the same rows retrieved from the SQL query.	

4.7.9.3 Test Case 3: Database Interface Update Table Test (TS069.003)

This test verifies the capability to update records in the database tables using single, multiple and complex where clauses. It also verifies the capability to perform updates with single and multiple assignment operations.

Test Configuration:

Hardware: Science Processing Workstation

Software: Sybase, PDPS database interface, Temporary object classes (DpPrDbPcf, DpPrDbPge)

Data: PGE and PCF tables and pre-loaded data

Tools: DbUpdateDriver (Connects to the database and performs updates.)

Test Input:

DbUpdateDriver action codes	Description
UPDATE_COLUMNS	Update columns with simple where clause
UPDATE_COLUMNS_WHERE	Update columns with complex where clause

Equality codes

0: Equal, 1: Not Equal, 2: Greater Than, 3: Greater Than or Equal, 4: Less Than, 5: Less Than or Equal

Input file of driver action codes, table names, column names, and where clause logical operations

Test Output:

Updated rows of records in the database tables queried by the update driver

Test Success Criteria:

This test will be considered successful when updates are made to the records in the database tables as a result of the logical operations performed.

Test Procedures:

Test Case ID: TS069.003	
Test: Database Interface Update Table Test	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Invoke Database interface select and read test driver by typing at command line: **cd usr/testa/IT/tools**	Driver to update records in the database tables.
3. Enter **DbUpdateDriver** > (**INPUT FILE)**	INPUT.UPDATE (Input file that contains action codes and updates to be made on records in the database table.)
4. Open new window and connect to database by typing from the command line: **'isql -U[username] -P[password]'**; hit enter	
5. Open PDPS database by typing from the command line: **'use prong_it'**; hit enter	
6. Enter **GO**	This should be done after every SQL command to display results on screen.
7. Enter **'Select * from PGE'** at the command line to query the database and retrieve objects from PGE table.	Data from PGE table displayed on screen.

8. Verify that the correct updates were made to the table.	
9. Verify that the table was updated with new values assigned in the input file.	

4.7.9.4 Test Case 4: Database Interface Delete Test (TS069.004)

This test verifies the capability to delete records from the database tables using operations invoked with single, multiple and complex where clauses.

Test Configuration:

Hardware: Science Processing Workstation

Software: Sybase, PDPS database interface, Temporary object classes (DpPrDbPcf, DpPrDbPge)

Data: PGE and PCF tables and data loaded

Tools: DbDeleteDriver (Connects to the database and invokes the delete function.)

Test Input:

DbUpdateDriver action codes	Description
DELETE_ROWS	Delete rows from a given table using a simple where clause
DELETE_ROWS_WHERE	Delete rows from given table with complex where clauses

Equality codes

0: Equal, 1: Not Equal, 2: Greater Than, 3: Greater Than or Equal, 4: Less Than, 5: Less Than or Equal

Input file of driver action codes, table names, column names, column values, and where clause logical operations

Test Output:

Deletion of records in the database tables based on the operations and the where clauses in the input file

Test Success Criteria:

The test will be considered successful if the correct deletions are made from the PCF table based on the operations performed.

Test Procedures:

Test Case ID: TS069.004	
Test Name: Database Interface Delete Test	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Open a new window and connect to the database by typing from the command line: **'isql -U[username] -P[password]'**; hit enter	
3. Open PDPS database by typing from the command line: **'use prong_it'**; hit enter	
4. Enter **GO**	This should be done after every SQL command to display results on screen.
5. Enter **'Select * from PGE'** at the command line to query database and retrieve objects from PGE table.	Data from PGE table displayed on screen
6. Confirm the row to be deleted from the PGE table based on the simple where clause in the input file.	
7. Confirm the row to be deleted from the PGE table based on the complex where clause in the input file.	
8. Return to the database window.	
9. Invoke Database interface delete test driver by typing at command line: **cd /usr/testa/IT/tools**	Driver to delete rows from the database tables.
10. Enter **DbDelete** > (**INPUT FILE)**	INPUT.DELETE (Input file that contains action codes and deletions to be made on records in the table based on the operations and where clauses.)
11. Enter **'Select * from PGE'** at the command line to query database and retrieve objects from PGE table.	Data from PGE table displayed on screen.
12. Verify that the row has been deleted from the given table using the simple where clause.	
13. Verify the row has been deleted from the given table using the complex where clause.	

4.7.10 Job Management/COTS 2/3 Thread (TS070)

This thread tests the ability of the COTS Job Scheduler AutoSys to schedule and run jobs in the Processing subsystem. Some of the test cases conducted are regression level tests from phase 1 functionality. Integration tests with the Planning subsystem are conducted at the build level.

Test case TS070.005 tests phase 3 functionality which includes:

- the ability to terminate processes
- the ability to restart terminated processes without the need for regenerating input data
- the ability to modify DPR jobs

4.7.10.1 Test Case 1: DPR Job Creation (TS070.001)

This test verifies the steps associated with creating a Data Processing Request job box.

Test Configuration:

Hardware: Processing workstation (Sun Sparc 20)

Software: Processing subsystem, AutoSys 3.2, AutoSys database, Sybase

Data: DPR attributes

Tools: Scheduler test driver

Test Input:

Input to this test include a DPR job box.

Test Output:

Outputs from this test include one job box containing seven jobs corresponding to a DPR and a display of a job box and its corresponding jobs in the AutoSys database.

Success Criteria:

This test will be considered successful when a DPR job box and its associated jobs can be created by AutoSys.

Test Procedures:

Test Case ID: TS070.001	
Test Name: DPR Job Creation	
Test Steps:	Comments:
1. Login to the Job Management workstation.	
2. With the mouse click the up arrow on the desktop window and select Terminal or click the left mouse button and select Programs and then Terminal to bring up a terminal window.	
3. At the prompt type **source /vendor/autotree2/autouser/autosys.csh.spre4 sun** to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. At the prompt type **cd /usr/testa/bin** to set directory to where the binaries reside.	This directory contains the Release A test driver.
5. At the command line, type **autocons &** to start the AutoSys Ops Console.	This is helpful to see what is happening as processing of the driver proceeds.
6. Click on the highlighted yellow Freeze Frame button to unselect it.	
7. At the command line in the terminal window, type **test_DpPrScheduler** to start the Job Management driver.	
8. Enter option 1 to Create a DPR job.	

9. Enter the required DPR parameters: DPR id, PGE id, DPR Priority.	S-DPS-20400 S-DPS-20490
10. When the DPR is created, it is expanded into six jobs within AutoSys.	Watch the operator console window to view the jobs being created.
11. To view the priority information associated with each job, select the job in the AutoSys Activity Console.	
12. Select the Job Description button.	The AutoSys Job Description window will appear.
13. Select the Adv Features button.	The AutoSys Advanced Features window will appear.
14. The priority information previously entered can be viewed here.	S-DPS-20500 The AutoSys Ops Console does not show the job boxes queued according to priority. This is more readily verified when the job boxes are activated.

4.7.10.2 Test Case 2: DPR Job Modification (TS070.002)

This test verifies the steps associated with modifying a Data Processing Request job box's attributes.

Test Configuration:

Hardware: Processing workstation (Sun Sparc 20)

Software: Processing subsystem, AutoSys, AutoSys database, Sybase

Data: DPR Start Time, DPR ID, PGE ID, DPR Priority

Tools: Scheduler test driver

Test Input:

Input to this test includes new DPR job box attributes.

Test Output:

None.

Success Criteria:

This test will be considered successful when a DPR job box's attributes can be modified within AutoSys.

Test Procedures:

Test Case ID: TS070.002	
Test Name: DPR Job Modification	
Test Steps:	Comments:
1. Login to the Job Management workstation.	

2. With the mouse click the up arrow on the desktop window and select Terminal or click the left mouse button and select Programs and then Terminal to bring up a terminal window.	
3. At the prompt type **source /vendor/autotree2/autouser/autosys.csh.spre4 sun** to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. At the prompt type **cd /usr/testa/bin** to set directory to the Release A test directory.	This directory contains the Release A test driver.
5. At the command line, type **autocons &** to start the AutoSys Ops Console.	This is helpful to see what is happening as processing of the driver proceeds.
6. Click on the highlighted yellow Freeze Frame button to unselect it.	
7. At the command line in the terminal window, type **test_DpPrScheduler** to start the Job Management driver.	
8. Enter option 3 to Modify a DPR job. This action takes the user to another menu where the DPR Priority, DPR Job Load or the DPR Time Constraints can be modified.	S-DPS-22410 The DPR must exist within the AutoSys database. Any one or a combination of these attributes can be modified.
9. Enter values for the DPR parameters to modify.	S-DPS-20400 Able to modify DPR start time, priority or load factor.
10. Verify that the parameters have been modified by selecting the DPR in the AutoSys Activity Console.	
11. Select the Job Description button.	The AutoSys Job Description window shall appear.
12. Visually inspect the fields within the window to see that the modified values for the parameters were saved.	

4.7.10.3 Test Case 3: DPR Job Cancellation (TS070.003)

This test verifies the steps associated with canceling a Data Processing Request job box.

Test Configuration:

Hardware: Processing workstation (Sun Sparc 20)

Software: Processing subsystem, AutoSys, AutoSys database, Sybase

Data: DPR attributes

Tools: Scheduler test driver

Test Input:

Input to this test includes the DPR id.

Test Output:

Output from this test includes a notification message specifying the successful cancellation of the DPR.

Success Criteria:

This test will be considered successful when a DPR job box has been canceled from within AutoSys and a Complete Notification Status message is sent to the driver.

Test Procedures:

Test Case ID: TS070.003	
Test Name: DPR Job Cancellation	
Test Steps:	Comments:
1. Login to the Job Management workstation.	
2. With the mouse click the up arrow on the desktop window and select Terminal or click the left mouse button and select Programs and then Terminal to bring up a terminal window.	
3. At the prompt type **source /vendor/autotree2/autouser/autosys.csh.spre4 sun** to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. At the prompt type **cd /usr/testa/bin** to set directory to the Release A test directory.	This directory contains the Release A test driver.
5. At the command line, type **autocons &** to start the AutoSys Ops Console.	This is helpful to see what is happening as processing of the driver proceeds.
6. Click on the highlighted yellow Freeze Frame button to unselect it.	
7. At the command line in the terminal window, type **test_DpPrScheduler** to start the Job Management driver.	
8. Select option 4 to Cancel a DPR job.	S-DPS-20330 S-DPS-22400
9. Enter the id of the DPR to be canceled and verify that the DPR was canceled within AutoSys by visually inspecting the Job Activity console. The DPR should have been removed from the console.	If an error is received stating that the selected job was not found within the database that is nominal. AutoSys loops through to select and output the contents of the database. When it doesn't find a job that was in the last search loop, it issues this message.
10. The driver will receive a Complete Notification Status message indicating successful cancellation of the DPR.	S-DPS-22540 The return status should be 0.

4.7.10.4 Test Case 4: DPR Report Generation (TS070.004)

This test verifies the steps associated with generating a Data Processing Request report from the AutoSys database.

Test Configuration:

Hardware: Processing workstation (Sun Sparc 20)

Software: Processing subsystem, AutoSys, AutoSys database, Sybase

Data: DPR attributes

Tools: Scheduler test driver

Test Input:

Input to this test includes the DPR id.

Test Output:

Output to this test includes a DPR report.

Success Criteria:

This test will be considered successful when a report is generated with the following contents: job name, last start time, last end time, job status, and job priority. Also, the second part of the report will consist of the machine names upon which the job ran, their corresponding maximum load, their current load, and load factor.

Test Procedures:

Test Case ID: TS070.004	
Test Name: DPR Report Generation	
Test Steps:	Comments:
1. Login to the Job Management workstation.	
2. With the mouse click the up arrow on the desktop window and select Terminal or click the left mouse button and select Programs and then Terminal to bring up a terminal window.	
3. At the prompt type **source /vendor/autotree2/autouser/autosys.csh.spre4 sun** to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. At the prompt type **cd /usr/testa/bin** to set directory to the Release A test directory.	This directory contains the Release A test driver.
5. From the command line, type **autorep -J** <*jobname*> to view the contents of the AutoSys database.	An output file can be generated by piping the results of the command to a file with the command **autorep -J ALL | more >** <*output filename*>

4.7.10.5 Test Case 5: AutoSys Job Manipulation Test (TS070.005)

This test verifies the steps associated with terminating, initiating, and canceling DPR jobs.

Test Configuration:

Hardware: Processing workstation (Sun Sparc 20)

Software: Processing subsystem, AutoSys, AutoSys database, Sybase

Data: DPR attributes

Tools: COTS Manager test driver (DpPrCotsManager), Scheduler test driver (DpPrScheduler)

Test Input:

Input to this test case are DPR id, DPR Priority, DPR start time, and DPR stop time.

Test Output:

Output items from this test case are the termination of the DPR job, the initiation of the job, and the cancellation of the DPR job box.

Success Criteria:

This test will be considered successful when a DPR job can be terminated and initiated and the DPR job box can be canceled.

Test Procedures:

Test Case ID: TS070.005	
Test Name: AutoSys Job Manipulation Test	
Test Steps:	Comments:
1. Login to the Job Management workstation.	
2. With the mouse click the up arrow on the desktop window and select Terminal or click the left mouse button and select Programs and then Terminal to bring up a terminal window.	
3. At the prompt type **source /vendor/autotree2/autouser/autosys.csh.spre4 sun** to source the AutoSys environment config file.	This file must be sourced to setup the environment for AutoSys.
4. Type **autocons &** to bring up the AutoSys Ops console. Press the **Freeze Frame** button to deactivate it.	
5. At the prompt type **cd /usr/testa/bin** to set directory to the Release A test directory.	This directory contains the Release A test driver.
6. Type **DpPrScheduler** to start the Scheduler test driver.	You must first create a DPR job box in AutoSys.
7. Select option 1 to create a DPR job.	Enter the DPR id, priority, start time, and stop time.
8. The driver will return a message to the screen stating that the DPR job was created.	You will see the job box and its jobs created in the AutoSys Ops Console window.
9. Create another window to run the COTS Manager driver.	
10. Type **DpPrCotsManager** to start the COTS Manager test driver.	
11. In the driver window, select option 3 to delete a DPR job.	

12. Enter the full name of the stage job for the DPR.	S-DPS-20730 The driver will respond by issuing a status message for successfully deleting the Stage job. The stage job's status in the Ops Console will change to terminated.
13. Select another DPR job box within the AutoSys window.	
14. Force start the jobs and then terminate the Resource Allocation job.	
15. Force start the jobs again and verify that the software did not attempt to regenerate the PGE's input data.	S-DPS-21560
16. For the same DPR, force start the jobs again and terminate the PGE Execution job.	
17. Force start the jobs again and verify that the software did not attempt to regenerate the PGE's input data by listing the contents of the stage directory. The previous copy of the data granule should be intact.	S-DPS-21570
18. Force start the job box again and KILL the data staging and destaging jobs. Check the stage directory path to ensure that no data was staged or destaged as a result of force starting the jobs.	S-DPS-21700 S-DPS-21710 The job's status will change from ACTIVATED to TERMINATED in the AutoSys Ops Console.
19. From the Scheduler window, select option 4 to cancel a DPR. Provide the DPR id when prompted.	S-DPS-21720 S-DPS-21960
20. From the COTS Manager window, select option 5 to modify the DPR job's priority.	S-DPS-21750 S-DPS-21970 S-DPS-21980 Options 5-12 and 17 are also valid selections.
21. Select option 13 to get the status of the DPR job.	S-DPS-21770
22. Select option 19 to get resource management information for the DPR.	S-DPS-21780
23. Select option 8 to exit the Scheduler test driver.	
24. Select option 21 to exit the COTS Manager test driver.	

4.7.11 Planning and Processing 2 Build (BS009)

This build will attempt to test integration level scenarios within the Planning and Processing subsystems. The following functionality will be tested:

- Schedule a DPR in AutoSys
- Allocate Resources for a DPR
- Stage Data for a DPR
- Destage Data for a DPR
- Deallocate Resources for a DPR

Although they seem to retest some of the thread level tests, these build tests will test functionality at the integration level (between CSCIs) in the Planning and Processing

subsystems. These tests reflect an end-to-end scenario for a Data Processing Request from its creation in the Planning subsystem to its execution in the Processing subsystem.

This build will not test the following functionality until the delivery of phase 3 software:

- Release of a DPR to begin execution
- Execute a PGE for a DPR (no PGE available to execute)
- Perform Postprocessing functions for a DPR (phase 3 functionality)
- Stage/destage data from/to the Data Server (no Data Server interface)

4.7.11.1 Test Case 1: Schedule DPRs into AutoSys (BS009.001)

This test verifies the ability to schedule DPRs within AutoSys.

Test Configuration:

Hardware: Processing workstation (SunSparc 20)

Software: DpPrScheduler, Sybase, AutoSys

Data: DPR name, start time, data granule information, input/output data requirements, PGE information in the PDPS database.

Tools: Scheduler driver (DpPrScheduler)

Test Input:

Inputs to this test case include the DPR name, time parameters, input/output granule information and associated PGE information.

Test Output:

There is no output from this test case.

Success Criteria:

This test will be considered successful when DPRs from the Planning subsystem are successfully scheduled by the Processing subsystem within AutoSys.

Test Procedures:

Test Case ID: BS009.001	
Test Name: Schedule DPRs into AutoSys	
Test Steps:	Comments:
1. Login to the Processing workstation.	This is the Scheduler window.
2. Bring up the Scheduler driver by typing **'DpPrScheduler'**.	
3. Open another Processing subsystem window to start the AutoSys Ops Console.	

4. Source the AutoSys configuration file by typing **source /vendor/autotree2/autouser/autosys.csh.spre4sun**	
5. Start the AutoSys Ops Console by typing **autocons &**	The DPRs that are ready to be processed have a flag associated with them in the database. This flag called AVAILABILITY located in the DATA_TYPE_MASTER table will be set to T(rue) by the driver. This tells the software that all data dependencies needed to process this DPR have arrived.
6. From the Scheduler window, enter the name of the DPR to be scheduled.	PGS-0250#A fully satisfied Watch the AutoSys Ops Console. A new DPR job box with the same id will be created. This job box will contain 7 jobs associated with the DPR.
7. The DPR job box will be placed in HOLD mode until its execution time has arrived.	PGS-0285#A partially satisfied Status message is transmitted to the initiator of the process. This will be further tested when IMS integration occurs.

4.7.11.2 Test Case 2: Allocate Resources for a DPR (BS009.002)

This test verifies the ability to allocate processing resources for a scheduled DPR within the Processing environment.

Test Configuration:

Hardware: Processing client workstation (SunSparc 20)

Software: PDPS Database, Sybase, AutoSys, Execution Manager, Resource Manager, PDPS database interface classes, DpPrScheduler

Data: Data Processing Request ID, computer and disk resource attributes

Tools: None

Test Input:

Inputs to this test include DPR attributes and Resource Manager attributes.

Test Output:

Output from this test include a file created during disk allocation in the specified Resource Management environment path and a SUCCESSFUL status for the job in AutoSys.

Test Success Criteria:

This test will be considered successful if the resources are allocated without any errors, the updates are made to the resource manager tables, and the file exists in the runtime directory path allocated by resource manager.

Test Procedures:

Test Case ID: BS009.002	
Test Name: Allocate Resources for a DPR	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Source the AutoSys configuration file by typing **source /vendor/autotree2/autouser/autosys.csh.spre4sun**	
3. Start the AutoSys Ops Console by typing **autocons &**	
4. If the DPR processing time has not arrived, select the DPR job box and press the **Force Start Job** button on the AutoSys Ops Console to force start the job.	The .alloc job's status will go from ON_HOLD to RUNNING and then back to ON_HOLD. It goes back because it is waiting for Planning to take it off hold when its input granules arrive.
5. When the .alloc job has successfully completed, its status will change to SUCCESSFUL.	S-DPS-21070 fully satisfied S-DPS-21080 fully satisfied S-DPS-21090 fully satisfied PGS-0480#A fully satisfied (all processing occurs on a priority basis)
6. Verify that the resources for the DPR id were allocated by inspecting the directory path.	The file is placed in the Resource Manager runtime directory of the disk partition.
7. Verify that the information has been updated in the PDPS database tables.	

4.7.11.3 Test Case 3: Stage Data for a DPR (BS009.003)

This test verifies the ability to stage data within the Processing environment.

Test Configuration:

Hardware: Processing workstation (SunSparc 20)

Software: DpPrScheduler, DpPrDataManager, DpPrResourceManager, Sybase, AutoSys

Data: Job box name (DPR name), priority, start time

Tools: Data Manager driver (DM_driver), SQL script (check_DM.sql) to query the DATA_MAP table to verify that the data was staged within the database and the Processing environment.

Test Input:

Inputs to this test include a job box (DPR id) and AutoSys Ops Console user actions.

Test Output:

Outputs from the SQL query script listing the status of the data in the database and results of the existence of the data file within the stage path.

Success Criteria:

This test will be considered successful when data for a DPR is staged within the database and the Processing environment.

Test Procedures:

Test Case ID: BS009.003	
Test Name: Stage Data for a DPR	
Test Steps:	Comments:
1. Login to the Processing workstation.	This will be used to start the AutoSys Operator Console.
2. Source the AutoSys configuration file by typing **source /vendor/autotree2/autouser/autosys.csh.spre4sun**	
3. Start the AutoSys Ops Console by typing **autocons &**	
4. Select the .stage job within the job box and press **Force Start Job**.	The job's status will change from ON_HOLD to RUNNING and then to TERMINATED. The software will issue an alarm to AutoSys and the AutoSys Alarm will change color from green to orange. The alarm is caused by an incorrect status message passed from the Data Manager to the Scheduler software. The data is staged and can be verified in step 5.
5. Verify that the data was staged by using the SQL script. Type **isql -i/usr/testa/IT/tools/check_DM.sql**	S-DPS-20600 fully satisfied S-DPS-20610 fully satisfied S-DPS-20690 fully satisfied The script will list the contents of the DATA_MAP table. View the list and verify that the input and output granule records exist for the DPR. Also note the directory path where the input file should reside. Additionally, the NUMBER_OF_USAGE field should have been incremented by 1 to denote that one more DPR requires this file for processing.
6. Verify that the input data granule (file) was staged in the directory path.	This is the same directory path from step 5.

4.7.11.4 Test Case 4: Prepare a PGE for a DPR (BS009.004)

This test verifies the ability to invoke Execution Manager to perform preparation of a given DPR id within the Processing environment. This test makes the assumption that the resource allocation of the given DPR id has been completed successfully so that the next step of processing (preparation) can begin.

Test Configuration:

Hardware: Processing client workstation (SunSparc 20)

Software: PDPS Database, Sybase, AutoSys, Execution Manager, PDPS database interface, DpPrScheduler

Data: Data Processing Request id

Tools: SQL script to query the PGE and EXECUTABLE tables

Test Input:

Inputs to this test include DPR attributes and an AutoSys job box with .prep and .exec jobs.

Test Output:

Outputs from this test include the creation of physical PCF and UNIX Profile files in the runtime directory as part of the pre-execution process. Additionally, updates to the appropriate Execution Manager database tables.

Test Success Criteria:

This test will be considered successful if the PCF and Profile files are created in the runtime directory. Also results of the SQL queries should indicate that the appropriate updates have been made to the tables for the given Data Processing Request id.

Test Procedures:

Test Case ID: BS009.004	
Test Name: Prepare a PGE for a DPR	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Source the AutoSys configuration file by typing **source /vendor/autotree2/autouser/autosys.csh.spre4 sun**	
3. Start the AutoSys Ops Console by typing **autocons &**	
4. The .alloc and .stage jobs should have completed prior to running this test.	
5. Select the .prep job for the DPR and press the **Force Start Job** button on the AutoSys Ops Console.	The .prep job's status will go from ON_HOLD to RUNNING to SUCCESSFUL.
6. Verify that the preparation job was complete by checking for the creation of the PCF and UNIX Profile files in the designated output directory.	

4.7.11.5 Test Case 5: Destage Data for a DPR (BS009.005)

This test verifies the ability to destage data within the Processing environment.

Test Configuration:

Hardware: Processing workstation (SunSparc 20)

Software: DpPrScheduler, DpPrDataManager, DpPrResourceManager, Sybase, AutoSys

Data: Job box name (DPR name), priority, start time

Tools: Data Manager driver (DM_driver), SQL script (check_DM.sql) to query the DATA_MAP table to verify that the data was destaged from the database.

Test Input:

Inputs to this test include a job box (DPR id) and AutoSys Ops Console user actions.

Test Output:

Outputs from the SQL query script listing the status of the data in the database.

Success Criteria:

This test will be considered successful when data for a DPR is destaged within the database.

Test Procedures:

Test Case ID: BS009.005	
Test Name: Destage Data for a DPR	
Test Steps:	Comments:
1. Login to the Processing workstation.	This will be used to start the AutoSys Operator Console.
2. Source the AutoSys configuration file by typing **source /vendor/autotree2/autouser/autosys.csh.spre4sun**	
3. Start the AutoSys Ops Console by typing **autocons &**	
4. Select the .destage job within the job box and press **Force Start Job**.	The job's status will change from ON_HOLD to RUNNING and then to TERMINATED. The software will issue an alarm to AutoSys and the AutoSys Alarm will change color from green to orange. The alarm is caused by an incorrect status message passed from the Data Manager to the Scheduler software. The data is truly staged and can be verified in step 5.
5. Verify that the data was destaged by using the SQL script. Type **isql -i/usr/testa/IT/tools/check_DM.sql**	The script will list the contents of the DATA_MAP table. The NUMBER_OF_USAGE field should have been decremented by 1 to denote that one less DPR requires this file for processing.

4.7.11.6 Test Case 6: Deallocate Resources for a DPR (BS009.006)

This test verifies the ability to deallocate disk and processing resources for a DPR scheduled from Job Management within the Processing environment. This test assumes that resource allocation, data staging, data preparation, PGE execution and data destaging of the given DPR job have completed successfully so that the next step of processing (deallocation) can begin.

Test Configuration:

Hardware: Processing client workstation (SunSparc 20)

Software: PDPS Database, Sybase, AutoSys, Execution Manager, Resource Manager, database interface classes, DpPrScheduler

Data: Data Processing Request id, computer and disk resource attributes

Tools: SQL script to query the Resource Manager tables to verify that resources were deallocated

Test Input:

Inputs to this test include DPR attributes, Resource Manager attributes, and an AutoSys job box with the .dealloc job having a status of ON_HOLD.

Test Output:

Output from this test includes results of the SQL query script that indicate the resources were deallocated for the given DPR id and the files and directories created during disk allocation in the Resource Management environment path were deleted.

Test Success Criteria:

This test is considered successful if the resources are deallocated without any errors and the deletions are made to the Resource Manager database tables. Additionally, the files created in the runtime directory location should be deleted.

Test Procedures:

Test Case ID: BS009.006	
Test Name: Deallocate Resources for a DPR	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Source the AutoSys configuration file by typing **source /vendor/autotree2/autouser/autosys.csh.spre4sun**	
3. Start the AutoSys Ops Console by typing **autocons &**	
4. From the AutoSys Ops Console, select the .dealloc job and press **Force Start Job**.	The .dealloc job's status will go from ON_HOLD to RUNNING. When the .dealloc job has finished running, its status will be SUCCESSFUL.
5. Verify that the resources of the DPR id were deallocated by inspecting the directory path.	Files previously created in the Resource Manager runtime directory will have been deleted.
6. Verify that the records corresponding to the DPR have been deleted from the database tables.	

4.8 QA Monitor Tests

4.8.1 QA Monitor (GUI) Thread (TS032)

Quality Assurance Monitor (GUI) is a utility used by DAAC personnel to perform quality assurance activities such as data visualization, subscription submittal and withdrawal functions, and allowing the updating of quality assurance metadata.

In the nominal operations scenario, in order to view a product that has been generated by a PGE, the Data Server checks to see if there are any Q/A subscriptions to that data product. If there are, the Data Server sends e-mail to Q/A personnel stating that the product has been generated and is available for review. When Q/A personnel are ready to review the product, they start up the Q/A Monitor GUI and choose to visualize the data. This will retrieve the data from the Data Server and invoke EOSView to display a visual interpretation of the product.

Phase 2 functionality consists of the ability to visualize HDF data via the EOSView tool. At this time there are no external interfaces to this code, e.g. Data Server. Also, no PGEs were run to generate the HDF files.

4.8.1.1 Test Case 1: HDF Datafile Visualization (Non-image file) (TS032.001)

A non-image file is one that contains an array of data values within its structure. No image is associated with such a file. This test verifies the actions associated with visualizing a non-image HDF datafile.

Test Configuration:

Hardware: Processing Workstation (SUN Sparc 20/50)

Software: DpPrQaMonitor, XMotif libraries 1.2.4

Data: HDF datafiles residing in the I&T directory

Tools: EOSView 1.5.2

Test Input:

A non-image HDF datafile located in the I&T directory.

Test Output:

The QA Monitor GUI panels and an EOSView panel showing the selected HDF file.

Success Criteria:

The QA Monitor GUI shall be enabled.

The non-image HDF file will be selected from the QA Monitor GUI and viewed in EOSView.

Test Procedures:

Test Case ID: TS032.001	
Test Name: HDF Datafile Visualization (Non-image file)	
Test Steps	Comments:
1. Login to the Processing workstation.	
2. Bring up the QA Monitor GUI window by depressing the right mouse button, selecting **Programs** and then selecting **Terminal**.	
3. At the prompt, set directory to where the QA Monitor GUI executable resides by typing: **cd /usr/testa/bin**	
4. Source the QA Monitor configuration file by typing: **source /usr/testa/IT/tools/qamon.cshrc**	This file sets the environment variables in step 5. *Either step 4 OR step 5 can be performed.*
5. At the prompt type the values for the QA Monitor environment variables: > **setenv DpPrQA_EOSVIEWDIR** > **setenv DpPrQA_SCRIPTFILE_DIR** > **setenv DpPrQA_DATA_DIR** > **setenv** <*UIDPATH***>/%U** > **setenv XFILESEARCHPATH**	DpPrQA_EOSVIEWDIR contains the path where the EOSView executable resides. DpPrQA_SCRIPTFILE_DIR contains the path where the EOSView script files eosview.csc and eosview.uid reside. DpPrQA_DATA_DIR is the path to the directory that contains the HDF files. UIDPATH is the location of the .uid file. This MUST end with the string "/%U". XFILESEARCHPATH is the path to the ECSMotif file. These values can all be placed into a .cshrc file.
6. At the prompt, invoke the GUI by typing: **DpPrQaMonitorGUI &**	S-DPS-22020
7. From the tab stack, select the option to **Visualize** data.	S-DPS-22030 Currently, this is the only action of the GUI that works for phase 2.
8. The Visualize tab stack window will appear.	This window shows the directory spec of the HDF file directory and a list of the files within that directory.
9. Select a non-image HDF file to visualize by placing the arrow cursor on the file name and depressing the right mouse button. Then depress the **Visualize** button.	S-DPS-22050 EOSView will be invoked from the GUI. Valid non-image files are: velocity.hdf and test.hdf.
10. The EOSView Filter window will appear asking for additional file filtering information. Select **Cancel**.	
11. EOSView will display the non-image file's contents.	The content of non-image files is usually Numeric Data Groups.
12. Double click on any of the Numeric Data Groups to view them.	
13. After you have finished viewing the file, click on the EOSView Main Window, select **File** and then select **Exit** to exit EOSView.	This will return control to the QA Monitor GUI.
14. To exit the QA Monitor GUI, select **File** and then select **Exit**.	

4.8.1.2 Test Case 2: HDF Datafile Visualization (Image file) (TS032.002)

An image file is one that contains image fields within its structure. This test verifies the actions associated with visualizing an image HDF datafile.

Test Configuration:

Hardware: Processing Workstation (SUN Sparc 20/50)

Software: DpPrQaMonitor, XMotif libraries 1.2.4

Data: HDF datafiles residing in the I&T directory

Tools: EOSView 1.5.2

Test Input:

A image HDF datafile located in the I&T directory.

Test Output:

The QA Monitor GUI panels and an EOSView panel showing the selected HDF file.

Success Criteria:

The QA Monitor GUI shall be enabled.

The image HDF file will be selected from the QA Monitor GUI and viewed in EOSView.

Test Procedures:

Test Case ID: TS032.002	
Test Name: HDF Datafile Visualization (Image file)	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Bring up the QA Monitor GUI window by depressing the right mouse button, selecting **Programs** and then selecting **Terminal**.	
3. At the prompt, set directory to where the QA Monitor GUI executable resides: **cd /usr/testa/bin**	
4. Source the QA Monitor configuration file by typing: **source /usr/testa/IT/tools/qamon.cshrc**	This file sets the environment variables in step 5. *Either step 4 OR step 5 can be performed.*
5. At the prompt type the values for the QA Monitor environment variables: > **setenv DpPrQA_EOSVIEWDIR** > **setenv DpPrQA_SCRIPTFILE_DIR** > **setenv DpPrQA_DATA_DIR** > **setenv <***UIDPATH***>/%U** > **setenv XFILESEARCHPATH**	DpPrQA_EOSVIEWDIR contains the path where the EOSView executable resides. DpPrQA_SCRIPTFILE_DIR contains the path where the EOSView script files eosview.csc and eosview.uid reside. DpPrQA_DATA_DIR is the path to the directory that contains the HDF files. UIDPATH is the location of the .uid file. This MUST end with the string "/%U". XFILESEARCHPATH is the path to the ECSMotif file. These values can all be placed into a .cshrc file.

6. At the prompt, invoke the GUI by typing: **DpPrQaMonitorGUI &**	S-DPS-22020
7. From the tab stack, select the option to **Visualize** data.	S-DPS-22030 Currently, this is the only action of the GUI that works for phase 2.
8. The Visualize tab stack window will appear.	This window shows the directory spec of the HDF file directory and a list of the files within that directory.
9. Select an image HDF file to visualize by placing the arrow cursor on the file name and depressing the right mouse button. Then depress the **Visualize** button.	S-DPS-22050 EOSView will be invoked from the GUI. Valid image files are: wave.hdf, orbital.hdf, buoya.hdf, buoyc.hdf, buoyd.hdf, and alltovs.hdf.
10. The EOSView Filter window will appear asking for additional file filtering information. Select **Cancel**.	
11. EOSView will display the selected image file.	If your file contains more than one image, you will be prompted by EOSView to select a specific image file to display.
12. You may select the image **Zoom** function to change the resolution of the image.	
13. The image Pan window is used pan across the image being viewed. You can pan across the image to view different parts when in the Zoom mode.	
14. You may select the **Palette** button and then the **Select** button to vary color formats for the image file.	Current color formats are: Default, Grey Scale, Antarctica, Rainbow, and World Colors. It's always best to use the default color schema.
15. After you have finished viewing the file, click on the EOSView Main Window, select **File** and then select **Exit** to exit EOSView.	This will return control to the QA Monitor GUI.
16. To exit the QA Monitor GUI, select **File** and then select **Exit**.	

4.8.1.3 Test Case 3: Attempt to Visualize a non-HDF file (TS032.003)

This test verifies the actions associated with attempting to visualize a non-HDF file.

Test Configuration:

Hardware: Processing Workstation (SUN Sparc 20/50)

Software: DpPrQaMonitor, XMotif libraries 1.2.4

Data: HDF datafiles residing in the I&T directory

Tools: EOSView 1.5.2

Test Input:

A non-HDF image datafile located in the I&T directory.

Test Output:

An error pop-up window stating the reason for the error condition.

Success Criteria:

An error message will be displayed by EOSView stating that the file is not an HDF file.

Test Procedures:

Test Case ID: TS032.003	
Test Name: Attempt to Visualize a non-HDF file.	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Bring up the QA Monitor GUI window by depressing the right mouse button, selecting **Programs** and then selecting **Terminal**.	
3. At the prompt, set directory to where the QA Monitor GUI executable resides**:** **cd /usr/testa/bin**	
4. Source the QA Monitor configuration file by typing: **source /usr/testa/IT/tools/qamon.cshrc**	This file sets the environment variables in step 5. *Either step 4 OR step 5 can be performed.*
5. At the prompt type the values for the QA Monitor environment variables: > **setenv DpPrQA_EOSVIEWDIR** > **setenv DpPrQA_SCRIPTFILE_DIR** > **setenv DpPrQA_DATA_DIR** > **setenv <***UIDPATH***>/%U** > **setenv XFILESEARCHPATH**	DpPrQA_EOSVIEWDIR contains the path where the EOSView executable resides. DpPrQA_SCRIPTFILE_DIR contains the path where the EOSView script files eosview.csc and eosview.uid reside. DpPrQA_DATA_DIR is the path to the directory that contains the HDF files. UIDPATH is the location of the .uid file. This MUST end with the string "/%U". XFILESEARCHPATH is the path to the ECSMotif file. These values can all be placed into a .cshrc file.
6. At the prompt, invoke the GUI by typing: **DpPrQaMonitorGUI &**	S-DPS-22020
7. From the tab stack, select the option to **Visualize** data.	S-DPS-22030 Currently, this is the only action of the GUI that works for phase 2.
8. The Visualize tab stack window will appear.	This window shows the directory specification of the HDF file directory and a list of the files within that directory.
9. Select an non-HDF file to visualize by placing the arrow cursor on the file name and depressing the right mouse button. Then depress the **Visualize** button.	
10. An EOSView error window will appear stating the cause and nature of the error.	
11. Select the **OK** button to exit from the EOSView error status window.	
12. Click on the EOSView Main Window, select **File** and then select **Exit** to exit EOSView.	
13. To exit the QA Monitor GUI, select **File** and then select **Exit**.	

4.8.2 QA Monitor/DS Interface Thread (TS033)

The QA Monitor CSC is defined as the services required for DAAC manual quality assurance activities. The QA Monitor software provides the Human Machine Interface (HMI) and other

support activities necessary to support DAAC manual quality assurance. These DAAC manual quality assurance activities occur on a non real-time environment, i.e. there are no dependencies between the performance of DAAC manual quality assurance activities and the active daily job schedule. Any quality assurance dependencies are handled through the Planning CSCI's Subscription Manager component. This application requires capabilities to subscribe to data and to be notified of the availability of data which exists at a Science Data Server. This application also provides the capability to update quality assurance metadata for a given science data product.

The QA Monitor/DS Interface thread will verify the following functionality:

- the ability to support manual Q/A of data products
- the ability to provide access to visualization tools
- the ability to update the Q/A metadata of data products
- the ability to view EOS HDF data files
- the ability to access Production History files
- the ability to interface with the data server

4.8.2.1 Test Case 1: Visualize an EOS HDF File (TS033.001)

This test verifies the steps associated with visualizing EOS HDF files.

Test Configuration:

Hardware: Processing Workstation (SUN Sparc 20/50)

Software: DpPrQaDataGranule, DpPrQaDataMonitor, Sybase

Data: EOS HDF files (preferably those that have been generated as a result of execution of a PGE)

Tools: QA Monitor GUI, EOSView (used to view the HDF image file)

Test Input:

Input to this test consists of user-supplied actions to initiate GUI responses and the HDF file name selected from the GUI list.

Test Output:

The output to this test case is the visual image of the HDF file displayed on the workstation.

Success Criteria:

This test will be considered successful when an HDF file is viewed from the QA Monitor GUI.

Test Procedures:

Test Case ID: TS033.001	
Test Name: Visualize an HDF File	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Start the QA Monitor GUI.	
3. With the arrow icon, press the tab stack button to visualize an HDF file.	
4. The GUI will respond by displaying a list of HDF files that can be displayed. Select one of the files from the list.	It would be preferable to select a file that was created by the execution of a PGE.
5. The GUI will invoke EOSView and an image window will be displayed.	S-DPS-22030 fully satisfied S-DPS-22050 fully satisfied
6. Verify that the image is continuous (i.e., it has no visible data gaps) and it can be manipulated within the display window.	Manipulation of the image can include resizing, displaying certain portions of interest, and changing the color scheme.
7. When you are finished viewing the HDF file, select the Exit option from the pulldown menu to exit the GUI.	

4.8.2.2 Test Case 2: View a Data Product Production History File (TS033.002)

This test verifies the steps associated with viewing production history files of data products.

Test Configuration:

Hardware: Processing Workstation (SUN Sparc 20/50)

Software: DpPrQaDataGranule, DpPrQaDataMonitor, Sybase

Data: Data product production history files

Tools: QA Monitor GUI, EOSView (used to view the production history file)

Test Input:

Input to this test consists of user-supplied actions to initiate GUI responses and data product production history file name selected from the GUI list.

Test Output:

The output to this test case is the visual display of the production history file displayed on the workstation.

Success Criteria:

This test will be considered successful when a production history file is viewed from the QA Monitor GUI.

Test Procedures:

Test Case ID: TS033.002	
Test Name: View a Data Product Production History File	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Start the QA Monitor GUI.	
3. With the arrow icon, press the tab stack button to visualize an HDF file.	
4. The GUI will respond by displaying a list of production history files that can be displayed. Select one of the files from the list.	S-DPS-22100
5. The GUI will invoke EOSView and an image window will be displayed.	
6. If the file contains image data, it will be displayed as an image. Otherwise the file is considered to contain textual information and will be displayed as an ASCII text file.	
7. Other files can be displayed based upon the selection criteria of the user. Other files include: algorithms, ECS data products, calibration coefficient data, ancillary data products, status information files, and metadata files.	S-DPS-22060 S-DPS-22070 S-DPS-22080 S-DPS-22090 S-DPS-22110
8. When you are finished viewing the production history file, select the Exit option from the pulldown menu to exit the GUI.	

4.8.2.3 Test Case 3: Update Q/A Metadata (TS033.003)

This test verifies the steps associated with updating QA Metadata of the generated data products.

Test Configuration:

Hardware: Processing Workstation (SUN Sparc 20/50)

Software: DpPrQaDataGranule, DpPrQaDataMonitor, Sybase

Data: QA metadata files

Tools: QA Monitor GUI, EOSView

Test Input:

Input to this test consists of user-supplied actions to initiate GUI responses and QA metadata file names selected from the GUI list.

Test Output:

None.

Success Criteria:

This test will be considered successful when a QA metadata file is updated to contain new information.

Test Procedures:

Test Case ID: TS033.003	
Test Name: Update Q/A Metadata	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Start the QA Monitor GUI.	
3. With the arrow icon, press the tab stack button to update a Q/A metadata file.	
4. The GUI will respond by displaying a list of Q/A metadata files. Select a file from the list.	S-DPS-22020 S-DPS-22040
5. The GUI will then display a list of attributes that can be modified. Select an attribute and modify it.	
6. When you are finished updating the metadata file, select the Exit option from the pulldown menu to exit the GUI.	

4.8.2.4 Test Case 4: Data Server Interface Test (TS033.004)

This test verifies the steps associated with interfacing with the data server. The data server is used as a repository to store data when it is ingested within the ECS system and when data products are generated after the successful execution of a PGE. This test will verify the following functionality:

- the ability to subscribe/unsubscribe to data products generated by the execution of a PGE
- the ability to alert operations staff when Q/A activities are required for data products
- the ability to destage data products from the data server via the GUI

Test Configuration:

Hardware: Processing Workstation (SUN Sparc 20/50)

Software: DpPrQaDataGranule, DpPrQaDataMonitor, Sybase, Data Server objects

Data: Any ECS-generated data products

Tools: QA Monitor GUI

Test Input:

Input to this test consists of user-supplied actions to initiate GUI responses and data products generated from the execution of a PGE.

Test Output:

The software should allow the user to subscribe and unsubscribe to data products. These actions should be confirmed by a pop-up status message window after initiating the action.

The software should notify the user that Q/A activities are necessary for generated data products.

The software should allow the user to destage from the data server to the local disk in order to view a data product.

Success Criteria:

This test will be considered successful when all of the above output criteria are accomplished.

Test Procedures:

Test Case ID: TS033.004	
Test Name: Data Server Interface Test	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Start the QA Monitor GUI.	
3. With the arrow icon, press the tab stack button to submit a subscription for a data product.	
4. The GUI will respond by displaying a list of data products that can be subscribed to. Select one.	
5. The GUI will issue a status message verifying the subscription for that data product.	
6. When the data product arrives, the data server will send the user e-mail stating the arrival of the data product.	
7. Select the option to get the data product from the data server. Specify the data product name when asked by the GUI.	
8. The data server will send the data product to the user.	
9. When the data product is received by the user, the software will specify through the issuance of a pop-up window that Q/A activities must be performed on that data product.	S-DPS-22130
10. If the data product is being stored temporarily within the data server, the user will be notified via a pop-up status message.	S-DPS-22120
11. When you are finished, select the Exit option from the pulldown menu to exit the GUI.	

4.8.3 QA Monitor Build (BS014)

The QA Monitor build will integrate and test all functionalities between the QA Monitor (GUI) thread, the QA Monitor Data Server Interface thread and external CSCIs.

The QA Monitor build will verify the following functionalities with the Data Server:

- the ability to query data in the data server
- the ability to retrieve data from the data server
- the ability to update metadata in the data server

4.8.3.1 Test Case 1: Query and Retrieve Data from the Data Server (BS014.001)

This test verifies the steps associated with querying and retrieving data from the data server.

Test Configuration:

Hardware: Processing Workstation (Sun Sparc 20/50)

Software: DpPrQaDataGranule, DpPrQaDataMonitor, Sybase, Data Server classes

Data: CERES or LIS data files from the Data Server for Release A

Tools: QA Monitor GUI

Test Input:

Input to this test consists of data type ids from the Data Server.

Test Output:

The output to this test case is the display list of data types resident in the Data Server.

Success Criteria:

This test will be considered successful when a list of data types is generated after the invocation of the query command.

Test Procedures:

Test Case ID: BS014.001	
Test Name: Query and Retrieve Data from the Data Server	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Start the QA Monitor GUI.	
3. With the arrow icon, press the **QRU** tab stack button.	
4. The GUI will respond by displaying the QRU page where data can be queried from the Data Server.	
5. Enter the Data Type name and press the **List** button.	PGS-0590 You may also enter Duration information for the data type to decrease the scope of the query command.
6. The GUI will display a pop-up window listing the datatypes matching the query criteria.	
7. Select a data type from the window listing and press the **Retrieve** button.	
8. The GUI will display the retrieved data type within the lower portion of the **QRU** window.	
9. Information such as Filename, Operation QA Flag status, SCF QA Flag status, etc. will be displayed.	
10. When you have finished reviewing the data type information, press the **Exit** option from the **File** pulldown menu to exit the QA Monitor GUI.	PGS-1150

4.8.3.2 Test Case 2: Update Metadata in the Data Server (BS014.002)

This test verifies the steps associated with metadata within the data server.

Test Configuration:

Hardware: Processing Workstation (Sun Sparc 20/50)

Software: DpPrQaDataGranule, DpPrQaDataMonitor, Sybase, Data Server classes

Data: CERES or LIS metadata files from the Data Server for Release A

Tools: QA Monitor GUI

Test Input:

Input to this test consists of metadata ids from the Data Server.

Test Output:

The output to this test case is the display list of metadata files in the Data Server.

Success Criteria:

This test will be considered successful when metadata is updated in the Data Server.

Test Procedures:

Test Case ID: BS014.002	
Test Name: Update Metadata in the Data Server	
Test Steps:	Comments:
1. Login to the Processing workstation.	
2. Start the QA Monitor GUI.	
3. With the arrow icon, press the **QRU** tab stack button.	
4. The GUI will respond by displaying the QRU page where metadata can be updated.	
5. Enter the metadata name and press the **List** button.	PGS-0590 PGS-1150
6. The GUI will display a pop-up window listing the metadata files matching the query criteria.	
7. Select a metadata file from the window listing and press the **Update** button.	
8. The GUI will display the **Update Metadata** window. Modify the Operation Quality Flag of the metadata file. Change the state to either Passed, Failed, Being Investigated, or Not Being Investigated.	PGS-1140 The only attribute that can be updated for the metadata file is the operational quality flag.
9. The GUI will display a pop-up status message indicating whether the Quality flag was updated.	
10. When you have finished updating the metadata information, press the **Exit** option from the **File** pulldown menu to exit the QA Monitor GUI.	

4.9 Ingest and Archive 3 Tests

The following subsections include the threads and builds identified to support Ingest and Archive 3 testing. Ingest and Archive 3 testing includes the following threads and builds:

- Science Software Delivery Package Ingest Thread

- TSDIS Insert Thread
- Ingest Ancillary Data Preprocessing Thread
- Metadata Validation Thread
- Metadata Extraction 2 Thread
- Document Insert Thread
- Ingest Administration Thread
- Ingest Recovery Thread
- Insert Boundary Conditions Thread
- Media Ingest (8mm) Thread
- V0 Ancillary Data Insert Thread
- Ingest and Archive 3 Build

4.9.1 Science Software Delivery Package Ingest Thread (TS034)

This thread demonstrates the capability to ingest science software packages. This type of data is ingested via a user interactive network interface. Science software package encompasses all information relevant to a logical grouping of product processing software, i.e., source files, header files, and makefiles. The science software package is a type of earth science data type.

TS034.001 Delivery of Science Software Test

TS034.002 Delivery of Science Software Error Test

TS034.003 User Interactive Network Archive Test

TS034.004 User Interactive Network Status Request Test

4.9.1.1 Test Case 1: Delivery of Science Software Test (TS034.001)

This test demonstrates the ability for a user to ingest a series of data, each containing single or multiple granules of data using an interactive network ingest protocol. Data can include items such as documents, science data, and algorithms. Network Ingest Requests are submitted by the Science Computing Facility (SCF) via an HTML Ingest GUI interface, running on web browsers, based on displayed list of existing files. Interfaces on both Netscape and Mosaic browsers will be tested. A Delivery Record is completed by the SCF and placed into a pre-determined directory. Using the HTML GUI Interface, the SCF submits the Delivery Record. The Delivery Record is received and validated by Ingest Software, to determine if the request originated from an authorized source and also validated to determine if the date/time (indication of how long the data will remain available) is valid. The request is assigned a unique identifier. If valid, the data

is transferred, in tar format, from a file location designated in the ingest request. If not valid, the request is recorded in the Error Log and a status message is sent to the requester. Data successfully ingested is recorded in the Ingest History Log. Error status messages are displayed to the requester in the event of failed file transfer and recorded in the Event Log.

Test Configuration:

Hardware: Workstation, Client Hosts, Working Storage, and Archive Storage.

Software: Netscape, Mosaic, INGST CI, User Network Ingest Interface CSC, SDSRV CI, STMGT CI

Data: Science Software Delivery Packages

Tools: None

Test Input:

Several valid Network Ingest Requests are submitted. Requests are entered by authorized requesters. Invalid requests are submitted to simulate file transfer failure due to invalid data location indicated in the request.

Test Output:

Valid data files are ingested. The Ingest History Log is updated to include all successful data ingest. The Event Log is updated to reflect successful and unsuccessful ingest conditions. Error status messages are sent to the requester.

Success Criteria:

All valid ingest requests result in successful ingest. Data is placed on a magnetic staging disk. The Ingest History Log records all successful and unsuccessful data ingest. The Event Log records all unsuccessful attempts for data ingest resulting from error conditions.

Test Procedures:

Test Case ID: TS034.001	
Test Name: Delivery of Science Software Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation. > <*username*> > <*password*>	
2. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
3. Open an xterm and use this xterm to start the Science Data Server Processes.	
4. Open a third xterm, and invoke the Ingest GUI using this xterm.	

5. Place a Delivery Record pertaining to the Software Delivery Package to be Ingested into the designated directory.	
6. Place a Science Software tar file into the specified “push” directory.	
7. Open an xterm, and invoke the Netscape Browser and then access the HTML Interactive Ingest main Page.	
8. On the HTML Interactive Ingest main page, enter a valid Data Provider, and select the “Submit Ingest Request” function to submit the Delivery Record.	S-INS-00180. S-INS-00205, S-INS-00208
9. On the Ingest Monitor GUI and monitor the Ingest of the Delivery Package.	
10. When the Ingest Monitor GUI Indicates that the Ingest Process is complete, invoke the History GUI	
11. Verify the Ingest Request was successfully completed by viewing the History Log.	S-INS-00490
12. On the Ingest workstation, open an xterm and use this xterm to view the Data Server MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the insertion of the Software Package into the Archive.
13. Logon to an SGI and query the database to verify that the tar file was inserted into the Archive.	
14. Place a Delivery Record pertaining to the Software Delivery Package to be Ingested into a designated directory which specifies an invalid filename.	
15. Place a Science Software tar file into the specified “push” directory.	This file name should not match the file specified in the Delivery Record.
16. Return to the HTML Interactive Ingest main Page.	
17. On the HTML Interactive Ingest main page, enter a valid Data Provider, and select the “Submit Ingest Request” function.	S-INS-00180, S-INS-00205, S-INS-00208
18. Submit the Delivery Record.	
19. Invoke the Ingest Monitor GUI and monitor the Ingest of the Delivery Package.	
20. Verify an error message is displayed on the console, noting a data ingest error.	
21. On the Ingest workstation, open an xterm and use this xterm to view the Ingest MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the error in ingesting the tar file.
22. Exit Netscape and initiate the Mosaic web browser. Repeat steps 5-21.	
23. Terminate the Data Server processes.	
24. Terminate all GUI processes.	
25. Exit the HTML GUI Interface.	
26. Terminate all Ingest Processes.	
27. Exit the Ingest workstation.	S-INS-00190, S-INS-00220, S-INS-00222, S-INS-00680, S-INS-00325, S-INS-00330, S-DSS-04520, S-DSS-04380, S-DSS-20020, S-DSS-20025, S-DSS-20030, S-DSS-20600, S-DSS-03712, S-DSS-05000, S-DSS-03070, S-DSS-03075

4.9.1.2 Test Case 2 : Delivery of Science Software Error Test (TS034.002)

This test demonstrates the ability to recognize and respond to error conditions encountered during the ingest of Science Software Delivery packages from the Science Computing Facility (SCF). Error testing performed includes attempted ingest under the following erroneous conditions: file size discrepancies, invalid data type identifier, invalid data provider, and file transfer failure due to invalid data location indicated in the request. All errors are recorded in the Error Log. A successful HTML Ingest will be attempted after errors are encountered to verify the errors did not inhibit successful processing.

Test Configuration:

Hardware: Workstation, Client Hosts, Working Storage, and Archive Storage.

Software: Netscape, Mosaic, INGST CI, User Network Ingest Interface CSC, SDSRV CI, STMGT CI

Data: Science Software Delivery Packages

Tools: None

Test Input:

Several valid Network Ingest Requests are submitted. Requests are entered by authorized and unauthorized requesters. Various invalid requests are submitted to include at a minimum: file size discrepancies, invalid data type identifier, invalid data provider, file transfer failure due to invalid data location indicated in the request.

Test Output:

Valid data files are ingested. The Ingest History Log is updated to include all successful data ingest. The Error Log is updated to reflect detection of unauthorized attempts to ingest data and ingest error conditions. Error status messages are sent to the requester.

Success Criteria

All valid ingest requests result in successful ingest. Data is placed on a magnetic staging disk and in the Archive. The ingest viewing tool aids in data examination. A comparison of the data before ingest and data after ingest, shows no significant differences. The Ingest History Log records all successful data ingest. The Error Log records all attempts of unauthorized requesters to ingest data and all unsuccessful attempts for data ingest resulting from error conditions.

Test Procedures:

Test Case ID: TS034.002	
Test Name: Delivery of Science Software Error Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation. > <*username*> > <*password*>	
2. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
3. Open an xterm and use this xterm to start the Science Data Server Processes.	
4. Open a third xterm, and invoke the Ingest GUI using this xterm.	
5. Place a Delivery Record pertaining to the Software Delivery Package which contains file size discrepancies, in the designated directory.	
6. Place a Science Software tar file into the specified “push” directory.	
7. Open a third xterm, and invoke the Netscape Browser and then access the HTML Interactive Ingest main Page.	
8. On the HTML Interactive Ingest main page, enter a valid Data Provider, and select the “Submit Ingest Request” function to submit the Delivery Record.	S-INS-00180, S-INS-00205, S-INS-00208
9. On the Ingest Monitor GUI and monitor the Ingest of the Delivery Package.	
10. Verify an error message is displayed on the console, noting file size discrepancies.	
11. On the Ingest workstation, open an xterm and use this xterm to view the Ingest MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the error in ingesting the tar file due to file size discrepancies.
12. Place a Delivery Record pertaining to the Software Delivery Package which contains an invalid data type id into the designated directory.	
13. Place a Science Software tar file into the specified “push” directory.	
14. On the HTML Interactive Ingest main page, enter a valid Data Provider, and select the “Submit Ingest Request” function to submit the Delivery Record.	S-INS-00180, S-INS-00205, S-INS-00208
15. On the Ingest Monitor GUI, monitor the Ingest of the Delivery Package.	
16. Verify an error message is displayed on the console, noting invalid data type id.	
17. On the Ingest workstation, open an xterm and use this xterm to view the Ingest MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the error in ingesting the tar file due to invalid data type id.
18. Place a Delivery Record pertaining to the Software Delivery Package to be Ingested into a designated directory specifying an invalid Data Provider.	

19. Place a Science Software tar file into a designated “push” directory.	
20. On the HTML Interactive Ingest main page, enter an invalid Data Provider, and select the “Submit Ingest Request” function to submit the Delivery Record.	S-INS-00180, S-INS-00205, S-INS-00208
21. On the Ingest Monitor GUI, monitor the Ingest of the Delivery Package.	
22. Verify an error message is displayed on the console, noting invalid Data Provider.	
23. On the Ingest workstation, open an xterm and use this xterm to view the Ingest MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the error in ingesting the tar file due to invalid Data Provider. S-INS-00209
24. Exit Netscape and initiate the Mosaic web browser. Repeat steps 5-23.	
25. Place a Delivery Record pertaining to the Software Delivery Package to be Ingested into the designated directory.	
26. Place a Science Software tar file into the specified “push” directory.	
27. On the HTML Interactive Ingest main page, enter a valid Data Provider, and select the “Submit Ingest Request” function to submit the Delivery Record.	S-INS-00180, S-INS-00205, S-INS-00208
28. On the Ingest Monitor GUI and monitor the Ingest of the Delivery Package.	
29. When the Ingest Monitor GUI Indicates that the Ingest Process is complete, invoke the History GUI	
30. Verify the Ingest Request was successfully completed by viewing the History Log.	
31. On the Ingest workstation, open an xterm and use this xterm to view the Data Server MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the insertion of the Software Package into the Archive.
32. Using the xterm query the database to verify that the tar file was inserted into the Archive.	
33. Exit Mosaic and initiate the Netscape web browser. Repeat steps 26-32.	Verify previous errors do not inhibit successful processing.
34. Terminate the Data Server processes.	
35. Terminate all GUI processes.	
36. Exit the HTML GUI Interface.	
37. Terminate all Ingest Processes.	
38. Exit the Ingest workstation.	S-INS-00220, S-INS-00340, S-INS-00680. S-INS-00222

4.9.1.3 Test Case 3 : User Interactive Network Archive Test (TS034.003)

This test demonstrates the ability for a user to ingest a series of data, each containing single or multiple granules of data using an interactive network ingest protocol. Data can include items such as documents, science data, and algorithms. Network Ingest Requests are submitted via an HTML Ingest GUI interface, running on both Netscape and Mosaic web browsers, based on a displayed list of existing files by the Science Computing Facility (SCF). Interfaces on both

browsers will be tested A Delivery Record is completed by the SCF and placed into a directory. Using the HTML GUI Interface, the SCF submits the Delivery Record. The Delivery Record is received and validated by Ingest Software, to determine if the request originated from an authorized source and also validated to determine if the date/time (indication of how long the data will remain available) is valid. The request is assigned a unique identifier. If valid, the data is transferred, in tar format, from a file location designated in the ingest request. If not valid, the request is recorded in the Error Log and a status message is sent to the requester. Valid requests are then submitted to Data Server for archival. A subscription notification is sent to the SCF notifying them of successful archival of the Software Package. The SCF then retrieves the archived data and performs processing and validation of the data. The validated data is then resubmitted for Ingest and Archival via the same protocol listed above. Data successfully ingested is recorded in the Ingest History Log.

Test Configuration:

Hardware: Workstation, Client Hosts, Working Storage, and Archive Storage.

Software: Netscape, Mosaic, INGST CI, User Network Ingest Interface CSC, SDSRV CI, STMGT CI

Data: Science Software Delivery Packages

Tools: None

Test Input:

Several valid Network Ingest Requests are submitted. Requests are entered by authorized requesters.

Test Output:

Valid data files are ingested. The Ingest History Log is updated to include all successful data ingest. Data Server database queries result in a listing of the ingested science software package, both in validated and unvalidated form.

Success Criteria:

All valid ingest requests result in successful ingest. Data is placed on a magnetic staging disk. The Ingest History Log records all successful data ingest. The Event Log records all attempts of unauthorized requesters to ingest data and all unsuccessful attempts for data ingest resulting from error conditions. Database queries verify the successful archival of the unvalidated and validated science software delivery package.

Test Procedures:

Test Case ID: TS034.003	
Test Name: User Interactive Network Archive Test	
Test Steps:	
1. Logon to the Ingest workstation. > <username> > <password>	
2. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
3. Open an xterm and use this xterm to start the Science Data Server Processes.	
4. Open an xterm, and invoke the Ingest GUI using this xterm.	
5. Place a Delivery Record pertaining to the Software Delivery Package to be Ingested into the designated directory.	
6. Place an unvalidated Science Software tar file into the specified "push" directory.	
7. Open an xterm, and invoke the Netscape Browser and then access the HTML Interactive Ingest main Page.	
8. Submit a subscription for the SCF to be notified when a Science Software Delivery Package is inserted into the archive.	
9. On the HTML Interactive Ingest main page, enter a valid Data Provider, and select the "Submit Ingest Request" function to submit the Delivery Record.	S-INS-00180, S-INS-00205, S-INS-00208
10. On the Ingest Monitor GUI, monitor the Ingest of the Delivery Package.	
11. When the Ingest Monitor GUI Indicates that the Ingest Process is complete, invoke the History GUI	
12. Verify Ingest Request was successfully ingested by viewing the History Log GUI.	S-INS-00490
13. On the Ingest workstation, open an xterm and use this xterm to view the Data Server MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the insertion of the Software Package into the Archive.
14. Logon to an SGI and query the database to verify that the tar file was inserted into the Archive.	
15. Verify a notification of the data insertion was sent to the SCF.	
16. Open and xterm on the Ingest Workstation, and use this xterm to invoke the Search and Order Tool	
17. Invoke the Product Request form, and submit a request to obtain the archived tar file.	
18. Place a Delivery Record pertaining to the validated Software Delivery Package to be Ingested into the designated directory.	
19. Place a validated Science Software file into the specified "push" directory.	A validated Science Software Package may contain one or many files.

20. Return to the HTML Interactive Ingest main Page.	
21. On the HTML Interactive Ingest main page, enter a valid Data Provider, and select the "Submit Ingest Request" function to submit the Delivery Record.	S-INS-00180, S-INS-00205, S-INS-00208
22. On the Ingest Monitor GUI, monitor the Ingest of the Delivery Package.	
23. When the Ingest Monitor GUI Indicates that the Ingest Process is complete, invoke the History GUI	
24. Verify Ingest Request was successfully ingested by viewing the History Log GUI.	S-INS-00490
25. On the Ingest workstation, open an xterm and use this xterm to view the Data Server MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the insertion of the validated Science Software Package into the Archive.
26. Logon to an SGI and query the database to verify that the tar file was inserted into the Archive.	
27. Exit the SGI workstation.	
28. Terminate the Data Server processes.	
29. Terminate all GUI processes.	
30. Exit the HTML GUI Interface, and exit Netscape.	
31. Terminate all Ingest Processes.	
32. Exit the Ingest workstation.	S-INS-00190, S-INS-00220, S-INS-00222, S-INS-00680, S-INS-00325, S-INS-00330, S-DSS-04520, S-DSS-04380, S-DSS-20020, S-DSS-20025, S-DSS-20030, S-DSS-20600, S-DSS-03870, S-DSS-03872, S-DSS-20010, S-DSS-03712, S-DSS-03030, S-DSS-03040

4.9.1.4 Test Case 4 : User Interactive Network Status Request Test (TS034.004)

This test demonstrates the ability for a user to request status of Network Ingest Requests. A series of Ingest Requests are submitted. Before the ingest process completes, Ingest Status Requests are submitted using the HTML Interface. Status Requests are submitted to determine the status of specific ongoing Ingest Requests, identified by a Request Identifier, to determine the status of all the user's ongoing requests, or to view the Ingest Request Completion Status using the HTML Interface. The requester has the capability to display the status information. Status display include: ingest request identifier, request state, and completion statuses. Status returned from the User Interactive Network status request will be captured with the Monitor GUI display for the same information for verification.

Test Configuration:

Hardware: Workstation, Client Hosts, Working Storage, and Archive Storage.

Software: Netscape, Mosaic, INGST CI, User Network Ingest Interface CSC, SDSRV CI, STMGT CI

Data: Science Software Delivery Packages

Tools: None

Test Inputs:

A series of Network Ingest Requests and Document Ingest Requests are entered. Ingest Status Requests are submitted to view ingest processing status. Several requests are made to include viewing of status according to all possible selectable parameters. Attempts to submit Ingest Status Requests are made by unauthorized requesters.

Test Outputs:

Ingest processing status views are displayed according to selected parameters.

Success Criteria:

All Ingest Status Requests submitted are received and processed. For requests submitted by authorized requesters, views are displayed to the screen. The views are examined to verify all information requested is properly displayed according to the parameters given in the request and the correct status is given. For requests submitted by unauthorized requesters, an error message is displayed on the console and the error is recorded in the Error Log.

Test Procedures:

Test Case ID: TS034.004	
Test Name: User Interactive Status Request Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation. > <username> > <password>	
2. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
3. Open an xterm and use this xterm to start the Science Data Server Processes.	
4. Open an xterm, and invoke the Ingest GUI Interface using this xterm.	
5. Place a several Delivery Records pertaining to the Software Delivery Package to be Ingested into the designated directory.	Delivery Records submitted should include both valid and invalid Delivery Records.
6. Invoke the Ingest Monitor GUI, to monitor ingest requests by Data Provider.	S-INS-00270, S-INS-00280, S-INS-00290, S-INS-00300, S-INS-00310, S-INS-00315
7. Place Science Software tar files into the specified “push” directory.	
8. Open an xterm, and invoke the Netscape Browser and then access the HTML Interactive Ingest main Page.	
9. On the HTML Interactive Ingest main page, enter a valid Data Provider, and select the “Submit Ingest Request” function to submit the Delivery Record.	S-INS-00180, S-INS-00205, S-INS-00208
10. Select “Monitor On-Going Request Status” from the Interactive Ingest Main Form.	S-INS-00235, S-INS-00240, S-INS-00250, S-INS-00260

11. Verify all Ingest Requests were accepted for all valid requests submitted, and that error messages appear for invalid Delivery records submitted. Compare information obtained here with the corresponding information in the Ingest Monitor GUI. The information should be the same.	
12. Go Back to the Interactive Ingest Main Form, and invoke the "View Ingest Request Completion Status" function.	S-INS-00235, S-INS-00240
13. Select any series of Requests from the "View Ingest Request Completion Status" page. This will return the completed status of each request.	Valid Requests return successful DAA messages, and invalid requests include error messages pertaining to why the ingest failed. S-INS-00235, S-INS-00240
14. Verify all Ingest Requests were successfully ingested by viewing the History Log GUI.	S-INS-00490
15. On the Ingest workstation, open an xterm and use this xterm to view the Ingest MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the error in ingesting tar file due to invalid Delivery Records.
16. Exit Netscape and initiate the Mosaic web browser. Repeat steps 5-15.	
17. On the Ingest workstation, open an xterm and use this xterm to view the Data Server MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the insertion of the Software Package into the Archive.
18. Logon to an SGI and query the database to verify that the tar file was inserted into the Archive.	
19. Exit the SGI Workstation.	
20. Terminate the Data Server processes.	
21. Terminate all GUI processes.	
22. Exit the HTML GUI Interface.	
23. Terminate all Ingest Processes.	
24. Exit the Ingest workstation.	
25. Logon to the Ingest workstation using a logon without update permissions. > <username> > <password>	
26. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
27. Open an xterm and use this xterm to start the Science Data Server Processes.	
28. Open an xterm, and invoke the Ingest GUI Interface using this xterm.	
29. Place a several Delivery Records pertaining to the Software Delivery Package to be Ingested into the designated directory.	Delivery Records submitted should include both valid and invalid Delivery Records.
30. Invoke the Ingest Monitor GUI, to monitor ingest requests by Data Provider.	S-INS-00270, S-INS-00280, S-INS-00290, S-INS-00300, S-INS-00310, S-INS-00315
31. Place Science Software tar files into the specified "push" directory.	
32. Open an xterm, and invoke the Netscape Browser and then access the HTML Interactive Ingest main Page.	

33. On the HTML Interactive Ingest main page, enter a valid Data Provider, and select the "Submit Ingest Request" function to submit the Delivery Record.	S-INS-00180, S-INS-00205, S-INS-00208
34. Select "Monitor On-Going Request Status" from the Interactive Ingest Main Form. View error message stating update was requested by an unauthorized user.	S-INS-00295
35. Open an xterm on the Ingest Workstation and use this xterm to view the Error Log.	Error Log should contain message stating status was requested by an unauthorized user. S-INS-00295
36. Terminate all GUI processes.	
37. Exit the HTML GUI Interface.	
38. Terminate all Ingest Processes.	
39. Exit the Ingest workstation.	S-INS-00220, S-INS-00680, S-INS-00340, S-INS-00222

4.9.2 TSDIS Insert Thread (TS035)

This thread demonstrates the capability to insert data into the Science Data Server via data insert requests for TSDIS data and associated metadata. Data types used during testing include VIRS, TMI, GU and PR data sets.

TS035.001 TSDIS Ingest and Archive Test

TS035.002 TRMM TSDIS Ingest and Archive Error Log Test

TS035.003 TRMM Authentication Request with Valid ID Test

TS035.004 TRMM Authentication Request with Invalid ID Test

4.9.2.1 Test Case 1: TSDIS Ingest and Archive Test (TS035.001)

This test demonstrates the ability to establish a network connection between the TSDIS and the ECS at the GSFC and MSFC DAACs for ingest of a series of data collections, including collections containing single and multiple granules of data. The TSDIS sends an Authentication Request to the ECS. The ECS verifies the Authentication Request as from a valid source and a connection is established allowing the TSDIS to send DANs. The DANs are received and validated. DAAs are sent to the TSDIS. Upon validation, the data is retrieved from the TSDIS. Data is logged in the Ingest History Log and receipt of the network ingest request, and response to the network ingest request is reported to MSS event log services. The ingest processing of all requests can be monitored using the ECS Ingest GUI. Ingest software determines the appropriate data server to receive the request by means of an Advertisement, then generates an insert request. The insert is accepted, validated, acknowledged and logged by the Data Server. The data and associated metadata is archived, the DBMS (inventory) is updated with core metadata and status is returned to the Ingest Client. The Ingest History Log is updated to reflect the insert. This log may be viewed using the Ingest GUI interface. Ingest sends Data Delivery Notices (DDNs) to the data providers to indicate successful transfer and archival of the data.

Test Configuration:

Hardware: Ingest workstation, Client Host, Data Server Workstation

Software: INGST CI, SDSRV CI, STGMT CI, Advertising Services

Data: PR, TMI, and VIRS data.

Tools: TSDIS Ingest Simulator.

Test Input:

Inputs to this test include: Data Availability Notices, at least one data file for each data type to include PR, TMI, GU, PR and VIRS data for single and multiple file ingest.

Test Output:

Outputs to this test include notices or messages to TSDIS indicating successful/unsuccessful transfer of data. The History Log is displayed to verify ingest of data sets. The Error Log is updated to record error conditions. Data is displayed for examination. The Ingest History Log, Inventory Log and Archive Activity Logs are updated to include all successful data ingest.

Success Criteria:

For valid data submission the data is successfully ingested. Data is placed on a magnetic staging disk. Data acknowledgment for each DAN is sent to TSDIS. Notices are sent to TSDIS acknowledging data delivery for valid data sets and error messages for unsuccessful data transfers. Acknowledgments and status messages are successfully returned for Data Insert Requests. Comparison of the data before ingest to data which is successfully ingested, shows no differences. All messages contain correct and appropriate wording. The Ingest History Log, and Inventory Log entries reflect the ingest activities. The ECS Ingest GUI interface gives status during and after ingest of data.

Test Procedures:

Test Case ID: TS035.001	
Test Name: TSDIS Ingest and Archive Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation.	For in house testing the Ingest workstation will simulate all DAACs.
2. Open an xterm and use this xterm to start an Ingest Client xterm, Ingest Server xterm and Data Server xterm.	
3. On the Ingest Server xterm start the Ingest Server process(es) if they are not currently running.	
4. On the Data Server xterm logon to the Science Data Server workstation and start the Science Data Server process(es) if they are not currently running.	
5. On the Ingest Client xterm start the Ingest Client simulator.	

6. On the Ingest Workstation, open an xterm and invoke the Ingest GUI.	
7. Using the Ingest GUI, invoke the Ingest Monitor GUI.	
8. Monitor the Ingest and Processing of the request using the Ingest Monitor GUI.	
9. On the Ingest Client xterm create an Ingest Session.	Note start time. S-INS-00317, S-INS-00316
10. On the Ingest Client xterm send a DAN containing TSDIS data.	Test is to be repeated for each data type. S-INS-00010, S-INS-00316, S-INS-00560
11. On the Ingest Client xterm confirm receipt of the DAA.	The DAA indicates that the DAN was accepted. S-INS-00020
12. On the Ingest Client xterm confirm receipt of the DDN.	The DDN indicates that the data was ingested and archived successfully. S-INS-00060
13. On the Ingest Client xterm send the DDA and then shutdown the Ingest Client simulator.	Note stop time.
14. On the Ingest Server xterm print out the Event Log.	Verify receipt and confirmation of DAN(s), DAA(s), and DDN(s) entries in the Log. S-INS-00050
15. Using the Ingest GUI, invoke the History GUI.	
16. Enter Search criteria for the previous Ingest Request	S-INS-00325, S-INS-00490, S-INS-00500, S-INS-00510
17. Verify the request was successfully ingested, processed and archived.	
18. Exit the History GUI.	
19. Exit the Ingest Monitor GUI.	
20. On the Data Server xterm print out a list of the archive storage directory.	The listing of the archive storage directory contains all files identified in the DAN. S-INS-00408, S-INS-00430
21. On the Data Server xterm use SQL queries to verify that the Science Data Server database has been updated with the appropriate Metadata.	The SQL queries return information pertaining to the data in the DAN. S-DSS-04520, S-DSS-04530
22. Exit the Ingest Client xterm.	
23. Exit all GUIs and terminate the GUI processes.	
24. On the Ingest Server xterm shutdown the Ingest Server process(es) and exit the Ingest Server xterm.	
25. On the Data Server xterm shutdown the Science Data Server process(es) and exit the Data Server xterm.	
26. Compare the data that was ingested above with the respective data that was archived.	The TRMM data that was archived compares favorably with the respective data before it was ingested.

27. Logout of the Ingest workstation.	S-INS-00325, S-INS-00330, S-INS-00340, S-INS-00409, S-INS-00420, S-INS-00440, S-INS-00430, S-INS-00460, S-INS-00470, S-INS-00480, S-DSS-20020, S-DSS-20025, S-DSS-20030, S-DSS-04520, S-DSS-04380, S-DSS-20600, S-DSS-01820, S-DSS-03870, S-DSS-03872, S-DSS-20010, S-DSS-03412, S-DSS-03480, S-DSS-03500, S-DSS-03560, S-DSS-00520, S-DSS-03560, S-DSS-00520, S-DSS-00080, S-DSS-00090, S-DSS-20620, S-DSS-20621, S-DSS-20622, S-DSS-03010, S-DSS-03020, S-DSS-03110, S-DSS-03120, S-DSS-03130, S-DSS-03350, S-DSS-03360, S-DSS-03366, S-DSS-03367, S-DSS-03369, S-DSS-03370, S-DSS-03380, S-DSS-04360, S-DSS-00150, S-DSS-03170, S-DSS-03390, S-DSS-04520

4.9.2.2 Test Case 2: TRMM TSDIS Ingest and Archive Error Log Test (TS035.002)

This test demonstrates the ability to recognize and respond to error conditions encountered during ingest of TSDIS data. Error testing performed includes, attempted ingest under the following erroneous conditions: file transfer failure, file size discrepancies, missing required metadata, metadata parameters out of range, invalid user identifier, invalid request priority, and the inability to transfer data within the specified time window. Status is returned to the Ingest Client. Ingest returns status to the external data provider. All errors are recorded in an Error Log.

Test Configuration:

Hardware: Workstation, Client Host, Working Storage.

Software: INGST CI, SDSRV CI, STGMT CI

Data: Invalid PR, TMI, GV and VIRS data.

Tools: TSDIS Ingest Simulator.

Test Input:

Inputs to this test include a series of erroneous data requests. All error conditions stated in this test description are tested.

Test Output:

The Error Log is updated to record error conditions. Data is displayed for examination.

Success Criteria:

Errors are recognized and appropriate entries are made to the error log. All error messages contain correct and appropriate wording. The Error Log is displayed and inspected to verify that log contents reflects ingest activities.

Test Procedures:

Test Case ID: TS035.002	
Test Name: TRMM TSDIS Ingest and Archive Error Log Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation.	For in house testing the Ingest workstation will simulate all DAACs.
2. Open an xterm and use this xterm to start an Ingest Client xterm, Ingest Server xterm and Data Server xterm.	
3. On the Ingest Server xterm start the Ingest Server process(es) if they are not currently running.	
4. On the Data Server xterm logon to the Science Data Server workstation and start the Science Data Server process(es) if they are not currently running.	
5. On the Ingest Client xterm start the Ingest Client simulator.	
6. On the Ingest Workstation, open an xterm and invoke the Ingest GUI.	
7. Using the Ingest GUI, invoke the Ingest Monitor GUI.	
8. Monitor the Ingest and Processing of the request using the Ingest Monitor GUI.	
9. On the Ingest Client xterm create an Ingest Session.	Note start time.
10. On the Ingest Client xterm send a DAN containing TSDIS data.	Test is to be repeated for each data type. S-INS-00010, S-INS-00316, S-INS-00020
11. On the Ingest Client xterm confirm receipt of the DAA.	The DAA indicates that the DAN was accepted.
12. On the Ingest Client xterm confirm receipt of the DDN.	The DDN indicates that the data was ingested and archived successfully. S-INS-00060
13. On the Ingest Client xterm send the DDA and then shutdown the Ingest Client simulator.	Note stop time.
14. On the Ingest Server xterm print out the Event Log.	Verify receipt and confirmation of DAN(s) entry in the Log.
15. Using the Ingest GUI, invoke the Ingest History GUI.	
16. Enter Search criteria for Ingest Request	
17. Verify request was successfully ingested, processed and archived.	
18. Exit the History GUI.	
19. Exit the Ingest Monitor GUI.	
20. On the Data Server xterm print out a list of the archive storage directory.	The listing of the archive storage directory contains all files identified in the DAN.
21. On the Data Server xterm use SQL queries to verify that the Science Data Server database has been updated with Metadata.	The SQL queries return information pertaining to the data in the DAN.
22. On the Ingest Client xterm start the Ingest Client simulator.	
23. Using the Ingest GUI, invoke the Ingest Monitor GUI.	

24. Monitor the Ingest and Processing of the request using the Ingest Monitor GUI.	
25. On the Ingest Client xterm create an Ingest Session.	Note start time.
26. On the Ingest Client xterm send a DAN containing nonexistent TSDIS data files.	This will simulate ftp errors. S-INS-00010
27. On the Ingest Client xterm confirm receipt of the DAA. DAA will indicate that data was not ingested due to an ftp error.	S-INS-00060
28. On the Ingest Client xterm, view the Error Log which will specify the ftp errors.	S-INS-00340, S-INS-00490
29. On the Ingest Client xterm send a DAN containing file size discrepancies.	S-INS-00010
30. On the Ingest Client xterm confirm receipt of the DAA. The DAA will indicate that data was not ingested due to file size discrepancies.	S-INS-00060
31. On the Ingest client xterm, view the Error Log which will specify file size discrepancy errors.	S-INS-00340, S-INS-00490
32. On the Ingest Client xterm send a DAN containing missing required metadata.	S-INS-00010
33. On the Ingest Client xterm confirm receipt of the DAA. DAA will indicate that data was not ingested due to missing required metadata.	S-INS-00060, S-DSS-04520, S-DSS-04530
34. On the Ingest Client xterm, view the Error Log which will specify ingest errors occurred due to missing required metadata.	S-INS-00340, S-INS-00490
35. On the Ingest Client xterm send a DAN containing metadata parameters out of range.	S-INS-00010
36. On the Ingest Client xterm confirm receipt of the DAA. The DAA indicates that data was not ingested due to metadata parameters out of range.	S-INS-00060, S-DSS-04520, S-DSS-04530
37. On the Ingest client xterm, view the Error Log which specifies ingest errors occurred due to metadata parameters out of range.	S-INS-00340, S-INS-00490
38. On the Ingest Client xterm send a DAN containing expired times.	S-INS-00010
39. On the Ingest Client xterm confirm receipt of the DAA. The DAA will indicate that data was ingested.	
40. On the Ingest client xterm, view the Error Log which should specify ingest was complete, but data was ingested with an expired time.	S-INS-00060, S-INS-00340, S-INS-00440
41. Exit the Ingest Client xterm.	
42. Exit all GUIs and terminate the GUI processes.	
43. On the Ingest Server xterm shutdown the Ingest Server process(es) and exit the Ingest Server xterm.	
44. On the Data Server xterm shutdown the Science Data Server process(es) and exit the Data Server xterm.	
45. Logout of the Ingest workstation.	S-DSS-04540, S-DSS-20030

4.9.2.3 Test Case 3: TRMM Authentication Request with Valid ID Test (TS035.003)

This test demonstrates the ability of the ECS at the LaRC and GSFC DAACs to receive a valid Authentication Request from the SDPF/TSDIS and correctly verify if the request is sent from an approved authorized source. Upon successfully establishing a communications connection, the SDPF/TSDIS sends an Authentication Request to the ECS. The request is a formatted message sent using UNIX sockets. The request includes identification (ID) data. The ECS receives the Authentication Request and determines that the originator of the request is authorized by checking the ID data. A response is sent using UNIX sockets to the SDPF/TSDIS indicating the Authentication Request as valid and therefore the established connection is accepted.

Test Configuration:

Hardware: Workstation, Client Host, Working Storage.

Software: INGST CI, SDSRV CI, STGMT CI

Data: Invalid PR, TMI, GV and VIRS data.

Tools: Ingest Simulator.

Test Inputs:

A series of Authentication Requests in correct Standard Formatted Data Unit (SFDU) format with valid IDs.

Test Outputs:

Test Log containing Authentication Request responses.

Success Criteria:

A communications connection is successfully established and all Authentication Requests sent by the SDPF/TSDIS are received and correctly determined to have valid IDs. Each Authentication Request is answered by a response indicating the acceptance of the request and therefore acceptance of the connection.

Test Procedures:

1. Test Case ID: TS035.003	
2. Test Name: TRMM Authentication Request with Valid ID	
3. Test Steps:	Comments:
4. Logon to the Ingest Server workstation.	For in house testing the Ingest Server will act as the Ingest Server for all DAACs.
5. Start the Ingest Server process(es) if they are not currently running.	
6. Remote logon to the simulated Data Provider (SDPF) workstation three times using three xterm's.	

7. On the Ingest Server workstation, open an xterm and change directory to the simulator executable directory and then start the simulator user interface.	
8. On the Ingest Server workstation, open a second xterm and change directory to the simulator executable and start the simulator.	
9. Configure the correct authentication request file for the LaRC DAAC.	
10. Send a valid Authentication Request to the Ingest Server using the Simulator User Interface.	S-INS-00030
11. Confirm receipt of Authentication Response on the User Interface.	
12. On the Ingest Server workstation view the Event Log for a successful authentication of provider message.	
13. Using the Simulator, send a valid DAN.	S-INS-00010
14. On the Ingest Server workstation, printout the Event Log.	Examine printout to verify successful authentication of provider message, and receipt of DAN message. S-INS-00040
15. Shut down the simulator.	
16. Logoff all xterms and then logoff the Ingest Server Workstation.	

4.9.2.4 Test Case 4: TRMM Authentication Requests with Invalid ID Test (TS035.004)

This test demonstrates the ability of the ECS at the LaRC and GSFC DAACs to receive and recognize an invalid Authentication Request from the SDPF/TSDIS and correctly verify that the request is sent from an unauthorized source. Upon successfully establishing a communications connection, the SDPF/TSDIS sends an Authentication Request to the ECS. The request is a formatted message sent using UNIX sockets. The request includes invalid ID data. The ECS receives the Authentication Request and determines that the originator of the request is not authorized by checking the ID data. A response is sent using UNIX sockets to the SDPF/TSDIS indicating the Authentication Request is invalid and therefore the established connection is rejected.

Test Configuration:

Hardware: Workstation, Client Host, Working Storage.

Software: INGST CI, SDSRV CI, STGMT CI

Data: Invalid PR, TMI, GV and VIRS data.

Tools: Ingest Simulator.

Test Inputs:

A series of Authentication Requests in correct SFDU format with IDs not recognized by the DAAC as that of a valid user.

Test Outputs:

Log containing responses indicating rejection of the Authentication Requests.

Success Criteria:

A communications connection is rejected and all Authentication Requests sent by the SDPF/TSDIS are received and correctly determined to have invalid IDs. Each Authentication Request is answered by a response indicating the rejection of the request and therefore rejection of the connection.

Test Procedures:

Test Case ID: TS035.004	
Test Name: TRMM Authentication Request with Invalid ID	
Test Steps:	Comments:
1. Logon to the Ingest Server workstation.	For in house testing the Ingest Server will act as the Ingest Server for all DAACs.
2. Start the Ingest Server process(es) if they are not currently running.	
3. Remote logon to the simulated Data Provider (SDPF) workstation three times using three xterm's.	
4. On the Ingest Server workstation, open an xterm and change directory to the simulator executable directory and then start the simulator user interface.	
5. On the Ingest Server workstation, open a second xterm and change directory to the simulator executable and start the simulator.	
6. Configure the correct authentication request file for the DAAC.	
7. Send an invalid Authentication Request to the Ingest Server using the Simulator User Interface.	
8. Confirm receipt of Authentication Response on the User Interface.	
9. On the Ingest Server workstation view the Event Log for an unsuccessful authentication of provider message.	
10. On the Ingest Server workstation, printout the Event Log.	Examine printout to verify unsuccessful authentication of provider message.
11. Configure the correct authentication request file for the DAAC.	
12. Send an invalid Authentication Request to the Ingest Server using the Simulator User Interface.	S-INS-00030
13. Confirm receipt of Authentication Response on the User Interface.	

14. On the Ingest Server workstation view the Event Log for an unsuccessful authentication of provider message.	
15. Using the Simulator, send a valid DAN.	
16. Confirm error message stating DAN could not be sent due to no authentication of provider message appears in the Event Log.	
17. On the Ingest Server workstation, printout the Event Log.	Examine printout to verify unsuccessful authentication of provider message. S-INS-00040
18. Shut down the simulator.	
19. Logoff all xterms and then logoff the Ingest Server Workstation.	

4.9.3 Ingest Ancillary Data Preprocessing Thread (TS036)

This thread demonstrates the capability to transfer data from accessible network locations at an external data provider facility to support a Polling Interface protocol and perform preprocessing activities including metadata extraction and data conversion. This includes working storage I/O access and providing status displays. This thread also demonstrates error handling capabilities. The external Data Providers for the thread will be NESDIS and DAO. Tests include:

TS036.001 NMC PB5 Conversion Test

TS036.002 Binary Floating Point Conversion Test

TS036.003 Binary Integer Conversion Test

TS036.004 NESDIS Data Insert Test

TS036.005 Polling Data Insert Error Test

TS036.006 Polling Period Test

TS036.007 DAO GSFC Data Insert Test

4.9.3.1 Test Case 1: NMC PB5 Conversion Test (TS036.001)

This test demonstrates the ability to translate ingested data to an ECS standard data format. Data arriving for ingest may be in various formats. Upon receiving data with date/time parameters in NMC PB5 format, the Ingest Subsystem generates core metadata with the date/time parameters converted to the ECS standard date/time format.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, DAO Client Host, Working Storage.

Software: Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Operator Ingest Interface CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, STMGT.

Data: NMC: FNL data

Tools: None

Test Input:

Inputs to this test include placement of a Delivery Record into the polling location on the DAO Client Host.

Test Output:

Outputs to the test include directory listings of the Working Storage and analysis of the core metadata file..

Success Criteria:

This test is deemed successful if the date/time parameters in the core metadata generated for the NMC FNL data is in the ECS standard date/time format and has been converted correctly.

Test Procedures:

Test Case ID: TS036.001	
Test Name: NMC PB5 Conversion Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest of the data are active except for the polling process.
2. Open an xterm and use this xterm to start a DAO Client xterm, an Ingest Client xterm and a Working Storage xterm. > xterm -T DAO_Client & > xterm -T Ingest_Client & > xterm -T Working_Storage & > exit	
3. On the Ingest Client xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > ./InGUISession &	
4. On the INGEST GUI select the Monitor & Control function.	
5. On the INGEST GUI select Search By: Data Provider and enter DAO. Then select Text View.	
6. On the DAO Client xterm login to the simulated DAO Client Host. > rlogin <hostname> > <password>	
7. On the DAO Client xterm place the Delivery Record containing the NMC FNL data in the poll location.	
8. On the Ingest Client xterm start the DAO Ingest Polling process.	
9. Use the INGEST GUI to monitor the ingest process.	

10. When the INGEST GUI indicates that the ingest process is 100 percent complete continue with the next step.	
11. On the Working Storage xterm view the NMC FNL metadata file that was generated.	Verify that the format of the date/time in the NMC FNL metadata file is in ECS standard date/time format and that the date/time has been converted correctly. S-INS-00403(a)
12. On the Ingest Client xterm shutdown the Ingest GUI.	
13. Exit the Ingest Client xterm.	
14. On the DAO Client xterm remove the Delivery Record file from the poll location.	
15. Exit the DAO Client xterm.	
16. Logout of the Ingest Client workstation.	

4.9.3.2 Test Case 2: Binary Floating Point Conversion Test (TS036.002)

This test demonstrates the ability to translate ingested data to an ECS standard data format. Data arriving for ingest may be in various formats. Upon receiving data in binary floating point format, the Ingest Subsystem generates core metadata with the binary floating point format converted to the ECS ASCII floating point format.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, NESDIS Client Host, Working Storage.

Software: Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Operator Ingest Interface CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, STMGT.

Data: Aerosol Weekly 100km Analyzed Field data

Tools: None

Test Input:

Inputs to this test include Aerosol Weekly 100km Analyzed Field ancillary data placed in the poll location on the NESDIS Client Host.

Test Output:

Outputs to the test include directory listings of the Working Storage and analysis of the core metadata file..

Success Criteria:

This test is deemed successful if the binary floating point parameters in the core metadata generated for the Aerosol Weekly 100km Analyzed Field data is in the ECS ASCII floating point format.

Test Procedures:

Test Case ID: TS036.002	
Test Name: Binary Floating Point Conversion Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest of the data are active except for the polling process.
2. Open an xterm and use this xterm to start a NESDIS Client xterm, an Ingest Client xterm and a Working Storage xterm. > xterm -T NESDIS_Client & > xterm -T Ingest_Client & > xterm -T Working_Storage & > exit	
3. On the Ingest Client xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > ./InGUISession &	
4. On the INGEST GUI select the Monitor & Control function.	
5. On the INGEST GUI select Search By: Data Provider and enter NESDIS. Then select Text View.	
6. On the NESDIS Client xterm login to the simulated NESDIS Client Host. > rlogin <hostname> > <password>	
7. On the NESDIS Client xterm place an Aerosol Weekly 100km Analyzed Field data file in the poll location.	
8. On the Ingest Client xterm start the NESDIS Ingest Polling process.	
9. Use the INGEST GUI to monitor the ingest process.	
10. When the INGEST GUI indicates that the ingest process is 100 percent complete continue with the next step.	
11. On the Working Storage xterm view the Aerosol Weekly 100km Analyzed Field metadata file that was generated.	Verify that the format of the binary floating point values in the Aerosol Weekly 100km Analyzed Field metadata file is in ECS ASCII floating point format and that the values have been converted correctly. S-INS-00403(b)
12. On the Ingest Client xterm shutdown the Ingest GUI.	
13. Exit the Ingest Client xterm.	
14. On the NESDIS Client xterm remove the Aerosol Weekly 100km Analyzed Field data file from the poll location.	
15. Exit the NESDIS Client xterm.	
16. Logout of the Ingest Client workstation.	

4.9.3.3 Test Case 3: Binary Integer Conversion Test (TS036.003)

This test demonstrates the ability to translate ingested data to an ECS standard data format. Data arriving for ingest may be in various formats. Upon receiving data in binary integer format, the Ingest Subsystem generates core metadata with the binary integer format converted to the ECS ASCII integer format.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, NESDIS Client Host, Working Storage.

Software: Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Operator Ingest Interface CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, STMGT.

Data: Normalized Vegetation Index data

Tools: None

Test Input:

Inputs to the test include Normalized Vegetation Index ancillary data placed in the poll location on the NESDIS Client Host.

Test Output:

Outputs to the test include directory listings of the Working Storage and analysis of the core metadata file..

Success Criteria:

This test is deemed successful if the binary integer parameters in the core metadata generated for the Normalized Vegetation Index data is in the ECS ASCII integer format.

Test Procedures:

Test Case ID: TS036.003	
Test Name: Binary Integer Conversion Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest of the data are active except for the polling process.
2. Open an xterm and use this xterm to start a NESDIS Client xterm, an Ingest Client xterm and a Working Storage xterm. > xterm -T NESDIS_Client & > xterm -T Ingest_Client & > xterm -T Working_Storage & > exit	

3. On the Ingest Client xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > ./InGUISession &	
4. On the INGEST GUI select the Monitor & Control function.	
5. On the INGEST GUI select Search By: Data Provider and enter NESDIS. Then select Text View.	
6. On the NESDIS Client xterm login to the simulated NESDIS Client Host. > rlogin <hostname> > <password>	
7. On the NESDIS Client xterm place a Normalized Vegetation Index data file in the poll location.	
8. On the Ingest Client xterm start the NESDIS Ingest Polling process.	
9. Use the INGEST GUI to monitor the ingest process.	
10. When the INGEST GUI indicates that the ingest process is 100 percent complete continue with the next step.	
11. On the Working Storage xterm view the Normalized Vegetation Index metadata file that was generated.	Verify that the format of the binary integer values in the Normalized Vegetation Index metadata file is in ECS ASCII integer format and that the values have been converted correctly. S-INS-00403(c)
12. On the Ingest Client xterm shutdown the Ingest GUI.	
13. Exit the Ingest Client xterm.	
14. On the NESDIS Client xterm remove the Normalized Vegetation Index data file from the poll location.	
15. Exit the NESDIS Client xterm.	
16. Logout of the Ingest Client workstation.	

4.9.3.4 Test Case 4: NESDIS Data Insert Test (TS036.004)

This test demonstrates the ability to receive and ingest ancillary data from NESDIS, perform data preprocessing, update the DBMS (inventory) with core metadata and insert the science data and metadata into the archive using the Polling without Delivery Record Interface protocol. A polling process at the ECS DAAC polls at a pre-set interval, predetermined locations at NESDIS for new data for ingest. Upon detection of new data the ECS DAAC FTPs the data to a Working Storage location that has been allocated. Metadata is then extracted, the data is converted to and ECS acceptable format and the Advertising Service is called to determine the appropriate Data Server to send and insert request too. The insert request is then submitted to the Data Server for data archiving. The insert is accepted, validated and acknowledged by the Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The ancillary data and metadata are then placed in the archive location that has been allocated. All detailed ingest and archive activities are recorded in the Ingest and Data Server History Logs as well as the MSS Event Log. Ingest activities are monitored using the INGEST GUI.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Server, NESDIS Client Host, Working Storage and Archive Storage

Software: Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC, SDRV, STGMT.

Data: Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover, Layer/Level Ozone

Tools: None

Test Input:

Inputs to the test include placement of data into the polling locations on the NESDIS Client Host.

Test Output:

Outputs to this test include monitoring ingest requests, screen displays of all logs, DBMS (inventory) queries and directory listings of the archive.

Success Criteria:

This test is deemed successful if the ingest and archive of all data is successful. The ingest activities were successfully monitored. All logs were updated with detailed information. The database queries verify that the core metadata for all data has been inserted into the DBMS (inventory). The directory listings of the archive verify that all data has been successfully archived.

Test Procedures:

Test Case ID: TS036.004	
Test Name: NESDIS Data Insert Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest and archive of all data are active except for the polling process.
2. Open an xterm and use this xterm to start a NESDIS Client xterm, an Ingest Client xterm and a Data Server xterm. > xterm -T NESDIS_Client & > xterm -T Ingest_Client & > xterm -T Data_Server & > exit	
3. On the Ingest Client xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > ./InGUISession &	

4. On the INGEST GUI select the Monitor & Control function.	
5. On the INGEST GUI select Search By: Data Provider and enter NESDIS. Then select Text View.	
6. On the Data Server xterm login to the Science Data Server workstation. > rlogin <hostname> > <password>	
7. On the Data Server xterm start up the Science Data Server GUI.	
8. On the Data Server GUI select the System Requests function.	
9. On the NESDIS Client xterm login to the simulated NESDIS Client Host. > rlogin <hostname> > <password>	
10. On the NESDIS Client xterm place the following data into their respective poll locations: Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone.	
11. On the Ingest Client xterm start the NESDIS Ingest Polling process.	
12. Use the INGEST GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the NESDIS. S-INS-00110, S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-0330
13. When the INGEST GUI indicates that the ingest process is 100 percent complete continue with the next step.	
14. On the INGEST GUI select the History Log function.	
15. On the INGEST GUI enter a date and time just prior to starting the test in the Start Date/Time field and enter NESDIS in the Data Provider field.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 12. S-INS-00405(a,b), S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510
16. On the Ingest Client xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the ingest of the data from the NESDIS. S-INS-00410, S-INS-00430
17. On the Data Server GUI verify that there was a System Request to insert the Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone data.	S-DSS-01150, S-DSS-20025
18. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone data. S-DSS-00080, S-DSS-00090, S-DSS-03004, S-DSS-03006, S-DSS-20010

19. On the Data Server xterm query the Science Data Server inventory database to make sure that all core metadata was inserted.	Verify that the queries return information pertaining to the ingested Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone data. S-INS-00405(c), S-DSS-03390, S-DSS-04360, S-DSS-04380
20. On the Data Server xterm obtain a directory listing of the archive to make sure that all data files were archived.	Verify that the Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone data and metadata files show up in the list command and are in HDF format.. S-INS-00402, S-INS-00404(a), S-DSS-00694, S-DSS-03170, S-DSS-03380, S-DSS-03414, S-DSS-04475, S-DSS-21365(p), S-DSS-21366(p)
21. On the Data Server xterm shutdown the Data Server GUI.	
22. Exit the Data Server xterm.	
23. On the Ingest Client xterm shutdown the Ingest GUI.	
24. Exit the Ingest Client xterm.	
25. On the NESDIS xterm remove the Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone data files from the poll locations.	
26. Exit the NESDIS xterm.	
27. Logout of the Ingest Client workstation.	S-INS-00100, S-INS-00408, S-INS-00409, S-INS-00440, S-INS-00630, S-DSS-00150, S-DSS-03870, S-DSS-03872, S-DSS-20020

4.9.3.5 Test Case 5: Polling Data Insert Error Test (TS036.005)

This test demonstrates the ability to recognize and respond to error conditions encountered during the startup of the polling process and during ingest of data when using the polling file transfer protocol. Error testing is performed to include: missing arguments during startup, file transfer error, file size discrepancy, invalid data type identifier, missing required metadata, metadata parameters out of range and failure to archive data. All errors are reported to the logs.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Data Server, DAO Client Host, Working Storage

Software: Polling Ingest CSC, Ingest Request Processing CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Storage Management CSC, SDSRV CSC

Data: NMC data: valid data, missing required metadata, metadata parameters out of range.

Tools: None

Test Input:

Inputs to this test include operational commands to start the Polling process with missing arguments, operational commands to start the Polling process successfully and Delivery Record files placed in the DAO poll directory.

Test Output:

Outputs to this test include displays of the MSS Event log file and E-mail messages.

Success Criteria:

This test is deemed successful if the Polling process is not started when the operational commands with missing arguments are executed and status messages for all errors encountered during the Polling Ingest process are entered in the MSS Event log and sent to the DAO as E-mail.

Test Procedures:

Test Case ID: TS036.005	
Test Name: Polling Data Insert Error Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest of all data are active except for the polling process.
2. Open an xterm and use this xterm to start a DAO xterm, Ingest GUI xterm, Ingest Client xterm and a Data Server xterm. > xterm -T DAO & > xterm -T Ingest_GUI & > xterm -T Ingest_Client & > xterm -T Data_Server & > exit	
3. On the DAO xterm login to the workstation that is to simulate DAO. > rlogin <hostname> > <password>	
4. On the Ingest Client xterm login to DCE.	
5. On the Ingest GUI xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > InGUISession &	
6. On the INGEST GUI select the Monitor & Control function.	
7. On the INGEST GUI select Search By: Data Provider and enter DAO.	
8. On the Ingest Client xterm edit the INS.config file to set the Polling Timer Interval to 300 seconds.	

9. On the Ingest Client xterm start the DAO polling process with the Delivery Record flag argument missing..	
10. On the Ingest Client xterm execute the show process command.	Verify that the Polling process was not started.
11. On the Ingest Client xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that the Data Delivery Record flag was missing.
12. On the Ingest Client xterm start the DAO polling process without the Data Provider argument..	
13. On the Ingest Client xterm execute the show process command.	Verify that the Polling process was not started.
14. On the Ingest Client xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that there were missing required arguments.
15. On the Ingest Client xterm start the DAO polling process with the Directory Path argument missing.	
16. On the Ingest Client xterm execute the show process command.	Verify that the Polling process was not started.
17. On the Ingest Client xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that there were missing required arguments.
18. On the Ingest Client xterm start the DAO polling process with the Data Type argument missing.	
19. On the Ingest Client xterm execute the show process command.	Verify that the Polling process was not started.
20. On the Ingest Client xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that there were missing required arguments.
21. On the Ingest Client xterm start the DAO polling process with the Hostname argument missing.	
22. On the Ingest Client xterm execute the show process command.	Verify that the Polling process was not started.
23. On the Ingest Client xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that there were missing required arguments.
24. On the DAO xterm place a Delivery Record file into the poll directory.	Note: the data is missing from the Directory_ID that is indicated in the Delivery Record.
25. On the Ingest Client xterm start the DAO polling process.	
26. Use the INGEST GUI to monitor the ingest process.	
27. When the INGEST GUI indicates that the DAO ingest process is failed continue with the next step.	
28. On the Ingest Client xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that there was an FTP errors.
29. On the DAO xterm access E-mail.	Verify that a message was received from the ECS DAAC indicating that there were FTP errors. S-INS-00085(a)
30. On the DAO xterm place a new Delivery Record file into the poll directory.	Note: the files size indicated in the Delivery Record are different than the actual file size of the data file.

31. Use the INGEST GUI to monitor the ingest process.	
32. When the INGEST GUI indicates that the DAO ingest process is failed continue with the next step.	
33. On the Ingest Client xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that there was a file size discrepancy.
34. On the DAO xterm access E-mail.	Verify that a message was received from the ECS DAAC indicating that there was a file size discrepancy. S-INS-00085(b)
35. On the DAO xterm place a new Delivery Record file into the poll directory.	Note: the data type identifier indicated in the Delivery Record is invalid.
36. Use the INGEST GUI to monitor the ingest process.	
37. When the INGEST GUI indicates that the DAO ingest process is failed continue with the next step.	
38. On the Ingest Client xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that there was an invalid data type.
39. On the DAO xterm access E-mail.	Verify that a message was received from the ECS DAAC indicating that there was an invalid data type. S-INS-00085(c)
40. On the DAO xterm place a new Delivery Record file into the poll directory.	Note: the data indicated in the Delivery Record is missing required metadata.
41. Use the INGEST GUI to monitor the ingest process.	
42. When the INGEST GUI indicates that the DAO ingest process is failed continue with the next step.	
43. On the Ingest Client xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that there was missing required metadata.
44. On the DAO xterm access E-mail.	Verify that a message was received from the ECS DAAC indicating that there was missing required metadata. S-INS-00085(d)
45. On the DAO xterm place a new Delivery Record file into the poll directory.	Note: the data indicated in the Delivery Record contains a metadata parameter out of range.
46. Use the INGEST GUI to monitor the ingest process.	
47. When the INGEST GUI indicates that the DAO ingest process is failed continue with the next step.	
48. On the Data Server xterm login to the Data Server workstation. > rlogin <hostname> > <password>	
49. On the Data Server xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that there was a metadata parameter out of range. S-DSS-04520, S-DSS-04540

50. On the DAO xterm access E-mail.	Verify that a message was received from the ECS DAAC indicating that there was a metadata parameter out of range. S-INS-00085(e)
51. On the DAO xterm place a new Delivery Record file into the poll directory.	Note: the data type identifier in the Delivery Record is acceptable to the Ingest Subsystem but not the Data Server Subsystem.
52. Use the INGEST GUI to monitor the ingest process.	
53. When the INGEST GUI indicates that the DAO ingest process is failed continue with the next step.	
54. On the Data Server xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that there was a failure to archive the data.
55. On the DAO xterm access E-mail.	Verify that a message was received from the ECS DAAC indicating that there was a failure to archive the data. S-INS-00085(f)
56. On the DAO xterm place a new Delivery Record file into the poll directory.	Note: the Delivery Record is missing required request information.
57. Use the INGEST GUI to monitor the ingest process.	
58. When the INGEST GUI indicates that the DAO ingest process is failed continue with the next step.	
59. On the Data Server xterm display the MSS Event log file.	Verify that the MSS Event log file contains an entry stating that there was missing required request information.
60. On the DAO xterm access E-mail.	Verify that a message was received from the ECS DAAC indicating that there was missing required request information. S-INS-00085(g)
61. Exit the Data Server xterm	
62. On the DAO xterm remove all Delivery Record files from the poll directory.	
63. Exit the DAO xterm.	
64. Shutdown the INGEST GUI and exit the Ingest GUI xterm.	
65. On the Ingest Client xterm shutdown the DAO polling process.	
66. On the Ingest Client xterm exit from DCE.	
67. Exit the Ingest Client xterm.	
68. Logout of the Ingest Client workstation.	

4.9.3.6 Test Case 6: Polling Period Test (TS036.006)

This test demonstrates the capability to set the time period between checking for the presence of Delivery Record files or data files when using a Polling Interface protocol. An authorized account is established to allow operational commands to be entered which change the established time set for checking external locations using a polling interface protocol.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, NESDIS and DAO Client Hosts, Working Storage

Software: Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, STMGT

Data: Aerosol Weekly 100km Analyzed Field and NMC FNL data

Tools: None

Test Inputs:

Inputs to this test include operational commands to change the Polling Timer Interval, operational commands to start the Polling process and placement of Aerosol Weekly data files and Delivery Record files containing NMC FNL data in the polling locations on the NESDIS and DAO Client Hosts.

Test Output:

Outputs to this test include displays of the MSS Event log file and directory listings of Working Storage.

Success Criteria:

This test is deemed successful if the Polling time period is successfully changed and locations are being polled at the new rate without effecting the ingest of data.

Test Procedures:

Test Case ID: TS036.006	
Test Name: Polling Period Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest of all data are active except for the polling process.
2. Open an xterm and use this xterm to start a NESDIS xterm, a DAO xterm, a Working Storage xterm and an Ingest Client xterm. > xterm -T NESDIS & > xterm -T Working_Storage & > xterm -T Ingest_Client & > exit	
3. On the Working Storage xterm login to the working storage workstation. > rlogin <hostname> > <password>	
4. On the NESDIS xterm login to the workstation that is to simulate NESDIS. > rlogin <hostname> > <password>	

5. On the NESDIS xterm place an Aerosol Weekly 100km Analyzed Field data file into the poll directory.	
6. On the DAO xterm login to the workstation that is to simulate DAO. > rlogin <hostname> > <password>	
7. On the DAO xterm place a Delivery Record containing NMC FNL data into the poll directory.	
8. On the Ingest Client xterm login to DCE.	
9. On the Ingest Client xterm edit the INS.config file to set the Polling Timer Interval to 120 seconds.	
10. On the Ingest Client xterm start the NESDIS and DAO polling processes.	
11. Use the INGEST GUI to monitor the ingest processes.	
12. When the INGEST GUI indicates that the ingest processes are 100 percent complete continue with the next step.	
13. On the Ingest Client xterm display the MSS Event log file.	Verify that the Polling processes are started 120 seconds after the previous polling processes have finished. S-INS-00090, S-INS-00120
14. On the Working Storage xterm obtain directory listings of the working storage locations in which the ingested data files have been placed.	Verify that the Aerosol Weekly 100km Analyzed Field and NMC FNL data and metadata files show up in the list commands.
15. On the Ingest Client xterm edit the INS.config file to set the Polling Timer Interval to 1800 seconds.	
16. On the NESDIS xterm place an new Aerosol Weekly 100km Analyzed Field data file into the poll directory.	
17. On the DAO xterm place a new Delivery Record containing NMC FNL data into the poll directory.	
18. Use the INGEST GUI to monitor the ingest processes.	
19. When the INGEST GUI indicates that the ingest processes re 100 percent complete continue with the next step.	
20. On the Ingest Client xterm display the MSS Event log file.	Verify that the Polling processes are started 1800 seconds (30 minutes) after the previous polling processes have finished. S-INS-00090, S-INS-00120
21. On the Working Storage xterm obtain directory listings of the working storage locations in which the ingested data files have been placed.	Verify that the Aerosol Weekly 100km Analyzed Field and NMC FNL data and metadata files show up in the list commands.
22. On the Ingest Client xterm edit the INS.config file to set the Polling Timer Interval to 7200 seconds.	
23. On the NESDIS xterm place an new Aerosol Weekly 100km Analyzed Field data file into the poll directory.	
24. On the DAO xterm place a new Delivery Record containing NMC FNL data into the poll directory.	
25. Use the INGEST GUI to monitor the ingest processes.	

26. When the INGEST GUI indicates that the ingest processes are 100 percent complete continue with the next step.	
27. On the Ingest Client xterm display the MSS Event log file.	Verify that the Polling processes are started 7200 seconds (2hours) after the previous polling processes have finished. S-INS-00090, S-INS-00120
28. On the Working Storage xterm obtain directory listings of the working storage location in which the ingested data files have been placed.	Verify that the Aerosol Weekly 100km Analyzed Field and NMC FNL data and metadata files show up in the list commands.
29. On the Working Storage xterm remove all Aerosol Weekly 100km Analyzed Field and NMC FNL data and metadata files from working storage.	
30. Exit the Working Storage xterm.	
31. On the NESDIS xterm remove all of the Aerosol Weekly 100km Analyzed Field data files from the poll directory.	
32. Exit the NESDIS xterm.	
33. On the DAO xterm remove all of the Delivery Record files from the poll directory.	
34. Exit the DAO xterm.	
35. On the Ingest Client xterm shutdown the NESDIS and DAO polling processes.	
36. On the Ingest Client xterm exit from DCE.	
37. Exit the Ingest Client xterm.	
38. Logout of the Ingest Client workstation.	

4.9.3.7 Test Case 7: DAO GSFC Data Insert Test (TS036.007)

This test demonstrates the ability to receive and ingest ancillary data from the DAO, perform data preprocessing, update the DBMS (inventory) with core metadata and insert the science data and metadata into the archive using the Polling with Delivery Record Interface protocol. A polling process at the ECS DAAC polls at a pre-set interval, predetermined locations at the DAO for new data for ingest. Upon detection of new data the ECS DAAC FTPs the data to a Working Storage location that has been allocated. Metadata is then extracted, the data is converted to and ECS acceptable format and the Advertising Service is called to determine the appropriate Data Server to send and insert request too. The insert request is then submitted to the Data Server for data archiving. The insert is accepted, validated and acknowledged by the Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The ancillary data and metadata are then placed in the archive location that has been allocated. All detailed ingest and archive activities are recorded in the Ingest and Science Data Server History Logs as well as the MSS Event Log. Ingest activities are monitored using the INGEST GUI.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Server, DAO Client Host, Working Storage and Archive Storage

Software: Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC, SDRV, STGMT

Data: NMC: MRF, ETA, FNL data

Tools: None

Test Input:

Inputs to this test include placement of Delivery Records for ingest into the polling location on the DAO Client Host.

Test Output:

Outputs to this test include monitoring of Ingest Requests, screen displays of all logs, DBMS (inventory) queries and directory listings of the archive.

Success Criteria:

This test is deemed successful if the ingest and archive of all data is successful, the ingest activities were successfully monitored, all logs were updated with detailed information, the database queries verify that the core metadata for all data has been inserted into the DBMS (inventory) and the directory listings of the archive verify that all data has been successfully archived.

Test Procedures:

Test Case ID: TS036.007	
Test Name: DAO GSFC Data Insert Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest and archive of all data are active except for the polling process.
2. Open an xterm and use this xterm to start a DAO Client xterm, an Ingest Client xterm and a Data Server xterm. > xterm -T DAO_Client & > xterm -T Ingest_Client & > xterm -T Data_Server & > exit	
3. On the Ingest Client xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > ./InGUISession &	
4. On the INGEST GUI select the Monitor & Control function.	
5. On the INGEST GUI select Search By: Data Provider and enter DAO. Then select Text View.	

6. On the Data Server xterm login to the Science Data Server workstation. > rlogin <hostname> > <password>	
7. On the Data Server xterm start up the Science Data Server GUI.	
8. On the Data Server GUI select the System Requests function.	
9. On the DAO Client xterm login to the simulated DAO Client Host. > rlogin <hostname> > <password>	
10. On the DAO Client xterm place the Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
11. On the Ingest Client xterm start the DAO Ingest Polling process.	
12. Use the INGEST GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the DAO. S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-0330
13. When the INGEST GUI indicates that the ingest process is 100 percent complete continue with the next step.	
14. On the INGEST GUI select the History Log function.	
15. On the INGEST GUI enter a date and time just prior to starting the test in the Start Date/Time field and enter DAO in the Data Provider field.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 12. S-INS-00405(a,b), S-INS-00460, S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510
16. On the Ingest Client xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the ingest of the data from the DAO. S-INS-00070, S-INS-00080, S-INS-00410, S-INS-00430
17. On the Data Server GUI verify that there was a System Request to insert the NMC ETA, NMC FNL and NMC MRF data.	S-DSS-01150, S-DSS-20025
18. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the NMC ETA, NMC FNL and NMC MRF data. S-DSS-00080, S-DSS-00090, S-DSS-03004, S-DSS-03006, S-DSS-03361, S-DSS-20010
19. On the Data Server xterm query the Science Data Server inventory database to make sure the NMC ETA, NMC FNL and NMC MRF core metadata was inserted.	Verify that the queries return information pertaining to the inserted NMC ETA, NMC FNL and NMC MRF data. S-INS-00405(c), S-DSS-03390, S-DSS-04360, S-DSS-04380

20. On the Data Server xterm obtain a directory listing of the archive to make sure the NMC ETA, NMC FNL and NMC MRF data files were archived.	Verify that the NMC ETA, NMC FNL and NMC MRF data and metadata files show up in the list command and are in HDF format. S-INS-00400, S-INS-00402, SS-INS-00404(a)S-DSS-00694, S-DSS-03170, S-DSS-03380, S-DSS-03414, S-DSS-03741, S-DSS-04475, S-DSS-21365(p), S-DSS-21366(p)
21. On the Data Server xterm shutdown the Data Server GUI.	
22. Exit the Data Server xterm.	
23. On the Ingest Client xterm shutdown the Ingest GUI.	
24. Exit the Ingest Client xterm.	
25. On the DAO Client xterm remove all NMC ETA, NMC FNL and NMC MRF data files from the poll locations.	
26. Exit the DAO Client xterm.	
27. Logout of the Ingest Client workstation.	S-INS-00085(h), S-INS-00408, S-INS-00409, S-INS-00440, S-INS-00470, S-INS-00620, S-INS-00640, S-DSS-00150, S-DSS-03870, S-DSS-03872, S-DSS-20020

4.9.4 Metadata Validation Thread (TS037)

This thread demonstrates the capability to perform validation of metadata for data ingest.

TS0037.001 Metadata Validation Test

4.9.4.1 Test Case 1 : Metadata Validation Test (TS037.001)

This test demonstrates the ability to automatically check metadata provided with data for ingest. All data received from an external interface must provide enough information so metadata can be extracted. This test verifies the capability to perform an automatic check of data when metadata is provided with data for ingest, to determine if proper and complete information is provided so metadata can be generated. Metadata information includes a description of the content, format and utility of the data provided for ingest. Upon arrival of data for ingest, an automatic check is performed to determine if the metadata is present and consistency checks are performed to determine if the metadata is complete and correct and can be extracted. Status is sent to the ingest data provider indicating success or failure of Metadata validation. The Error Log is updated to record any metadata validation failure. The ECS Ingest GUI is used to monitor the ingest and processing of the data. Error testing includes: missing metadata parameters and out of range parameters which cause validation to fail.

Test Configuration:

Hardware: Workstation, Client Host, Working Storage.

Software: Ingest Client Interface CSC, Automated Network Ingest Client Interface CSC, Polling Ingest Client Interface CSC, User Network Ingest Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Operator Ingest Interface CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC.

Data: TRMM, NOAA data

Tools: Ingest Simulator.

Test Input:

Ingest requests are sent including data for metadata extraction. Valid and invalid requests are submitted for ingest.

Test Output:

Ingest requests are monitored using the ECS Ingest GUI. Status messages are displayed to the screen. The Error Log is updated to reflect proper metadata validation errors.

Success Criteria:

Appropriate status messages are displayed for successful metadata validation and unsuccessful validation. Ingest requests which do not pass metadata checks are recorded in the Ingest Error Log.

Test Procedures:

Test Case ID: TS037.001	
Test Name: Metadata Validation Test	
Test Steps:	Comments:
1. Logon to the Ingest Workstation > <username> > <password>	
2. Open an xterm and use this xterm to start an Ingest Client xterm, Ingest Server xterm and Data Server xterm.	
3. On the Ingest Server xterm start the Ingest Server process(es) if they are not currently running.	
4. On the Data Server xterm logon to the Science Data Server workstation and start the Science Data Server process(es) if they are not currently running.	
5. On the Ingest Client xterm start the Ingest Client simulator.	
6. On the Ingest Workstation, open an xterm and invoke the Ingest GUI.	
7. Using the Ingest GUI, invoke the Ingest Monitor GUI.	
8. On the Ingest Client xterm create an Ingest Session.	

9. On the Ingest Client xterm send a DAN containing valid data and metadata.	S-INS-00010
10. Use the ECS Ingest GUI Interface to monitor the ingest and archive process.	
11. When the ECS GUI Interface indicates that a file has been ingested and processed, proceed with the next step.	S-INS-00060
12. Using the Initial ECS GUI Interface, invoke the History GUI. > click History	The History GUI will provide information on the processed request.
13. Enter Search Criteria for Request.	
14. Verify data has been ingested and Metadata successfully extracted. > double-click on appropriate Request ID	S-INS-00404, S-INS-00405, S-INS-00408
15. On the Ingest Workstation, open an xterm to view the Event Log.	
16. View the Event Log for successful validation of Metadata information.	
17. On the Ingest Workstation view the extracted Metadata. > cd <directory name> > more <filename>	Preprocessed Metadata is stored in this directory before being copied to Storage Management.
18. Repeat steps 9-17 for each data type.	
19. On the Ingest Client xterm send a DAN containing missing required metadata parameters.	
20. Use the Monitor GUI to monitor the ingest and archive process.	
21. When the processing request is complete, double-click on the request in the ECS Control/Monitor GUI. An error message will state a preprocessing error occurred.	
22. Open an xterm, and use that xterm to view the Error Log. The Error Log should indicate that the Ingest Request could not be completed due to missing required metadata parameters.	S-INS-00060
23. Repeat steps 19-22 for each data type, for all required metadata parameters.	
24. On the Ingest Client xterm send a DAN containing out of range metadata parameters.	
25. Use the ECS Ingest GUI Interface to monitor the ingest and archive process.	
26. When the processing request is complete, double-click on the request in the ECS Control/Monitor GUI. Error will state a preprocessing error occurred.	
27. Open an xterm, and use that xterm to view the Error Log. The Error Log should indicate that Ingest Request could not be completed due to out of range metadata parameters.	S-INS-00060
28. Repeat steps 24-27 for each data type, for all required metadata parameters.	

29. Exit the GUI Interfaces and terminate all GUI processes.	
30. On the Request Manager xterm, terminate the Ingest processes and exit the xterm.	cleanup
31. Logoff the Ingest Workstation.	S-DSS-04520, S-DSS-04530

4.9.5 Metadata Extraction 2 Thread (TS038)

This thread demonstrates the capability to extract metadata from selected ancillary data.

TS038.001 TSDIS Metadata Extraction Test

TS038.002 V0 Ancillary Metadata Extraction Test

4.9.5.1 Test Case 1 : TSDIS Metadata Extraction Test (TS038.001)

This test demonstrates the ability to extract metadata from data received for data ingest. All data received from an external interface must provide enough information so metadata can be extracted. This test verifies the capability to perform an automatic check of data, when metadata is provided with data for ingest, to determine if proper and complete information is provided so metadata can be generated. Metadata information includes a description of the content, format and utility of the data provided for ingest. Upon arrival of data for ingest, the data is automatically checked to determine if metadata is present and can be extracted. If validation is successful, metadata is generated. Metadata items generated include: a unique granule id generated by the Data Server, date and time of storage, data volume, physical location of data, data check status and unique format identifiers. If the validation is unsuccessful, a status message is sent to the requester and the Event Log is updated. Error testing includes, at a minimum: missing metadata parameters, and out of range parameters

Test Configuration

Hardware: Workstation, Client Host, Working Storage.

Software: Ingest Client Interface CSC, Automated network Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Operator Ingest Interface CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC.

Data: TSDIS data sets, including VIRS, TMI, GU, and PR

Tools: TSDIS Gateway Simulator, TSDIS Ingest Simulator

Test Input:

Ingest requests (electronic) including data for metadata generation. Valid and invalid requests are submitted for ingest.

Test Output:

Ingest requests are monitored using the Ingest GUI. Status messages are displayed to the screen. The Event Log is updated to reflect all metadata validation errors.

Success Criteria:

Appropriate status messages are displayed for successful metadata validation and unsuccessful validation. Ingest requests which do not pass metadata checks are recorded in the Event Log.

Test Procedures:

Test Case ID: TS038.001	
Test Name: TSDIS Metadata Extraction	
Test Steps:	Comments:
1. Logon to the Ingest Workstation > <username> > <password>	
2. Open an xterm and use this xterm to start an Ingest Client xterm, Ingest Server xterm and Data Server xterm.	
3. On the Ingest Server xterm start the Ingest Server process(es) if they are not currently running.	
4. On the Data Server xterm logon to the Science Data Server workstation and start the Science Data Server process(es) if they are not currently running.	
5. On the Ingest Client xterm start the Ingest Client simulator.	
6. On the Ingest Workstation, open an xterm and invoke the Ingest GUI.	
7. Using the Ingest GUI, invoke the Ingest Monitor GUI.	
8. On the Ingest Client xterm create an Ingest Session.	
9. On the Ingest Client xterm send a TSDIS DAN containing valid data and metadata.	S-INS-00010
10. Use the Monitor GUI to monitor the ingest and archive process.	
11. When the Monitor GUI indicates that a file has been ingested and processed, proceed with the next step.	S-INS-00406
12. Using the Initial ECS GUI Interface, invoke the History GUI. > click History	The History GUI will provide information on the completed request.
13. Enter Search Criteria for Request.	
14. Verify data has been ingested and Metadata successfully extracted. > double-click on appropriate Request ID	S-INS-00404, S-INS-00405

15. On the Ingest Workstation, open an xterm to view the Event Log.	
16. View the Event Log for successful validation of Metadata information.	
17. On the Ingest Workstation view the extracted Metadata. > cd <directory name> > more <filename>	S-INS-00404, S-INS-00405
18. On the Ingest Client xterm send a TSDIS DAN containing missing required metadata parameters.	S-INS-00010
19. Use the Monitor GUI to monitor the ingest and archive process.	
20. When the processing request is complete, double-click on the request in the ECS Control/Monitor GUI. Error will state a preprocessing error occurred.	S-INS-00406
21. Open an xterm, and use that xterm to view the Event Log. The Event Log should indicate that Ingest Request could not be completed due to missing required metadata parameters.	S-INS-00060
22. Repeat steps 9-21 for each TSDIS data type, and for all required Metadata Parameters.	
23. On the Ingest Client xterm send a TSDIS DAN containing out of range metadata parameters.	S-INS-00010
24. Use the Monitor GUI to monitor the ingest and archive process.	
25. When the processing request is complete, double-click on the request in the ECS Control/Monitor GUI. The error will state a preprocessing error occurred.	S-INS-00406
26. Open an xterm, and use that xterm to view the Event Log. The Event Log should indicate that Ingest Request could not be completed due to out of range metadata parameters.	S-INS-00060
27. Repeat steps 23-26 for each TSDIS data type.	
28. Exit the GUI Interfaces and terminate all GUI processes.	
29. On the Request Manager xterm, terminate the Ingest processes and exit the xterm.	cleanup
30. Delete all files which may reside in the temporary storage directory	cleanup
31. Delete all data files then exit the TSDIS xterm.	cleanup
32. Logoff the Ingest Workstation.	S-DSS-04380, S-DSS-20020, S-DSS-20025, S-DSS-20030, S-DSS-20600

4.9.5.2 Test Case 2 : V0 Ancillary Metadata Extraction Test (TS038.002)

This test demonstrates the ability to extract metadata from data received for data ingest. All data received from an external interface must either provide metadata or provide enough information so metadata can be extracted. This test verifies the capability to perform an automatic check of data, when metadata is not provided with data for ingest, to determine if proper and complete

information is provided so metadata can be generated. Release-A V0 data is received via the polling interface. Upon arrival of data for ingest, the data is automatically checked to determine if metadata can be extracted. If validation is successful, metadata is generated. Metadata items generated include: a unique granule id generated by the Data Server, date and time of storage, data volume, physical location of data, data check status and unique format identifiers. If the validation is unsuccessful, a status message to sent to the requester and the Event Log is updated. Error testing includes, at a minimum: missing metadata parameters, and out of range parameters

Test Configuration:

Hardware: Workstation, Client Host, Working Storage.

Software: Ingest Client Interface CSC, Automated network Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Operator Ingest Interface CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC.

Data: TOMS and SAGE data sets.

Tools: None.

Test Input:

Placement of data for ingest into the polling location on the V0 client host. Valid and invalid requests are submitted for ingest.

Test Output:

Ingest requests are monitored. Status messages are displayed to screen. The Event Log is updated to reflect all metadata validation errors.

Success Criteria:

Appropriate status messages are displayed for successful metadata validation and unsuccessful validation. Ingest requests which do not pass metadata checks are recorded in the Ingest Event Log.

Test Procedures:

Test Case ID: TS038.002	
Test Name: V0 Ancillary Metadata Extraction Test	
Test Steps:	Comments:
1. Login to the Ingest workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest and archive of all data are active except for the polling process.
2. Open an xterm and use this xterm to start a V0 Client xterm, a LaRC V0 Client xterm, an Ingest Server xterm and a Data Server xterm.	
3. On the Ingest Server xterm start the ECS INGEST GUI Interface.	

4. On the ECS INGEST GUI Interface select the Monitor & Control function.	
5. On the ECS INGEST GUI Interface select Search By: Data Provider and enter V0. Then select Text View.	
6. On the Data Server xterm login to the Science Data Server workstation. > rlogin <Data Server GUI Hostname> > <password>	
7. On the Data Server xterm start up the Science Data Server GUI Interface.	
8. On the Data Server GUI Interface select the System Requests function.	
9. On the V0 Client xterm login to the simulated V0 Client Host. > rlogin < V0 hostname> > <password>	
10. On the V0 Client xterm place the Delivery Records into the poll directory.	
11. On the Ingest Server xterm start the V0 Ingest Polling process.	
12. Use the Monitor GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the V0.
13. When the Monitor GUI indicates that the ingest process is 100 percent complete continue with the next step.	
14. On the Monitor GUI select the History Log function.	
15. On the INGEST GUI enter a date and time just prior to starting the test in the Start Date/Time field, enter V0 in the Data Provider field, select Detailed Report and then select the Display button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 12.
16. On the Ingest Server xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the ingest of the data from the V0.
17. On the Data Server GUI verify that there was a System Request to insert data.	
18. On the Data Server xterm display the Data Server MSS Event Log.	
19. On the Data Server xterm query the Science Data Server database to make sure the core metadata was generated and inserted.	S-INS-00404, S-INS-00405, S-INS-00406
20. On the Data Server xterm get a directory listing of the archive to make sure the data files were archived.	Verify that the data and metadata files show up in the list command.
21. Delete all Delivery Records from the poll directory.	cleanup
22. On the V0 Client xterm place the Delivery Records into the poll directory.	Data Files identified in the Delivery Records contain missing metadata parameters.
23. On the Ingest Server xterm start the V0 Ingest Polling process.	
24. Use the Monitor GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the V0.
25. When processing is complete, double click on the Request ID in the Monitor GUI. An error will indicate preprocessing failed due to missing metadata parameters.	S-INS-00060

26. On the Ingest Server xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries pertaining to the errors in Missing Metadata Parameters.
27. Delete all Delivery Records from the poll directory.	cleanup
28. On the V0 Client xterm place the Delivery Records into the poll directory.	Data Files identified in the Delivery Records contain out of range metadata parameters.
29. On the Ingest Server xterm start the V0 Ingest Polling process.	
30. Use the Monitor GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the V0.
31. When processing is complete, double click on the Request ID in the Monitor GUI. An error will indicate preprocessing failed due to metadata parameters out of range.	S-INS-00060, S-INS-00406
32. On the Ingest Server xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries pertaining to metadata parameters out of range.
33. Delete all Delivery Records from the poll directory.	cleanup
34. On the Data Server xterm shutdown the Data Server GUI Interface.	
35. Exit the Data Server xterm.	
36. On the Ingest Server xterm shutdown the Ingest GUI Interface.	
37. Exit the Ingest Server xterm.	
38. On the V0 Client xterm remove all Delivery Record files from the poll location.	
39. Exit the V0 Client xterm.	
40. Exit the V0 Client xterm.	
41. Logout of the Ingest workstation.	S-DSS-04380, S-DSS-20020, S-DSS-20025, S-DSS-20030, S-DSS-20060

4.9.6 Document Insert Thread (TS039)

This thread demonstrates the capability to ingest documents into the Document Data Server. Document Ingest is performed using Interactive (HTML) screens. Both Netscape and MOSAIC web browsers will be used during these tests. This thread consist of the following Test Cases:

TS039.001 - Interactive Document Storage Test

TS039.002 - Document Insert Error Test

TS039.003 - Planning Document Storage Test

TS039.004 - Science Data Storage Test

4.9.6.1 Test Case 1 : Interactive Document Storage Test (TS039.001)

This test demonstrates the ability to store documents. Documents and metadata are received for storage by Ingest software. By means of an advertisement the appropriate Data Server for storage is determined. Data Insert Requests are generated and the data is transferred to be placed in the Document Data Server archive. Document storage can include:

- processing algorithm documentation
- earth science data product documentation
- references to science data quality assessment results
- bibliography information of published and unpublished literature
- data set format and media option descriptions
- instrument specifications
- data set observation log summaries
- user supplied documents in HTML and ASCII
- data set subsetting, subsampling, and transformation option descriptions

Test Configuration:

Hardware: Workstation, Client Host, Working Storage, Data Repository, Permanent Archive.

Software: InteractiveIngest, DDSRV, STMGT, ReqMgr, Ingest GUI, Sybase

Data: Documents, Delivery Record (DR) files

Tools: None

Test Input:

Inputs to this test include requests from ingest for storage of documents and their corresponding delivery records.

Test Output:

Outputs to this test include storage of all documents and metadata.

Success Criteria:

This test is deemed successful if all documents and metadata submitted for storage are successfully stored.

Test Procedures:

Test Case ID: TS039.001	
Test Name: Interactive Document Storage Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation.	
2. Open an xterm and use this xterm to start a ReqMgr xterm, an Ingest GUI xterm, and an HTML browser xterm.	
3. On the HTML Browser xterm start NetScape.	The NetScape browser home page is displayed.

4. On the Ingest GUI xterm, start the Ingest GUI and invoke the Monitor GUI screen for all data types. Start the InRequestManager process.	The Monitor GUI screen is displayed.
5. Enter the name of the Ingest URL and click the Open Button.	The “Interactive Ingest Main Form” window appears.
6. Enter Username and Password.	The Username and Password are accepted. S-INS-00208, S-INS-00227
7. On this same screen select the “Submit Ingest Request” button, and submit	The “Submit Ingest Request” screen appears.
8. Select a DAN file with no errors containing document data, and select the “Submit” button.	The DAN file is accepted and a request ID is returned. S-INS-00180, S-INS-00205, S-INS-0225, S-INS-00230
9. View the Monitor GUI screen, and verify the request is seen in an appropriate state (active, preprocessing, etc.).	The HTML Ingest request is displayed on the Monitor GUI screen.
10. Select the “Back” option at the bottom of this page.	The Interactive Ingest Form is re-displayed.
11. Select ”Monitor On-Going Request Status” button and click the “Submit” button.	The “Monitor On-Going Requests Status” page appears displaying the users outstanding process requests S-INS-00220, S-INS-00221
12. Select the Highlighted Request Id.	The Status Monitor page displays the granule level status of the Request Id.
13. Compare the information on the HTML monitor screen with the corresponding information on the GUI monitor screen.	The information on both Monitor screens compares favorably.
14. Select the “Back” option to return to the Interactive Ingest form.	The “Interactive Ingest Main Form” page is re-display.
15. Select the “View Ingest Request Completion Status” and click the “Submit” button.	The “View Ingest Request Completion Status” screen is displayed.
16. Select a DDN/DDA file and select the “Submit” button.	Contents of the DDN/DAA are written to the browser window.
17. Verify the DDN/DAA contents, as compared with the Ingest History Log GUI screen containing the same information.	The DDN indicates that the data was ingested and archived successfully, and compares favorably with the corresponding information on the History Log GUI. S-DSS-04476, S-DSS-10030(p), S-DSS-10040, S-DSS-10170, S-DSS-10204
18. Click “back” to the Interactive Ingest Request Form.	
19. Verify that the data was successfully stored in the Document Data Server.	
20. Repeat steps 6 - 19 as necessary to Ingest various types of documents.	All requested documents are successfully ingested, and stored in the Document Data Server archive.
21. In turn, select all buttons, icons and menu/menu items on the web page.	Al appropriate capabilities are allowed, and others are not. No buttons cause the Interactive Ingest HTML screen to exit abnormally.
22. Exit Netscape.	
23. Start the MOSAIC Web Browser, and repeat steps 5 - 21 above.	The appropriate results are seen.
24. Exit MOSAIC.	
25. Verify all appropriate messages are logged in the correct log files.	

26. Terminate the appropriate Ingest processes.	
27. Exit all xterms.	
28. Log off of the Ingest Workstation	

4.9.6.2 Test Case 2: Document Insert Error Test (TS039.002)

This test demonstrates the ability for a user to request ingest of with known errors. Network Ingest Requests are submitted via an HTML interface based on a displayed list of existing files. The ingest requests are received, validated to determine if the request originated from an authorized source and also validated to determine if the date/time (indication of how long the data will remain available) is valid. The request is assigned a unique identifier. If valid, the data is transferred from a file location designated in the ingest request. Error testing performed includes attempted ingest under the following erroneous conditions: file size discrepancy, invalid data type identifier, missing required request information, missing required metadata and metadata parameters out of range. Error status messages are displayed to the requester and written to the Error Log.

Test Configuration:

Hardware: Workstation, Client Host, Working Storage, Data Repository, Permanent Archive.

Software: DDSRV, STMGT, InteractiveIngest, ReqMgr, Ingest GUI, Sybase

Data: Documents, DR files

Tools: None

Test Input:

Valid and invalid Interactive Ingest Requests are submitted. Requests are entered by authorized and unauthorized requesters. Various invalid requests are submitted to include at a minimum: missing required files, unauthorized requester, file transfer failure due to invalid data location indicated in the request.

Test Output:

Invalid requests are terminated, with appropriate error messages returned to the screen. Valid document files are ingested. Error messages are sent to the requester and error messages are logged in the event log.

Success Criteria:

All valid ingest requests result in successful ingest. Data is placed in the Document Data Server archive. A comparison of the data before ingest and data after ingest, shows no significant differences. Errors are viewed on the requester screen and in the error log.

Test Procedures:

Test Case ID: TS039.002	
Test Name: Document Insert Error Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation.	
2. Open an xterm and use this xterm to start a ReqMgr xterm, an Ingest GUI xterm and an HTML browser NetScape xterm.	
3. On the HTML Browser xterm start NetScape.	The NetScape browser home page is displayed.
4. On the Ingest GUI xterm, start the Ingest GUI, and invoke the Monitor GUI for all data types. Start the InRequestManager process.	The monitor GUI is displayed on the screen.
5. Enter the name of the Ingest URL and select the Open Button.	The “Interactive Ingest Main Form” window appears.
6. Enter an **invalid** Username and Password.	An “Unauthorized user” error message is displayed on the screen. S-INS-00208, S-INS-00227
7. Enter a **valid** Username with an **invalid** Password.	An “Unauthorized user” error message is displayed on the screen. S-INS-00208, S-INS-00227
8. Re-enter a **valid** Username and Password.	
9. On this same screen, type in an **invalid** data provider and select the “Submit Ingest Request” button.	An “Invalid Data Provider Entered” error message is displayed on the screen.
10. On this same screen, type in a **valid** data provider and select the “Submit Ingest Request” button.	The “Submit Ingest Request” screen appears.
11. Select a DAN file with a date/time error and select the “Submit” button	The DAN date incorrect, causing an error message “Invalid Date/Time” to be displayed on the browser xterm. The request is not processed.
12. Select a DAN file with an expiration date/time that has already passed, and select the “Submit” button	The DAN expiration date is less than the current date causing a warning message “Invalid Date/Time” to be displayed on the browser xterm, but the request is processed anyway, returning a valid request ID.
13. Select a DAN file with a valid date/time and click the “Submit” button.	This DAN contains the Document Data Type Identifier. Verify on the browser window that DAN file was accepted and a request ID was returned. S-INS-00180, S-INS-00205, S-INS-000225
14. Select the “Back” option at the bottom of this page.	The “Interactive Ingest Main Form” is re-displayed.
15. Select the ”Monitor On-Going Request Status”. Option and click the “Submit” button.	The “Monitor On-Going Request Status” page appears displaying the users outstanding process requests. S-INS-00220, S-INS-00221
16. Select the Highlighted Request Id.	The Status Monitor page displays the granule level status of the Request Id.
17. Compare the information on the HTML Monitor page with the corresponding information on the Monitor GUI screen.	The information compares favorably on the two monitor screens.
18. Select the “Back” option to return to the Interactive Ingest Main Form.	The “Interactive Ingest Main Form” screen is re-displayed.

19. Click “View Ingest Request Completion Status” option and click the “Submit” button.	The “View Ingest Request Completion Status“ screen appears.
20. Select a DDN/DDA file and click the “Submit” button.	Contents of the DDN/DAA is displayed on the browser window.
21. Verify the DDN/DAA contents, as compared with the History Log GUI screen containing the corresponding information.	The DDN indicates that the data was ingested and archived successfully, and the two screens compare favorably. S-DSS-04476, S-DSS-10030(p), S-DSS-10040, S-DSS-10170, S-DSS-10204
22. Select the “Back” option to return to the Interactive Ingest Main form	The Interactive Ingest Form is re-displayed.
23. On this same screen click button “Submit Ingest Request”, without selecting a DR.	An error message is displayed saying a DR file must first be selected.
24. On this same screen click button “Submit Ingest Request”.	The “Submit Ingest Request” screen re-appears.
25. Select a DAN which references a file which has been deleted from the source directory where the files to be ingested reside then select the “Submit” button.	A “Missing File” error message is displayed on the browser window.
26. Select the “Back” option to return to the Interactive Ingest Main Form	The Interactive Ingest Main Form is re-displayed.
27. On this same screen click button “Submit Ingest Request”.	The “Submit Ingest Request” re-appears.
28. Select a DAN which references an invalid source directory name where the files to be ingested reside and click the “Submit” button.	A “File Access” error message is displayed on the browser window appears.
29. Select the “Back” option to return to the Interactive Ingest Main Form	The Interactive Ingest Main Form is re-displayed.
30. On this same screen click button “Submit Ingest Request”.	The “Submit Ingest Request” re-appears.
31. Select a DAN which contains an incorrect file size value and click the “Submit” button.	The appropriate “File Size” error message is displayed on the browser window appears.
32. Select the “Back” option to return to the Interactive Ingest Main Form	The Interactive Ingest Main Form is re-displayed.
33. On this same screen click button “Submit Ingest Request”.	The “Submit Ingest Request” re-appears.
34. Select a DAN which contains an invalid data type identifier and click on the “Submit” button.	A “Invalid Data Type Identifier” error message is displayed on the browser window.
35. Select the “Back” option to return to the Interactive Ingest Main Form	The Interactive Ingest Main Form is re-displayed.
36. On this same screen click button “Submit Ingest Request”.	The “Submit Ingest Request” re-appears.
37. Select a DAN which is missing required request information and click the “Submit” button.	The appropriate “Missing Required Request Information” error message is displayed on the browser window appears.
38. Select the “Back” option to return to the Interactive Ingest Main Form	The Interactive Ingest Main Form is re-displayed.
39. On this same screen click button “Submit Ingest Request”.	The “Submit Ingest Request” re-appears.
40. Select a DAN which is missing required Metadata information and click on the “Submit” button.	The appropriate “Missing Required Metadata Information” error is displayed on the browser window appears.

41. Select the “Back” option to return to the Interactive Ingest form	The Interactive Ingest Main Form is re-displayed.
42. On this same screen click button “Submit Ingest Request”.	The “Submit Ingest Request” screen re-appears.
43. Select a DAN which contains a Metadata Parameter which is out of range and click the “Submit” button.	The appropriate “Metadata Parameter Out of Range” error is displayed on the browser window appears.
44. Select the “Back” option to return to the Interactive Ingest form	The Interactive Ingest Main Form is re-displayed.
45. On this same screen click button “Submit Ingest Request”.	The “Submit Ingest Request” screen re-appears.
46. Select a valid DAN and click the “Submit” button.	The request is accepted and properly processed.
47. Exit Netscape	
48. Start the MOSAIC web browser, and repeat steps 5 - 46 above.	The expected results are seen.
49. Exit MOSAIC.	
50. Verify that the correct messages are stored in the appropriate log files.	
51. Terminate the Ingest processes.	
52. Log off of the Ingest Workstation	

4.9.6.3 Test Case 3: Planning Document Storage Test (TS039.003)

This test demonstrates the ability to store documents. Documents and metadata are received for storage by Planning software. Data Insert Requests are generated and the data is transferred to be placed in the Document Data Server.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive.

Software: plang, ddsrv

Data: document

Tools: None

Test Input:

Inputs to this test include requests from Planning for storage of documents, data and metadata.

Test Output:

Outputs to this test include storage of all documents, data, and metadata received.

Success Criteria:

This test is deemed successful if all documents, data, and metadata submitted for storage are successfully received and stored.

Test Procedures:

Test Case ID: TS039.003	
Test Name: Planning Document StorageTest	
Test Steps:	Comments:
1. Logon to the Ingest workstation.	
2. Open an xterm and use this xterm to start the HTML browser (**NetScape**, NetScape) xterm.	
3. On the HTML Browser xterm run NetScape.	The NetScape browser home page is displayed.
4. Click the "Open" button to open a URL file..	The URL dialog window appears.
5. Enter the name of the Ingest URL and click the Open Button.	The Interactive Ingest Form window appears.
6. Enter a valid Username and Password.	
7. Select the button "Monitor On-going Request Status" and click on the "Submit" button.	The "Monitor On-Going Request Status" page appears displaying the users outstanding process requests.
8. Log on to the a Planning and Processing Subsystem workstation using the same Username and Password used for logging onto the Ingest Client Workstation.	This Monitor is user name based. This allows showing of the ingest request status for the specific user submitting the schedule plan.
9. Prepare a schedule plan which will trigger the sending of an ingest request to the Document Ingest Subsystem and which will be executed within a 2 minute period of its completion.	The Planning subsystem kicks off the send ingest request to the Document Ingest event. **S-DSS-10095, S-DSS-10238,**
10. On the Ingest Screen refresh the Monitor Status screen to examine the Request Id assigned to the request.	The "Monitor On-Going Request Status" page appears displaying the users outstanding process requests information.
11. Select the Request Id submitted by the Planning System.	The Status Monitor page displays the granule level status of the request.
12. Navigate back to the Main form.	The main form is displayed.
13. Select the "View Ingest Request Completion Status" button.	The "View Ingest Request Completion Status" screen is displayed.
14. First select the DAA for the Ingest Request by highlighting the DAA file the clicking on the "Submit" button.	The "Ingest Request Completion Status - File = <filename>" is displayed with the DAA file information.
15. Navigate back to the Main Form.	
16. Click the "Close" button.	
17. Exit NetScape.	
18. Log off of the Ingest Workstation	

4.9.6.4 Test Case 4: Science Data Storage Test (TS039.004)

This test demonstrates the ability to store science data in the science data archive by means of the Interactive Ingest HTML screens. Various types of data and its associated metadata are received for storage by Ingest software. By means of an advertisement the appropriate Data Server for storage is determined. Data Insert Requests are generated and the data is transferred to be placed in the Science Data Server archive.

Test Configuration:

Hardware: Workstation, Client Host, Working Storage, Data Repository, Permanent Archive.

Software: InteractiveIngest, SDSRV, STMGT, ReqMgr, Ingest GUI, Sybase

Data: TSDIS, SDPF, NESDIS, V0 Data

Tools: None

Test Input:

Inputs to this test include requests from Interactive Ingest HTML screens to ingest and archive science data.

Test Output:

Outputs to this test include storage of all data and metadata.

Success Criteria:

This test is deemed successful if all data and metadata submitted for storage are successfully stored.

Test Procedures:

Test Case ID: TS039.004	
Test Name: Science Data Storage Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation.	
2. Open an xterm and use this xterm to start a ReqMgr xterm, a Polling xterm, an Ingest GUI xterm, and an HTML browser xterm.	
3. Start the processe on its respective xterm.	
4. On the HTML Browser xterm start NetScape.	The NetScape browser home page is displayed.
5. On the Ingest GUI xterm, start the Ingest GUI and invoke the Monitor GUI screen for all data types.	The Monitor GUI screen is displayed.
6. Enter the name of the Ingest URL and click the Open Button.	The “Interactive Ingest Main Form” window appears.
7. Enter Username and Password.	The Username and Password are accepted. S-INS-00208, S-INS-00227
8. On this same screen select the “Submit Ingest Request” button, and submit	The “Submit Ingest Request” screen appears.
9. Select a DAN file with no errors containing TSDIS data, and select the “Submit” button.	The DAN file is accepted and a request ID is returned. S-INS-00180, S-INS-00205, S-INS-0225, S-INS-00230
10. View the Monitor GUI screen, and verify the request is seen in an appropriate state (active, preprocessing, etc.).	The HTML Ingest request is displayed on the Monitor GUI screen.
11. Select the “Back” option at the bottom of this page.	The Interactive Ingest Form is re-displayed.
12. Select ”Monitor On-Going Request Status” button and click the “Submit” button.	The “Monitor On-Going Requests Status” page appears displaying the users outstanding process requests S-INS-00220, S-INS-00221
13. Select the Highlighted Request Id.	The Status Monitor page displays the granule level status of the Request Id.

14. Compare the information on the HTML monitor screen with the corresponding information on the GUI monitor screen.	The information on both Monitor screens compares favorably.
15. Select the “Back” option to return to the Interactive Ingest form.	The “Interactive Ingest Main Form” page is re-display.
16. Select the “View Ingest Request Completion Status” and click the “Submit” button.	The “View Ingest Request Completion Status” screen is displayed.
17. Select a DDN/DDA file and select the “Submit” button.	Contents of the DDN/DAA are written to the browser window.
18. Verify the DDN/DAA contents, as compared with the Ingest History Log GUI screen containing the same information.	The DDN indicates that the data was ingested and archived successfully, and compares favorably with the corresponding information on the History Log GUI. S-DSS-04476, S-DSS-10030(p), S-DSS-10040, S-DSS-10170, S-DSS-10204
19. Click “back” to the Interactive Ingest Request Form.	
20. Verify that the data was successfully stored in the Science Data Server archive.	
21. Repeat steps 6 - 20 specifying to Ingest SDPF data.	The data is successfully stored in the archive.
22. Repeat steps 6 - 20 specifying to Ingest NESDIS data.	The data is successfully stored in the archive.
23. Repeat steps 6 - 20 specifying to Ingest V0 data.	The data is successfully stored in the archive.
24. Start several instances of Netscape, and request several Data ingests of various types of data from each.	
25. Use the HTML Monitor screen to view the current status of the various requests. Attempt to view other Data Provider’s requests.	Only requests from the appropriate Data Provider are successful.
26. Compare the data on the HTML Monitor screen with the corresponding data on the Ingest Monitor GUI for various Data Providers.	The data compares favorably on the two monigor screens.
27. Exit Netscape.	
28. Start the MOSAIC Web Browser, and repeat steps 6 - 26 above.	The appropriate results are seen.
29. Exit MOSAIC.	
30. Verify all appropriate messages are logged in the correct log files.	
31. Terminate the appropriate Ingest processes.	
32. Exit all xterms.	
33. Log off of the Ingest Workstation	

4.9.7 Ingest Administration Thread (TS040)

This thread demonstrates the ability to provide operational capabilities to users with special accounts. The operational capabilities tested include: requesting status, setting thresholds, performing request cancellations, network retry and request priority, and mode testing: operational, testing, and training. Additional operational capabilities include GUI functionality verification.

TS040.001 Ingest Threshold Test

TS040.002 External Data Provider and User Information Test

TS040.003 Ingest Cancellation Test

TS040.004 Ingest Cancellation Error Test

TS040.005 Ingest Network Retry Test

TS040.006 Ingest Request Priority Test

TS040.007 GUI Functionality Verification Test

4.9.7.1 Test Case 1 : Ingest Threshold Test (TS040.001)

This test demonstrates the ability to set the threshold levels which dictate the number and volume of ingest requests to be processed concurrently (total and per external data provider) using the ECS Ingest GUI. An account is established to allow access for manipulation of system parameters through the Operator Tools GUI, including adjusting the threshold level for concurrent processing of ingest requests, and volume thresholds. Volume thresholds and Request Thresholds are updated by Data Provider.. The current threshold number for a particular Data Provider is displayed and noted. Attempts are made to process more ingest requests than indicated by the threshold level. The threshold level is changed. Again attempts are made to process more ingest requests than indicted by the threshold level. This test includes verifying the ability to deny unauthorized attempts to set threshold levels. Unauthorized attempts to set threshold levels result in an error status message displayed on the console and recorded in the Error Log.

Test Configuration:

Hardware: Workstation, Client Host, Working Storage.

Software: Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Operator Ingest Interface CSC, Ingest DBMS CSC.

Data: Sampling of data.

Tools: SDPF Definitive Orbit Data

Test Inputs:

A series of ingest requests. The number of ingest requests exceed the threshold level. This test is repeated for several threshold levels.

Test Outputs:

Status messages are displayed to the screen indicating threshold levels have been exceeded. Unauthorized attempts are made to alter threshold levels.

Success Criteria:

The threshold level is displayed. The number of requests submitted for ingest is correctly determined to be above the threshold level. An error message is displayed to the console. The error message is correct and explains the reason for ingest failure. The threshold level is successfully changed to a new threshold level. New attempts to process ingest requests over the threshold level result in errors messages displayed to the console. Again each message explains the reason for ingest failure. Unauthorized attempts to alter the threshold level result in error messages displayed to screen. The Event Log is displayed to verify the log indicates unauthorized attempts.

Test Procedures:

Test Case ID: TS040.001	
Test Name: Ingest Threshold Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation. > <username> > <password>	Login using an account with permissions to alter system parameters.
2. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
3. Open a second xterm, and invoke the Ingest GUI using this xterm.	
4. Using the Ingest GUI, invoke the Operator Tools GUI. > click Operator Tools	
5. Select a Data Provider.	
6. Note the current Request Threshold.	Volume Threshold may also be tested.
7. Invoke the Monitor/Control GUI, to monitor request processing.	S-INS-00300, S-INS-00310
8. On the Ingest xterm create an Ingest Session.	
9. On the Ingest Driver xterm send a series of DANs less than or equal to the allowable threshold. > /usr/testa/testdata/<filename>	
10. Invoke the History Log, and verify all Ingest Requests were successfully ingested and processed.	S-INS-00010
11. Invoke the Operator Tools GUI.	
12. Modify the Request Threshold field. > click Modify System Parameters > enter new value in the Request Threshold field	User authorization is performed here. S-INS-00380, S-INS-00390
13. On the Ingest Driver xterm, send a series of DANs greater than the allowable threshold. > /usr/testa/testdata/<filename>	S-INS-00010
14. Invoke the Monitor/Control GUI, to monitor request processing.	

15. Note Error messages displayed to screen identifying failure of several requests due to more requests entered than allowed by threshold level.	
16. Invoke the History Log and verify the number of Ingest Requests equal to the threshold level were successfully ingested and processed.	
17. Open an xterm, and use this xterm to view the Error log. Verify errors identifying ingest threshold limit was exceeded were received.	
18. Repeat steps 5-17 for several different threshold levels.	Both threshold levels for Volume and Requests should be tested.
19. Exit all Ingest GUI processes.	
20. Terminate all Ingest Processes and exit the Ingest workstation.	The workstation needs to be exited to reenter using an invalid Monitor account.
21. Logon to the Ingest workstation. > <username> > <password>	Login using an account with no permissions to alter system parameters.
22. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
23. Open a second xterm, and invoke the Ingest GUI.	
24. Using the Ingest GUI, invoke the Operator Tools GUI. > click Operator Tools	
25. Select a Data provider.	
26. Note the current Request Threshold.	
27. Attempt to change the current Request Threshold Level.	Repeat test to modify Volume threshold. S-INS-00390
28. Note an error message was displayed to the screen indicating unable to change threshold level.	
29. Open an xterm, and use this xterm to view the Error log. Verify error identifying unauthorized attempt to change system threshold levels.	S-INS-00395
30. Exit all Ingest GUI processes.	
31. Terminate all Ingest Processes and exit the Ingest workstation.	

4.9.7.2 Test Case 2: External Data Provider and Interactive User Information Test (TS040.002)

This test demonstrates the ability to modify External Data Provider and Interactive user information, including ftp username, ftp password, and email address, using the ECS Ingest GUI. An account is established to allow access for manipulation of these parameters through the Operator Tools GUI. The current parameters are displayed and noted. Attempts are made to process ingest requests using these parameters. The parameters are changed per Data Provider. Again attempts are made to process ingest requests using these parameters. This test includes verifying the ability to deny unauthorized attempts to modify parameters. Unauthorized attempts to modify parameters result in an error status message displayed on the console and recorded in the Error Log.

Test Configuration

Hardware: Workstation, Client Host, Working Storage.

Software: Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest GUI CSC, Ingest DBMS CSC.

Data: Sampling of data.

Tools: SDPF Ingest Simulator.

Test Inputs

A series of Ingest Requests are entered. Modifications to External Data Provider and Interactive User parameters are made.

Test Outputs

Error messages are displayed and recorded in an Error Log.

Success Criteria

All invalid Ingest Status Requests submitted are rejected. Unsuccessful attempts are recorded in an Error Log. The error messages returned are complete, accurate and readable.

Test Procedures:

Test Case ID: TS040.002	
Test Name: External Data Provider and User Information Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation. > <username> > <password>	Login using an account with permissions to alter system parameters.
2. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
3. Open a second xterm, and invoke the Ingest GUI using this xterm.	
4. Using the Ingest GUI, invoke the Operator Tools GUI. > click Operator Tools	
5. Select a Data Provider.	
6. Note the current Data Provider/User Information.	Volume Threshold may also be tested.
7. Invoke the Monitor/Control GUI, to monitor request processing.	
8. On the Ingest xterm create an Ingest Session.	
9. On the Ingest Driver xterm send a series of DANs less than or equal to the allowable threshold. > /usr/testa/testdata/<filename>	S-INS-00010

10. Invoke the History Log, and verify all Ingest Requests were successfully ingested and processed.	
11. Invoke the Operator Tools GUI.	
12. Modify the Data Provider/User Interactive Parameters. > click Modify External Data Provider/Interactive User Information Parameters > enter new values in the fields	User authorization is performed here. S-INS-00390
13. On the Ingest Driver xterm, send a series of DANs greater than the allowable threshold. > /usr/testa/testdata/<filename>	S-INS-00010
14. Invoke the Monitor/Control GUI, to monitor request processing.	
15. Invoke the History Log and verify the ingest request were successfully processed.	
16. Repeat steps 4-16 for several different combinations of changes of the Data Provider/Interactive Username parameters.	
17. Exit all Ingest GUI processes.	
18. Terminate all Ingest Processes and exit the Ingest workstation.	The workstation needs to be exited to reenter using an invalid Monitor account.
19. Logon to the Ingest workstation. > <username> > <password>	Login using an account with no permissions to alter system parameters.
20. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
21. Open a second xterm, and invoke the Ingest GUI.	
22. Using the Ingest GUI, invoke the Operator Tools GUI. > click Operator Tools	
23. Modify the Data Provider/User Interactive Parameters. > click Modify External Data Provider/Interactive User Information Parameters > enter new values in the fields	User authorization is performed here. S-INS-00380
24. Note an error message was displayed to the screen indicating unable to change parameters.	
25. Open an xterm, and use this xterm to view the Error log. Verify error identifying unauthorized attempt to modify parameters..	
26. Exit all Ingest GUI processes.	
27. Terminate all Ingest Processes and exit the Ingest workstation.	

4.9.7.3 Test Case 3: Ingest Cancellation Test (TS040.003)

This test demonstrates the ability for certain accounts with certain system access privileges to cancel processing of Ingest Requests. A series of Ingest Requests are submitted. Before ingest processing completes, an authorized requester submits requests to cancel selected Ingest Requests using the Ingest GUI. Status as reported by the Monitor/Control GUI report requests as canceled. This test includes verifying the ability to deny unauthorized requests. Unauthorized attempts result in an error status message displayed on the console and recorded in the Error Log.

Test Configuration:

Hardware: Workstation, Client Hosts, Working Storage.

Software: Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest GUI Interface CSC, Ingest DBMS CSC.

Data: Sampling of data.

Tools: SDPF Ingest Simulator

Test Inputs:

A series of ingest requests are entered using Automated Network, HTML, and Polling Interfaces. Requests are entered to cancel certain ingest requests. Attempts to submit Cancellation Requests are made by unauthorized requesters.

Test Outputs:

Status messages are displayed to the console indicating status of the ingest requests and error conditions. Data not in a canceled state is processed for ingest.

Success Criteria:

All ingest requests submitted are received and logged. Ingest Cancellation Requests are received. Data associated with canceled requests is not ingested. Data associated with requests that are not canceled is successfully ingested. Appropriate and correct status messages are displayed for successful/unsuccessful ingest.

Test Procedures:

Test Case ID: TS040.003	
Test Name: Ingest Cancellation Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation. > <username> > <password>	Login using an account with permissions to cancel requests.
2. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	

3. Open a second xterm, and invoke the ECS Ingest GUI.	
4. Using the ECS Ingest GUI, invoke the Operator Tools GUI. > click Operator Tools	
5. On the Ingest xterm create an Ingest Session.	
6. On the Ingest Driver xterm send a series of DANs.	S-INS-00010
7. Invoke the Monitor/Control GUI, to monitor request processing. Note the Request Ids of ongoing requests.	S-INS-00300, S-INS-00310
8. Before processing completes, invoke the Operator Tools GUI.	
9. Using the Control GUI, cancel several, but not all of the processing Ingest Requests.	S-INS-00350, S-INS-00360, S-INS-00364
10. Verify Requests have been cancelled by viewing the Request state in the Monitor/Control GUI.	S-INS-00300, S-INS-00310
11. Verify remaining processing Ingest Requests are successfully processed and ingested by viewing the History Log.	
12. Verify data from the cancelled requests was not placed in the archive.	
13. Exit all Ingest GUI processes.	
14. Terminate all Ingest Processes and exit the Ingest workstation.	The workstation needs to be exited to reenter using an invalid Monitor account.
15. Logon to the Ingest workstation. > <username> > <password>	Login using an account with no permissions to cancel requests.
16. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
17. Open a second xterm, and invoke the Ingest GUI using this xterm.	
18. Using the Ingest GUI, invoke the Operator Tools GUI. > click Operator Tools	
19. On the Ingest xterm create an Ingest Session.	
20. On the Ingest Driver xterm send a series of DANs.	
21. Invoke the Monitor/Control GUI, to monitor request processing. Note the Request Ids of ongoing requests.	S-INS-00300, S-INS-00310
22. Before processing completes, invoke the Control GUI.	
23. Attempt to Cancel several ongoing requests.	User Authorization is verified here. S-INS-00360, S-INS-00369
24. Note the error message displayed to the screen indicating unable to cancel requests.	
25. Open an xterm and use this xterm to view the Error Log. The Error Log should contain messages indicating attempts to cancel requests were made by an unauthorized user.	

26. Exit all Ingest GUI processes.	
27. Terminate all Ingest Processes and exit the Ingest workstation.	The workstation needs to be exited to reenter using an invalid Monitor account.

4.9.7.4 Test Case 4: Ingest Error Cancellation Test (TS040.004)

This test demonstrates the ability for certain accounts with certain system access privileges to cancel processing of Ingest Requests. A series of Ingest Requests are submitted. Before ingest processing completes, an unauthorized requester submits requests to cancel selected Ingest Requests using the ECS Ingest GUI. Unauthorized attempts result in an error status message displayed on the console and recorded in the Error Log. Error testing includes attempts to: cancel a request already in the canceled state, and cancel a non-existent request.

Test Configuration:

Hardware: Workstation, Client Hosts, Working Storage.

Software: Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest GUI Interface CSC, Ingest DBMS CSC.

Data: Sampling of Data

Tools: SDPF Ingest Simulator

Test Inputs:

A series of ingest requests are entered. Requests are entered to cancel certain ingest requests. Attempts to submit Cancellation Requests are made by unauthorized requesters. Attempts to submit various requests which will result in an erroneous state are made (cancel a request already in the canceled state, and cancel a non-existent request).

Test Outputs:

Status messages are displayed to the console indicating status of the ingest requests and error conditions. Data not in a canceled state is processed for ingest.

Success Criteria:

All ingest requests submitted are received and logged. Ingest Cancellation Requests are received. Data associated with canceled requests is not ingested. Data associated with requests that are not canceled is successfully ingested. Appropriate and correct status messages are displayed for successful/unsuccessful ingest. All errors are identified and recorded in the Error Log.

Test Procedures:

Test Case ID: TS040.004	
Test Name: Ingest Error Cancellation Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation. > <username> > <password>	Login using an account without permissions to cancel requests.
2. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
3. Open a second xterm, and invoke the initial ECS Ingest GUI using this xterm.	
4. Using the initial ECS Ingest GUI, invoke the Operator Tools GUI. > click Operator Tools	
5. On the Ingest xterm create an Ingest Session.	
6. On the Ingest Driver xterm send a series of DANs. > /usr/testa/testdata/<filename>	S-INS-00010
7. Invoke the Monitor/Control GUI, to monitor request processing. Note the Request Ids of ongoing requests.	S-INS-00300, S-INS-00310
8. Before processing completes, invoke the Operator Tools GUI.	
9. Using the Operator Tools GUI, attempt to cancel several, but not all of the processing Ingest Requests.	
10. Note error message displayed to screen indicating unable to cancel requests.	S-INS-00392
11. Open an xterm and use this xterm to view the Error Log. The Error Log should contain a message indicating an attempt to cancel a request was made by an unauthorized user.	S-INS-00396
12. Verify remaining processing Ingest Requests are successfully processed and ingested by viewing the History Log.	
13. Exit all Ingest GUI processes.	
14. Terminate all Ingest Processes and exit the Ingest workstation.	The workstation needs to be exited to reenter using an valid Monitor account.
15. Logon to the Ingest workstation. > <username> > <password>	Login using an account with permissions to cancel requests.
16. Open an xterm and use this xterm to start the Ingest process(es) if they are not currently running.	
17. Open a second xterm, and invoke the Ingest GUI using this xterm.	
18. Using the Ingest GUI, invoke the Monitor GUI. > click Operator Tools	

19. Select a canceled request.	
20. Attempt to Cancel this request.	
21. Note the error message displayed to the screen indicating request already cancelled.	S-INS-00392
22. Open an xterm and use this xterm to view the Error Log. The Error Log should contain message indicating an attempt to cancel an already cancelled request was made.	S-INS-00396
23. Return to the Monitor GUI.	
24. Attempt to cancel a non-existent request.	
25. Note the error message displayed to the screen indicating request does not exist.	S-INS-00392
26. View the Error Log. The Error Log should contain a message indicating an attempt to cancel a non-existent request was made.	S-INS-00396
27. Exit all Ingest GUI processes.	
28. Terminate all Ingest Processes and exit the Ingest workstation.	The workstation needs to be exited to reenter using an invalid Monitor account.

4.9.7.5 Test Case 5: Ingest Network Retry Test (TS040.005)

This test demonstrates the ability to set the number of times a data transfer is attempted for data ingest before the Ingest Request is considered failed. An account is established to allow access for manipulation of system parameters, including adjusting the number for retries of data transfer for ingest. The current number is displayed and noted. Ingest requests are submitted which result in failed data transfer, so retry attempts to transfer data occur. The number of retry attempts is changed. Again ingest requests are submitted which result in retry attempts. The number for attempts to transfer the data is entered into the MSS Event Log.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, SDPF, TSDIS and DAO Client Hosts and Working Storage

Software: Polling Ingest Client Interface CSC, Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Operator Ingest Interface CSC, Ingest DBMS CSC, MSS Event Log CSC

Data: CERES L0, PR L1A, NMC: FNL

Test Inputs:

Changes to the Communication Retry Count parameter on the INGEST GUI. A series of ingest requests resulting in failed transfer and therefore retry transfer attempts are made.

Test Output:

MSS Event Log Displays.

Success Criteria:

Attempts to display and change the number of retries for data transfer is successfully allowed from an authorized account. The MSS Event Log shows that the number of retries attempted as a result of unsuccessful data transfers is the same as the number entered for the Communication Retry Count parameter on the INGEST GUI.

Test Procedures:

Test Case ID: TS040.005	
Test Name: Ingest Network Retry Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest of all data are active except for the polling process.
2. Open an xterm and use this xterm to start two SDPF Client xterms, two TSDIS Client xterms , a DAO Client xterm and an Ingest Client xterm.	
3. On the Ingest Client xterm start the DAO Ingest Polling process.	
4. On the Ingest Client xterm start the INGEST GUI.	
5. On the INGEST GUI select the Operator Tools function.	
6. On the INGEST GUI select Modify System Parameters.	Note the current Communication Retry Count parameter.
7. On the INGEST GUI select the Monitor & Control function.	
8. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	S-INS-00310
9. On both SDPF Client xterms login to the simulated SDPF Client Host. > rlogin <hostname> > <password>	
10. On the first SDPF Client xterm start up the SDPF Ingest simulator user interface.	
11. On the second SDPF Client xterm start up the SDPF Ingest simulator.	
12. On both TSDIS Client xterms login to the simulated TSDIS Client Host. > rlogin <hostname> > <password>	
13. On the first TSDIS Client xterm start up the TSDIS Ingest simulator user interface.	
14. On the second TSDIS Client xterm start up the TSDIS Ingest simulator.	
15. On the DAO Client xterm login to the simulated DAO Client Host. > rlogin <hostname> > <password>	
16. On the DAO Client xterm place a Delivery Record containing the NMC FNL data into the poll location.	Note: NMC FNL ancillary data is missing from the Directory ID identified in the Delivery Record. S-INS-00010

17. On the second SDPF Client xterm send a valid Authentication Request.	
18. On the first SDPF Client xterm send a DAN containing CERES L0 data.	Note: CERES L0 data is missing from the Directory ID identified in the DAN. S-INS-00010
19. On the second TSDIS Client xterm send a valid Authentication Request.	
20. On the first TSDIS Client xterm send a DAN containing PR L1A data.	Note: PR L1A data is missing from the Directory ID identified in the DAN. S-INS-00010
21. Use the INGEST GUI to monitor the Ingest Requests.	
22. When the INGEST GUI indicates that all Ingest Requests have failed continue with the next step.	
23. On the Ingest Client xterm display the MSS Event Log.	Verify that the MSS Event Log contains entries indicating that the FTP of all data was tried the amount of times that was noted in step 6.
24. On the INGEST GUI select the Operator Tools function.	
25. On the INGEST GUI select Modify System Parameters.	
26. On the INGEST GUI set the Communication Retry Count to New: 7	S-INS-00450
27. On the INGEST GUI select the Monitor & Control function.	
28. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	S-INS-00310
29. On the DAO Client xterm place a new Delivery Record containing the NMC FNL data into the poll location.	Note: NMC FNL ancillary data is missing from the Directory ID identified in the Delivery Record. S-INS-00100
30. On the first SDPF Client xterm send a DAN containing CERES L0 data.	Note: CERES L0 data is missing from the Directory ID identified in the DAN. S-INS-00010
31. On the first TSDIS Client xterm send a DAN containing PR L1A data.	Note: PR L1A data is missing from the Directory ID identified in the DAN. S-INS-00010
32. Use the INGEST GUI to monitor the Ingest Requests.	S-INS-00300, S-INS-00310
33. When the INGEST GUI indicates that all Ingest Requests have failed continue with the next step.	
34. On the Ingest Client xterm display the MSS Event Log.	Verify that the MSS Event Log contains entries indicating that the FTP of all data was tried 7 times.
35. On the INGEST GUI select the Operator Tools function.	
36. On the INGEST GUI select Modify System Parameters.	
37. On the INGEST GUI set the Communication Retry Count to New: 3	S-INS-00450
38. On the INGEST GUI select the Monitor & Control function.	

39. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	S-INS-00310
40. On the DAO Client xterm place a new Delivery Record containing the NMC FNL data into the poll location.	Note: NMC FNL ancillary data is missing from the Directory ID identified in the Delivery Record. S-INS-00100
41. On the first SDPF Client xterm send a DAN containing CERES L0 data.	Note: CERES L0 data is missing from the Directory ID identified in the DAN. S-INS-00010
42. On the first TSDIS Client xterm send a DAN containing PR L1A data.	Note: PR L1A data is missing from the Directory ID identified in the DAN. S-INS-00010
43. Use the INGEST GUI to monitor the Ingest Requests.	S-INS-00300, S-INS-00310
44. When the INGEST GUI indicates that all Ingest Requests have failed continue with the next step.	
45. On the Ingest Client xterm display the MSS Event Log.	Verify that the MSS Event Log contains entries indicating that the FTP of all data was tried 3 times.
46. On the Ingest Client xterm shutdown the Ingest GUI.	
47. Exit the Ingest Client xterm.	
48. On the DAO Client xterm remove all Delivery Record files from the poll location.	
49. Exit the DAO Client xterm.	
50. On the first SDPF Client xterm shutdown the SDPF Ingest Client simulator.	
51. Exit both SDPF Client xterms.	
52. On the first TSDIS Client xterm shutdown the TSDIS Ingest Client simulator.	
53. Exit both TSDIS Client xterms.	
54. Logout of the Ingest Client workstation.	

4.9.7.6 Test Case 6: Ingest Request Priority Test (TS040.006)

This test demonstrates that Ingest Requests are processed according to a settable priority by Data Provider. The different priority levels are L0, LO-MEDIUM, MEDIUM, HI-MEDIUM and HI. Ingest Requests of equal priority are processed on a first-in, first-out basis. Ingest Request priorities are set to MEDIUM for SDPF, TSDIS, NESDIS and DAO using the Operator Tools function of the INGEST GUI. A series of Ingest Requests are submitted. The Ingest process is monitored. Ingest Request priorities are set to LO, LO-MEDIUM, HI-MEDIUM and HI for SDPF, TSDIS, NESDIS and DAO respectively using the Operator Tools function of the INGEST GUI. A series of Ingest Requests are submitted. The Ingest process is monitored.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, SDPF, TSDIS, NESDIS and DAO Client Hosts, Working Storage.

Software: Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, STMGT.

Data: CERES L0 (network and media), PR-L1A, Snow/Ice Cover and NMC MRF data

Tools: SDPF and TSDIS simulators

Test Inputs:

Changes to the Request Priority parameters on the INGEST GUI for SDPF, TSDIS, NESDIS and DAO. Placement of data or Delivery Records for ingest into the polling locations on the NESDIS and DAO Client Hosts and Ingest Requests from SDPF and TSIDS.

Test Output:

Monitoring of all Ingest Requests.

Success Criteria:

All Ingest Requests submitted are received and processed according to priority. Higher priority Ingest Requests should be completed first while equal priority Ingest Requests are processed on a first in first out basis.

Test Procedures:

Test Case ID: TS040.006	
Test Name: Ingest Request Priority Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest and archive of all data are active except for the polling processes.
2. Open an xterm and use this xterm to start two SDPF Client xterms, two TSDIS Client xterms, a NESDIS Client xterm, a DAO Client xterm and an Ingest Client xterm.	
3. On the Ingest Client xterm start the NESDIS and DAO Ingest Polling processes.	
4. On the Ingest Client xterm start the INGEST GUI.	
5. On the INGEST GUI select the Operator Tools function.	
6. On the INGEST GUI set the Request Priority to MEDIUM for SDPF, TSDIS, NESDIS and DAO.	
7. On the INGEST GUI select the Monitor & Control function.	
8. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, NESDIS, DAO. Then select Text View.	
9. On both SDPF Client xterms login to the simulated SDPF Client Host. > rlogin <hostname> > <password>	

10. On the first SDPF Client xterm start up the SDPF Ingest simulator user interface.	
11. On the second SDPF Client xterm start up the SDPF Ingest simulator.	
12. On both TSDIS Client xterms login to the simulated TSDIS Client Host. > rlogin <hostname> > <password>	
13. On the first TSDIS Client xterm start up the TSDIS Ingest simulator user interface.	
14. On the second TSDIS Client xterm start up the TSDIS Ingest simulator.	
15. On the NESDIS Client xterm login to the simulated NESDIS Client Host. > rlogin <hostname> > <password>	
16. On the DAO Client xterm login to the simulated DAO Client Host. > rlogin <hostname> > <password>	
17. On the NESDIS Client xterm place a Snow/Ice Cover data file into the poll location.	S-INS-00100
18. On the DAO Client xterm place the Delivery Record containing NMC MRF data into the poll location.	
19. On the second SDPF Client xterm send a valid Authentication Request.	
20. On the first SDPF Client xterm send a DAN containing CERES L0 data.	S-INS-00010
21. On the second TSDIS Client xterm send a valid Authentication Request.	
22. On the first TSDIS Client xterm send a DAN containing PR L1A data.	S-INS-00010
23. Use the INGEST GUI to monitor the Ingest Requests.	Verify that the Request Priority for the SDPF, TSDIS NESDIS and DAO Ingest Requests are set to MEDIUM.
24. When the INGEST GUI indicates that the Ingest Requests are 100 percent complete continue with the next step.	Verify that the Ingest Requests were completed on a first in / first out basis. S-INS-00318, S-INS-00319, S-INS-00320
25. On the INGEST GUI select the Operator Tools function.	
26. On the INGEST GUI set the Request Priority to L0 for SDPF, LO-MEDIUM for TSDIS, HI-MEDIUM for NESDIS and HI for DAO.	
27. On the INGEST GUI select the Media Ingest function.	
28. On the INGEST GUI select Media Type: 8mm-Tape and enter SDPF as the Data Provider.	S-INS-00130, S-INS-00140, S-INS-00150, S-INS-00160, S-INS-00165, S-INS-00425
29. On the INGEST GUI enter the Media Volume ID and select Embedded in Media for Data Delivery Record File Location.	

30. On the NESDIS Client xterm place a new Snow/Ice Cover data file into the poll location.	
31. On the DAO Client xterm place a new Delivery Record containing NMC MRF data into the poll location.	S-INS-00100
32. On the INGEST GUI enter the Data Delivery Record File Name and then select the OK button.	
33. On the INGEST GUI select the Monitor & Control function.	
34. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, NESDIS, DAO. Then select Text View.	
35. On the first TSDIS Client xterm send a DAN containing PR L1A data.	S-INS-00010
36. Use the INGEST GUI to monitor the Ingest Requests.	Verify that the Request Priority for the SDPF, TSDIS NESDIS and DAO Ingest Requests are set to LO, LO-MEDIUM, HI-MEDIUM and HI respectively. S-INS-00318, S-INS-00319, S-INS-00320
37. When the INGEST GUI indicates that the Ingest Requests are 100 percent complete continue with the next step.	Verify that the Ingest Requests were completed on a prioritized basis.
38. On the Ingest Client xterm shutdown the Ingest GUI.	
39. Exit the Ingest Client xterm.	
40. On the NESDIS Client xterm remove all Snow/Ice Cover data files from the poll location.	
41. Exit the NESDIS Client xterm.	
42. On the DAO Client xterm remove all Delivery Record files from the poll location.	
43. Exit the DAO Client xterm.	
44. On the first SDPF Client xterm shutdown the SDPF Ingest Client simulator.	
45. Exit both SDPF Client xterms.	
46. On the first TSDIS Client xterm shutdown the TSDIS Ingest Client simulator.	
47. Exit both TSDIS Client xterms.	
48. Logout of the Ingest Client workstation.	

4.9.7.7 Test Case 7: GUI Functionality Verification Test (TS040.007)

This test demonstrates the general operability of the Ingest Graphical User Interfaces (GUI). All pull-down menu items located on the bar at the top of each screen will be verified that they perform as expected. All screens will be compared with the *User's Guide* to verify they contain the correct information.

Test Configuration:

Hardware: SUN Workstation.

Software: Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest GUI Interface CSC, Ingest DBMS CSC...

Data: None.

Tools: None.

Test Input:

Selections of all menu items, all toggle buttons, resizing of windows.

Test Output:

Viewing outcome of selected item.

Success Criteria:

Selections of all menu items, all toggle buttons, and resizing of windows yield successful expected results.

Test Procedures:

Test Case ID: TS040.007	
Test Name: GUI Functionality Verification Test	
Test Steps:	Comments:
1. Log on to the Ingest workstation	
2. Invoke the Ingest GUI Interface.	
3. Minimize the window, then resize to original size.	
4. Maximize the window, then resize to original size.	
5. Verify GUI screen may be resized by altering GUI borders with the mouse.	
6. Click on File menu option. Verify all functionalities listed in this menu item can be performed, including minimizing and maximizing the GUI.	
7. Click on the Help menu option. Verify all functionalities listed in this menu item can be performed, including minimizing and maximizing the GUI.	
8. Verify the Help menu option is available for all logical windows, and that help text is logical for requested information.	
9. Verify all pull-down menus available on each of the GUIs can be accessed and perform logical functions.	
9. Shutdown all GUI processes.	
10. Logout of the Ingest Workstation.	

4.9.8 Ingest Recovery Thread (TS072)

Testing is performed to verify the capability of the Ingest Subsystem to recover due to the failure of the Ingest Client, Ingest Client Hardware or Ingest DBMS Server Hardware. Recovery of the Ingest Client will be tested on both the primary and backup (failover) Ingest Client Hardware using both a warm start (recover interrupted Ingest Requests) and cold start (terminate interrupted Ingest Requests and start new). Recovery of the Ingest DBMS Server Hardware will be tested on the backup (failover) Ingest DBMS Server Hardware using a cold start since all ongoing Ingest Requests will be failed. In the event of an Ingest DBMS Server Hardware failure the Data Providers of all ongoing Ingest Requests or new Ingest Requests prior to recovering the

Ingest DBMS Server will be notified of the failure and the need to send new Ingest Requests for the affected data. Testing will include recovering Ingest Requests at different stages of the ingest process. Tests include:

TS072.001 Ingest Client Recovery Warm Start Test

TS072.002 Ingest Client Recovery Cold Start Test

TS072.003 Ingest Client Failover Recovery Warm Start Test

TS072.004 Ingest Client Failover Recovery Cold Start Test

TS072.005 Ingest DBMS Server Failover Test

4.9.8.1 Test Case 1: Ingest Client Recovery Warm Start Test (TS072.001)

This test demonstrates the capability of the Ingest Client to be recovered on the primary Ingest Client Hardware using a warm start so that all ongoing Ingest Requests that were interrupted at different stages of the ingest process are resumed. An Ingest Client failure will be simulated by stopping the Auto Network Ingest and Request Manager processes while there are ongoing Ingest Requests at different stages of the ingest process.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Servers, Gateway Server, SDPF, TSDIS, DAO and HTML Client Hosts, Working Storage, Archive Storage and 8mm tape drive

Software: Ingest Client Interface CSC, Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, SDRV CSC, STGMT CSC, Gateway CSC

Data: CERES L0 (network and media), PR L1A, NMC (ETA, FNL, MRF) and document data

Tools: SDPF and TSDIS Ingest Simulators

Test Input:

Inputs to this test include commands to stop the Auto Network Ingest and Request Manager processes and warm start of the Ingest Client.

Output:

Outputs to this test include monitoring of the Ingest Requests after the warm start of the Ingest Client. Data Server System Request displays.

Success Criteria:

This test is deemed successful if all active Ingest Requests that were halted due to stopping of the Auto Network Ingest and Request Manager processes are resumed and completed after the warm start of the Ingest Client. New Ingest Requests are completed successfully after the warm start.

Test Procedures:

Test Case ID: TS072.001	
Test Name: Ingest Client Recovery Warm Start Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all Gateway, Ingest and Data Server processes are active except for the Ingest Polling process.
2. Open an xterm and use this xterm to start two SDPF Client xterms, two TSDIS Client xterms, a DAO Client xterm, an HTML Client xterm, an Ingest Client xterm and a Data Server xterm. > xterm -T SDPF_Client_1 & > xterm -T SDPF_Client_2 & > xterm -T TSDIS_Client_1 & > xterm -T TSDIS_Client_2 & > xterm -T DAO_Client & > xterm -T HTML_Client & > xterm -T Ingest_Client & > xterm -T Data_Server & > exit	
3. On the Ingest Client xterm, after all Ingest processes are started, start up the DAO Polling process.	
4. On the Ingest Client xterm set the polling interval to 30 seconds.	
5. On the Data Server xterm login to the Science Data Server workstation. > rlogin <hostname> > <password>	
6. On the Data Server xterm start up the Science Data Server GUI.	
7. On the Data Server GUI select the System Requests function.	
8. On both SDPF Client xterms login to the simulated SDPF Client Host. > rlogin <hostname> > <password>	
9. On the first SDPF Client xterm start up the SDPF Ingest simulator user interface.	
10. On the second SDPF Client xterm start up the SDPF Ingest simulator.	
11. On both TSDIS Client xterms login to the simulated TSDIS Client Host. > rlogin <hostname> > <password>	
12. On the first TSDIS Client xterm start up the TSDIS Ingest simulator user interface.	
13. On the second TSDIS Client xterm start up the TSDIS Ingest simulator.	

14. On the Ingest Client xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > ./InGUISession &	
15. On the INGEST GUI select the Media Ingest function.	
16. On the INGEST GUI select Media Type: 8mm-Tape and enter SDPF as the Data Provider.	
17. On the INGEST GUI enter the Media Volume ID and select Embedded in Media for Data Delivery Record File Location.	
18. On the HTML Client xterm login to the simulated Data Provider Client Host. > rlogin <hostname> > <password>	
19. On the HTML Client xterm FTP a DAN containing document data to the ECS DAAC.	
20. On the HTML Client xterm start Netscape and then access the ECS HTML Interactive Ingest main page.	
21. On the ECS HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
22. On the DAO Client xterm login to the simulated DAO Client Host. > rlogin <hostname> > <password>	
23. On the DAO Client xterm place the Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
24. On the INGEST GUI enter the Data Delivery Record File Name and then select the OK button.	
25. On the INGEST GUI select the Monitor & Control function.	
26. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	
27. On the second SDPF Client xterm send a valid Authentication Request.	
28. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
29. On the second TSDIS Client xterm send a valid Authentication Request.	
30. On the first TSDIS Client xterm send a DAN containing PR L1A data.	
31. On the ECS HTML Interactive Ingest Submit DAN page select the DAN that contains the document data and then select the Submit button.	
32. Use the INGEST GUI to monitor the Ingest Requests.	Note the Request IDs for the data being ingested from the SDPF and DAO.
33. On the Ingest xterm kill the Auto Network Ingest and Request Manager processes while the Ingest Requests are in different states.	
34. On the Ingest Client xterm warm start the Ingest Client.	
35. On the Ingest Client xterm, after all Ingest processes are started, start up the DAO Polling process.	

36. Use the INGEST GUI to monitor the Ingest Requests that were suspended due to the shutdown of the Ingest Client.	Verify that all Request IDs noted in step 30 have been resumed and completed successfully. S-INS-04020, S-INS-04030
37. On the Data Server GUI verify that there were System Requests to insert all the data that was ingested.	
38. On the INGEST GUI select the Media Ingest function.	
39. On the INGEST GUI select Media Type: 8mm-Tape and enter SDPF as the Data Provider.	
40. On the INGEST GUI enter the Media Volume ID and select Embedded in Media for Data Delivery Record File Location.	
41. On the INGEST GUI enter the Data Delivery Record File Name and then select the OK button.	
42. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
43. On the first TSDIS Client xterm send a DAN containing PR L1A data.	
44. On the HTML Client xterm FTP a DAN containing document data to the ECS DAAC.	
45. On the ECS HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
46. On the ECS HTML Interactive Ingest Submit DAN page select the DAN that contains the document data and then select the Submit button.	
47. On the DAO Client xterm place new Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
48. On the INGEST GUI select the Monitor & Control function.	
49. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	
50. Use the INGEST GUI to monitor the Ingest Requests.	Verify that all Ingest Requests completed successfully. S-INS-04000, S-INS-04010
51. On the Data Server GUI verify that there were System Requests to insert all the data that was ingested.	
52. On the Data Server xterm shutdown the Data Server GUI.	
53. Exit the Data Server xterm.	
54. On the Ingest Client xterm shutdown the Ingest GUI Interface.	
55. Exit the Ingest Client xterm.	
56. On the first SDPF Client xterm shutdown the SDPF Ingest Client simulator.	
57. Exit both SDPF Client xterms.	
58. On the first TSDIS Client xterm shutdown the TSDIS Ingest Client simulator.	
59. Exit both TSDIS Client xterms.	
60. On the DAO Client xterm remove all Delivery Record files from the poll location.	
61. Exit the DAO Client xterm.	
62. Logout of the Ingest Client workstation.	

4.9.8.2 Test Case 2: Ingest Client Recovery Cold Start Test (TS072.002)

This test demonstrates the capability of the Ingest Client to be recovered on the primary Ingest Client Hardware using a cold start so that all ongoing Ingest Requests that were interrupted at different stages of the ingest process are not resumed. An Ingest Client failure will be simulated by stopping the Auto Network Ingest and Request Manager processes while there are ongoing Ingest Requests at different stages of the ingest process.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Servers, Gateway Server, SDPF, TSDIS, DAO and HTML Client Hosts, Working Storage, Archive Storage and 8mm tape drive

Software: Ingest Client Interface CSC, Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, SDSRV CSC, STGMT CSC, Gateway CSC

Data: CERES L0 (network and media), TMI L1A, NMC (ETA, FNL, MRF) and document data

Tools: SDPF and TSDIS Ingest Simulators

Test Input:

Inputs to this test include commands to stop the Auto Network Ingest and Request Manager processes and cold start of the Ingest Client.

Test Output:

Outputs to this test include monitoring of the Ingest Requests after the cold start of the Ingest Client.

Success Criteria:

This test is deemed successful if all active Ingest Requests that were halted due to stopping of the Auto Network Ingest and Request Manager processes are not resumed after the cold start of the Ingest Client. New Ingest Requests are completed successfully after the cold start.

Test Procedures:

Test Case ID: TS072.002	
Test Name: Ingest Client Recovery Cold Start Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all Gateway, Ingest and Data Server processes are active except for the Ingest Polling process.

2. Open an xterm and use this xterm to start two SDPF Client xterms, two TSDIS Client xterms, a DAO Client xterm, an HTML Client xterm, and an Ingest Client xterm. > xterm -T SDPF_Client_1 & > xterm -T SDPF_Client_2 & > xterm -T TSDIS_Client_1 & > xterm -T TSDIS_Client_2 & > xterm -T DAO_Client & > xterm -T HTML_Client & > xterm -T Ingest_Server & > exit	
3. On the Ingest Client xterm, after all Ingest processes are started, start up the DAO Polling process.	
4. On the Ingest Client xterm set the polling interval to 30 seconds.	
5. On both SDPF Client xterms login to the simulated SDPF Client Host. > rlogin <hostname> > <password>	
6. On the first SDPF Client xterm start up the SDPF Ingest simulator user interface.	
7. On the second SDPF Client xterm start up the SDPF Ingest simulator.	
8. On both TSDIS Client xterms login to the simulated TSDIS Client Host. > rlogin <hostname> > <password>	
9. On the first TSDIS Client xterm start up the TSDIS Ingest simulator user interface.	
10. On the second TSDIS Client xterm start up the TSDIS Ingest simulator.	
11. On the Ingest Client xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > ./InGUISession &	
12. On the INGEST GUI select the Media Ingest function.	
13. On the INGEST GUI select Media Type: 8mm-Tape and enter SDPF as the Data Provider.	
14. On the INGEST GUI enter the Media Volume ID and select Embedded in Media for Data Delivery Record File Location.	
15. On the HTML Client xterm login to the simulated Data Provider Client Host. > rlogin <hostname> > <password>	
16. On the HTML Client xterm FTP a DAN containing document data to the ECS DAAC.	
17. On the HTML Client xterm start Netscape and then access the ECS HTML Interactive Ingest main page.	

18. On the ECS HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
19. On the DAO Client xterm login to the simulated DAO Client Host. > rlogin <hostname> > <password>	
20. On the DAO Client xterm place the Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
21. On the INGEST GUI enter the Data Delivery Record File Name and then select the OK button.	
22. On the INGEST GUI select the Monitor & Control function.	
23. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	
24. On the second SDPF Client xterm send a valid Authentication Request.	
25. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
26. On the second TSDIS Client xterm send a valid Authentication Request.	
27. On the first TSDIS Client xterm send a DAN containing TMI L1A data.	
28. On the ECS HTML Interactive Ingest Submit DAN page select the DAN that contains the document data and then select the Submit button.	
29. Use the INGEST GUI to monitor the Ingest Requests.	Note the Request IDs for the data being ingested from the SDPF and DAO.
30. On the Ingest xterm kill the Auto Network Ingest and Request Manager processes while the Ingest Requests are in different states.	
31. On the Ingest Client xterm cold start the Ingest Client.	
32. On the Ingest Client xterm, after all Ingest processes are started, start up the DAO Polling process.	
33. Use the INGEST GUI to monitor the Ingest Requests that were stopped due to the shutdown of the Ingest Client.	Verify that all Request IDs noted in step 29 have not been resumed but have been indicated as failed.
34. On the INGEST GUI select the Media Ingest function.	
35. On the INGEST GUI select Media Type: 8mm-Tape and enter SDPF as the Data Provider.	
36. On the INGEST GUI enter the Media Volume ID and select Embedded in Media for Data Delivery Record File Location.	
37. On the INGEST GUI enter the Data Delivery Record File Name and then select the OK button.	
38. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
39. On the first TSDIS Client xterm send a DAN containing TMI L1A data.	

40. On the HTML Client xterm FTP a DAN containing document data to the ECS DAAC.	
41. On the ECS HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
42. On the ECS HTML Interactive Ingest Submit DAN page select the DAN that contains the document data and then select the Submit button.	
43. On the DAO Client xterm place new Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
44. On the INGEST GUI select the Monitor & Control function.	
45. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	
46. Use the INGEST GUI to monitor the Ingest Requests.	Verify that all Ingest Requests complete successfully.
47. On the Ingest Client xterm shutdown the Ingest GUI Interface.	
48. Exit the Ingest Client xterm.	
49. On the first SDPF Client xterm shutdown the SDPF Ingest Client simulator.	
50. Exit both SDPF Client xterms.	
51. On the first TSDIS Client xterm shutdown the TSDIS Ingest Client simulator.	
52. Exit both TSDIS Client xterms.	
53. On the DAO Client xterm remove all Delivery Record files from the poll location.	
54. Exit the DAO Client xterm.	
55. Logout of the Ingest Client workstation.	

4.9.8.3 Test Case 3: Ingest Client Failover Recovery Warm Start Test (TS072.003)

This test demonstrates the capability of the Ingest Client to be recovered on the backup (failover) Ingest Client Hardware using a warm start so that all ongoing Ingest Requests that were interrupted at different stages of the ingest process are resumed. An Ingest Client Hardware failure will be simulated by stopping the Auto Network Ingest and Request Manager processes while there are ongoing Ingest Requests at different stages of the ingest process.

Test Configuration:

Hardware: Ingest Client, Backup Ingest Client, Ingest DBMS Server, Gateway Server, Science Data Servers, SDPF, TSDIS, DAO and HTML Client Hosts, Working Storage, Archive Storage and 8mm tape drive

Software: Ingest Client Interface CSC, Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, SDRV CSC, STGMT CSC, Gateway CSC

Data: CERES L0 (network and media), PR L1A, NMC (ETA, FNL, MRF) and document data

Tools: SDPF and TSDIS Ingest Simulators

Test Input:

Commands to stop the Auto Network Ingest and Request Manager processes and cold start of the Ingest Client on the backup Ingest Client Hardware.

Test Output:

Monitoring of the Ingest Requests after the warm start of the Ingest Client on the backup Ingest Client Hardware.

Success Criteria:

All active Ingest Requests that were stopped due to failure of the primary Ingest Client Hardware are resumed and completed after the warm start of the Ingest Client on the backup Ingest Client Hardware. New Ingest Requests are completed successfully after the warm start.

Test Procedures:

Test Case ID: TS072.003	
Test Name: Ingest Client Failover Recovery Warm Start Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all Gateway, Ingest and Data Server processes are active except for the Ingest Polling process.
2. Open an xterm and use this xterm to start two SDPF Client xterms, two TSDIS Client xterms, a DAO Client xterm, an HTML Client xterm, an Ingest Client xterm and a Data Server xterm. > xterm -T SDPF_Client_1 & > xterm -T SDPF_Client_2 & > xterm -T TSDIS_Client_1 & > xterm -T TSDIS_Client_2 & > xterm -T DAO_Client & > xterm -T HTML_Client & > xterm -T Ingest_Client & > xterm -T Data_Server & > exit	
3. On the Ingest Client xterm, after all Ingest processes are started, start up the DAO Polling process.	
4. On the Ingest Client xterm set the polling interval to 30 seconds.	
5. On the Data Server xterm login to the Science Data Server workstation. > rlogin <hostname> > <password>	
6. On the Data Server xterm start up the Science Data Server GUI.	

7. On the Data Server GUI select the System Requests function.	
8. On both SDPF Client xterms login to the simulated SDPF Client Host. > rlogin <hostname> > <password>	
9. On the first SDPF Client xterm start up the SDPF Ingest simulator user interface.	
10. On the second SDPF Client xterm start up the SDPF Ingest simulator.	
11. On both TSDIS Client xterms login to the simulated TSDIS Client Host. > rlogin <hostname> > <password>	
12. On the first TSDIS Client xterm start up the TSDIS Ingest simulator user interface.	
13. On the second TSDIS Client xterm start up the TSDIS Ingest simulator.	
14. On the Ingest Client xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > ./InGUISession &	
15. On the INGEST GUI select the Media Ingest function.	
16. On the INGEST GUI select Media Type: 8mm-Tape and enter SDPF as the Data Provider.	
17. On the INGEST GUI enter the Media Volume ID and select Embedded in Media for Data Delivery Record File Location.	
18. On the HTML Client xterm login to the simulated Data Provider Client Host. > rlogin <hostname> > <password>	
19. On the HTML Client xterm FTP a DAN containing document data to the ECS DAAC.	
20. On the HTML Client xterm start Netscape and then access the ECS HTML Interactive Ingest main page.	
21. On the ECS HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
22. On the DAO Client xterm login to the simulated DAO Client Host. > rlogin <hostname> > <password>	
23. On the DAO Client xterm place the Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
24. On the INGEST GUI enter the Data Delivery Record File Name and then select the OK button.	
25. On the INGEST GUI select the Monitor & Control function.	

26. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	
27. On the second SDPF Client xterm send a valid Authentication Request.	
28. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
29. On the second TSDIS Client xterm send a valid Authentication Request.	
30. On the first TSDIS Client xterm send a DAN containing PR L1A data.	
31. On the ECS HTML Interactive Ingest Submit DAN page select the DAN that contains the document data and then select the Submit button.	
32. Use the INGEST GUI to monitor the Ingest Requests.	Note the Request IDs for the data being ingested from the SDPF and DAO.
33. On the Ingest xterm kill the Auto Network Ingest and Request Manager processes while the Ingest Requests are in different states.	
34. On the Ingest Client xterm login to the Backup Ingest Client workstation. > rlogin <hostname> > <password>	
35. On the Ingest Client xterm warm start the Ingest Client.	
36. On the Ingest Client xterm, after all Ingest processes are started, start up the DAO Polling process.	
37. Use the INGEST GUI to monitor the Ingest Requests that were suspended due to the shutdown of the Ingest Client.	Verify that all Request IDs noted in step 32 have been resumed and completed successfully. S-INS-04020, S-INS-04030
38. On the Data Server GUI verify that there were System Requests to insert all the data that was ingested.	
39. On the INGEST GUI select the Media Ingest function.	
40. On the INGEST GUI select Media Type: 8mm-Tape and enter SDPF as the Data Provider.	
41. On the INGEST GUI enter the Media Volume ID and select Embedded in Media for Data Delivery Record File Location.	
42. On the INGEST GUI enter the Data Delivery Record File Name and then select the OK button.	
43. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
44. On the first TSDIS Client xterm send a DAN containing PR L1A data.	
45. On the HTML Client xterm FTP a DAN containing document data to the ECS DAAC.	
46. On the ECS HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	

47. On the ECS HTML Interactive Ingest Submit DAN page select the DAN that contains the document data and then select the Submit button.	
48. On the DAO Client xterm place new Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
49. On the INGEST GUI select the Monitor & Control function.	
50. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	
51. Use the INGEST GUI to monitor the Ingest Requests.	Verify that all Ingest Requests complete successfully. S-INS=04000, S-INS-04010
52. On the Data Server GUI verify that there were System Requests to insert all the data that was ingested.	
53. On the Data Server xterm shutdown the Data Server GUI.	
54. Exit the Data Server xterm.	
55. On the Ingest Client xterm shutdown the Ingest GUI Interface.	
56. Exit the Ingest Client xterm.	
57. On the first SDPF Client xterm shutdown the SDPF Ingest Client simulator.	
58. Exit both SDPF Client xterms.	
59. On the first TSDIS Client xterm shutdown the TSDIS Ingest Client simulator.	
60. Exit both TSDIS Client xterms.	
61. On the DAO Client xterm remove all Delivery Record files from the poll location.	
62. Exit the DAO Client xterm.	
63. Logout of the Ingest Client workstation.	

4.9.8.4 Test Case 4: Ingest Client Failover Recovery Cold Start Test (TS072.004)

This test demonstrates the capability of the Ingest Client to be recovered on the backup (failover) Ingest Client Hardware using a cold start so that all ongoing Ingest Requests that were interrupted at different stages of the ingest process are not resumed. An Ingest Client failure will be simulated by stopping the Auto Network Ingest and Request Manager processes while there are ongoing Ingest Requests at different stages of the ingest process.

Test Configuration:

Hardware: Ingest Client, Backup Ingest Client, Science Data Servers, Gateway Server, SDPF, TSDIS, DAO and HTML Client Hosts, Working Storage, Archive Storage and 8mm tape drive

Software: Ingest Client Interface CSC, Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest

Data Preprocessing CSC, Metadata CSC, SDSRV CSC, STGMT CSC, Gateway CSC

Data: CERES L0 (network and media), TMI L1A, NMC (ETA, FNL, MRF) and document data

Tools: SDPF and TSDIS Ingest Simulators

Test Input:

Inputs to this test include commands to stop the Auto Network Ingest and Request Manager processes and cold start of the Ingest Client on the backup Ingest Client Hardware.

Test Output:

Outputs to this test include monitoring of the Ingest Requests after the cold start of the Ingest Client on the backup Ingest Client Hardware.

Success Criteria:

This test is deemed successful if all active Ingest Requests that were halted due to failure of the primary Ingest Client Hardware are not resumed after the cold start of the Ingest Client on the backup Ingest Client Hardware. New Ingest Requests are completed successfully after the cold start.

Test Procedures:

Test Case ID: TS072.004	
Test Name: Ingest Client Failover Recovery Cold Start Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all Gateway, Ingest and Data Server processes are active except for the Ingest Polling process.
2. Open an xterm and use this xterm to start two SDPF Client xterms, two TSDIS Client xterms, a DAO Client xterm, an HTML Client xterm, and an Ingest Client xterm. > xterm -T SDPF_Client_1 & > xterm -T SDPF_Client_2 & > xterm -T TSDIS_Client_1 & > xterm -T TSDIS_Client_2 & > xterm -T DAO_Client & > xterm -T HTML_Client & > xterm -T Ingest_Server & > exit	
3. On the Ingest Client xterm, after all Ingest processes are started, start up the DAO Polling process.	
4. On the Ingest Client xterm set the polling interval to 30 seconds.	

5. On both SDPF Client xterms login to the simulated SDPF Client Host. > rlogin <hostname> > <password>	
6. On the first SDPF Client xterm start up the SDPF Ingest simulator user interface.	
7. On the second SDPF Client xterm start up the SDPF Ingest simulator.	
8. On both TSDIS Client xterms login to the simulated TSDIS Client Host. > rlogin <hostname> > <password>	
9. On the first TSDIS Client xterm start up the TSDIS Ingest simulator user interface.	
10. On the second TSDIS Client xterm start up the TSDIS Ingest simulator.	
11. On the Ingest Client xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > ./InGUISession &	
12. On the INGEST GUI select the Media Ingest function.	
13. On the INGEST GUI select Media Type: 8mm-Tape and enter SDPF as the Data Provider.	
14. On the INGEST GUI enter the Media Volume ID and select Embedded in Media for Data Delivery Record File Location.	
15. On the HTML Client xterm login to the simulated Data Provider Client Host. > rlogin <hostname> > <password>	
16. On the HTML Client xterm FTP a DAN containing document data to the ECS DAAC.	
17. On the HTML Client xterm start Netscape and then access the ECS HTML Interactive Ingest main page.	
18. On the ECS HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
19. On the DAO Client xterm login to the simulated DAO Client Host. > rlogin <hostname> > <password>	
20. On the DAO Client xterm place the Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
21. On the INGEST GUI enter the Data Delivery Record File Name and then select the OK button.	
22. On the INGEST GUI select the Monitor & Control function.	
23. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	

24. On the second SDPF Client xterm send a valid Authentication Request.	
25. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
26. On the second TSDIS Client xterm send a valid Authentication Request.	
27. On the first TSDIS Client xterm send a DAN containing TMI L1A data.	
28. On the ECS HTML Interactive Ingest Submit DAN page select the DAN that contains the document data and then select the Submit button.	
29. Use the INGEST GUI to monitor the Ingest Requests.	Note the Request IDs for the data being ingested from the SDPF and DAO.
30. On the Ingest xterm kill the Auto Network Ingest and Request Manager processes while the Ingest Requests are in different states.	
31. On the Ingest Client xterm login to the Backup Ingest Client workstation. > rlogin <hostname> > <password>	
32. On the Ingest Client xterm cold start the Ingest Client.	
33. On the Ingest Client xterm, after all Ingest processes are started, start up the DAO Polling process.	
34. Use the INGEST GUI to monitor the Ingest Requests that were stopped due to the shutdown of the Ingest Client.	Verify that all Request IDs noted in step 29 have not been resumed but have been indicated as failed.
35. On the INGEST GUI select the Media Ingest function.	
36. On the INGEST GUI select Media Type: 8mm-Tape and enter SDPF as the Data Provider.	
37. On the INGEST GUI enter the Media Volume ID and select Embedded in Media for Data Delivery Record File Location.	
38. On the INGEST GUI enter the Data Delivery Record File Name and then select the OK button.	
39. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
40. On the first TSDIS Client xterm send a DAN containing TMI L1A data.	
41. On the HTML Client xterm FTP a DAN containing document data to the ECS DAAC.	
42. On the ECS HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
43. On the ECS HTML Interactive Ingest Submit DAN page select the DAN that contains the document data and then select the Submit button.	
44. On the DAO Client xterm place new Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
45. On the INGEST GUI select the Monitor & Control function.	

46. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	
47. Use the INGEST GUI to monitor the Ingest Requests.	Verify that all Ingest Requests complete successfully.
48. On the Ingest Client xterm shutdown the Ingest GUI Interface.	
49. Exit the Ingest Client xterm.	
50. On the first SDPF Client xterm shutdown the SDPF Ingest Client simulator.	
51. Exit both SDPF Client xterms.	
52. On the first TSDIS Client xterm shutdown the TSDIS Ingest Client simulator.	
53. Exit both TSDIS Client xterms.	
54. On the DAO Client xterm remove all Delivery Record files from the poll location.	
55. Exit the DAO Client xterm.	
56. Logout of the Ingest Client workstation.	

4.9.8.5 Test Case 5: Ingest DBMS Server Failover Test (TS072.005)

This test demonstrates the capability of the failover to the backup Ingest DBMS Server Hardware in the event of the primary Ingest DBMS Server Hardware failing. Failure of the primary Ingest DBMS Server Hardware will be simulated by shutting down the Ingest DBMS Server process. All ongoing Ingest Requests will be terminated and the External Data Providers will be notified. This test will require the support of HTSC.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Backup Ingest DBMS Server, Science Data Servers, Gateway Server, SDPF, TSDIS, DAO and HTML Client Hosts, Working Storage, Archive Storage and 8mm tape drive

Software: Ingest Client Interface CSC, Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, SDSRV CSC, STGMT CSC, Gateway CSC

Data: CERES L0 (network and media), VIRS L1A, NMC (ETA, FNL, MRF) and document data

Tools: SDPF and TSDIS Ingest Simulators

Test Input:

Inputs to this test include shutdown of the primary Ingest DBMS Server process, shutdown of the Ingest Client, startup of the Ingest DBMS Server process on the backup Ingest DBMS Server Hardware and cold start of the Ingest Client.

Test Output:

Outputs to this test include monitoring of the Ingest Requests after the startup of the backup Ingest DBMS Server and cold start of the Ingest Client.

Success Criteria:

This test is deemed successful if all active Ingest Requests were terminated and the External Data Providers notified of the Ingest DBMS Server failure. All new Ingest Requests are completed successfully after the failover of the Ingest DBMS Server and cold start of the Ingest Client.

Test Procedures:

Test Case ID: TS072.005	
Test Name: Ingest DBMS Server Failover Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. > rlogin <hostname> > <password>	Assumption: all Gateway, Ingest and Data Server processes are active except for the Ingest Polling process.
2. Open an xterm and use this xterm to start two SDPF Client xterms, two TSDIS Client xterms, a DAO Client xterm, an HTML Client xterm, an Ingest Client xterm and an Ingest Server xterm. > xterm -T SDPF_Client_1 & > xterm -T SDPF_Client_2 & > xterm -T TSDIS_Client_1 & > xterm -T TSDIS_Client_2 & > xterm -T DAO_Client & > xterm -T HTML_Client & > xterm -T Ingest_Client & > xterm -T Ingest_Server & > exit	
3. On the Ingest Server xterm login to the Ingest DBMS Server workstation. > rlogin <hostname> > <password>	
4. On the Ingest Client xterm, after all Ingest processes are started, start up the DAO Polling process.	
5. On the Ingest Client xterm set the polling interval to 30 seconds.	
6. On both SDPF Client xterms login to the simulated SDPF Client Host. > rlogin <hostname> > <password>	
7. On the first SDPF Client xterm start up the SDPF Ingest simulator user interface.	
8. On the second SDPF Client xterm start up the SDPF Ingest simulator.	
9. On both TSDIS Client xterms login to the simulated TSDIS Client Host. > rlogin <hostname> > <password>	

10. On the first TSDIS Client xterm start up the TSDIS Ingest simulator user interface.	
11. On the second TSDIS Client xterm start up the TSDIS Ingest simulator.	
12. On the Ingest Client xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > ./InGUISession &	
13. On the INGEST GUI select the Media Ingest function.	
14. On the INGEST GUI select Media Type: 8mm-Tape and enter SDPF as the Data Provider.	
15. On the INGEST GUI enter the Media Volume ID and select Embedded in Media for Data Delivery Record File Location.	
16. On the HTML Client xterm login to the simulated Data Provider Client Host. > rlogin <hostname> > <password>	
17. On the HTML Client xterm FTP a DAN containing document data to the ECS DAAC.	
18. On the HTML Client xterm start Netscape and then access the ECS HTML Interactive Ingest main page.	
19. On the ECS HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
20. On the DAO Client xterm login to the simulated DAO Client Host. > rlogin <hostname> > <password>	
21. On the DAO Client xterm place the Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
22. On the INGEST GUI enter the Data Delivery Record File Name and then select the OK button.	
23. On the INGEST GUI select the Monitor & Control function.	
24. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	
25. On the second SDPF Client xterm send a valid Authentication Request.	
26. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
27. On the second TSDIS Client xterm send a valid Authentication Request.	
28. On the first TSDIS Client xterm send a DAN containing VIRS L1A data.	
29. On the ECS HTML Interactive Ingest Submit DAN page select the DAN that contains the document data and then select the Submit button.	
30. Use the INGEST GUI to monitor the Ingest Requests.	Note the Request IDs for the data being ingested from the SDPF and DAO.

31. On the Ingest Server xterm have an authorized person kill the Ingest DBMS Server process while the Ingest Requests are in different states.	
32. Verify that the SDPF, TSDIS and DAO are notified that the Ingest DBMS Server has failed and that each Ingest Request must be resubmitted.	
33. On the Ingest Client xterm shutdown the INGEST GUI, DAO Polling processes and the Ingest Client.	
34. On the Ingest Server xterm login to the backup Ingest DBMS Server. > rlogin <hostname> > <password>	
35. On the Ingest Server xterm start the Ingest DBMS Server.	
36. On the Ingest Client xterm cold start the Ingest Client.	
37. On the Ingest Client xterm, after all Ingest processes are started, start up the DAO Polling process.	
38. On the Ingest Client xterm start the INGEST GUI. > cd <path> > source envsetup > cd <path> > ./InGUISession &	
39. On the INGEST GUI select the Monitor & Control function.	
40. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	
41. Use the INGEST GUI to monitor the Ingest Requests that were stopped due to the shutdown of the Ingest DBMS Server.	Verify that all Request IDs noted in step 28 have not been resumed but have been indicated as failed.
42. On the INGEST GUI select the Media Ingest function.	
43. On the INGEST GUI select Media Type: 8mm-Tape and enter SDPF as the Data Provider.	
44. On the INGEST GUI enter the Media Volume ID and select Embedded in Media for Data Delivery Record File Location.	
45. On the INGEST GUI enter the Data Delivery Record File Name and then select the OK button.	
46. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
47. On the first TSDIS Client xterm send a DAN containing VIRS L1A data.	
48. On the HTML Client xterm FTP a DAN containing document data to the ECS DAAC.	
49. On the ECS HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
50. On the ECS HTML Interactive Ingest Submit DAN page select the DAN that contains the document data and then select the Submit button.	
51. On the DAO Client xterm place new Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
52. On the INGEST GUI select the Monitor & Control function.	

53. On the INGEST GUI select Search By: Data Provider and enter SDPF, TSDIS, DAO. Then select Text View.	
54. Use the INGEST GUI to monitor the Ingest Requests.	Verify that all Ingest Requests complete successfully.
55. On the Ingest Client xterm shutdown the Ingest GUI Interface.	
56. Exit the Ingest Client xterm.	
57. On the first SDPF Client xterm shutdown the SDPF Ingest Client simulator.	
58. Exit both SDPF Client xterms.	
59. On the first TSDIS Client xterm shutdown the TSDIS Ingest Client simulator.	
60. Exit both TSDIS Client xterms.	
61. On the DAO Client xterm remove all Delivery Record files from the poll location.	
62. Exit the DAO Client xterm.	
63. Logout of the Ingest Client workstation.	

4.9.9 Insert Boundary Conditions Thread (TS073)

This thread demonstrates a set of Ingest and Data Server requirements related to system startup, normal operations, and shutdown, specifically the way the applications and the local operating systems perform around and across various boundaries. Testing will include boundaries such as the end of the year during a non-leap year, the end of February during a non-leap year, the end of the year during a leap year, the end of February during a leap year, and across the century change. These test cases will involve changing the system time to the specific times noted in the test cases, on both the client and server machines. When future dates are used, there may be a need to put other jobs/processes in the system on hold until the test has been executed and the time changed back to the current date and time. Using future dates may also cause password problems if there is a limit on how often a password must be changed on any particular system. Attempts will be made to perform Ingest and DSS functions at five different points in relation to the boundary being tested:

- Total processing before the boundary crossing
- Total processing after the boundary crossing
- Processing stops at the boundary
- Processing starts at the boundary
- Processing occurs across the boundary

Performing the various Ingest and DSS functions, such as Preprocessing, GUI monitoring and calls to Data Server for validation and insertion, right at the boundary can be difficult. The test may have to be run several times in order to obtain the desired results. This can make the test very time consuming. Entering the same time on all host machines (client and server and others that may be necssary) at precisely the same moment, provided many machines are used for the

test, also can be very difficult. This would however, only result in the time being entered more than once, since the time is changed before the application software is initialized.

When specified in the test, the time is changed to approximately 20 minutes before the boundary being tested. This is to allow enough time for the operator to initiate the various application processes and any necessary drivers, perform some functions before the boundary, and to start some functions that will continue across the boundary. The operator can specify more or less time before the boundary crossing, as is necessary.

Care must be taken when performing these tests because chances are other subsystems will be running or communicating with Ingest or Data Server at the same time, and we would like to minimize the impact on others as much as possible. It is also very important that the batch queue (if any) is checked after the completion of each test, or when the clock is changed back to current time to verify that any other jobs/processes in the queue are again set to go off as expected (current day, not some day in the past or the future). Any jobs previously halted must again be started, when applicable. Special privileges may be required for this test. Support from HTSC may be required for this test. It may also be a good idea after the test is complete to purge any files pertinent to the test, such as log, data, error files that may have been generated during the test, after they have been printed/analyzed, to reduce the number of files residing on the system.

This thread contains the following test cases:

TS073.001 Insertion End of Year/Non-Leap Year Test

TS073.002 Insertion End of February/Non-Leap Year Test

TS073.003 Insertion End of Year/Leap Year Test

TS073.004 Insertion End of February/ Leap Year Test

TS073.005 Insertion Century Crossing Test

4.9.9.1 Test Case 1: End of Year/Non-Leap Year Test (TS073.001)

This test demonstrates the ability for Ingest and Data Server to perform correctly around the end of the year. This test case covers a normal year end (vs. a leap year end). Various requests to ingest data will be made before, during and after the year change, and it will be verified that no problems are encountered which are specifically related to the year end. It will also be verified that the appropriate messages were displayed and sent to the appropriate log files. The logs will be examined to verify all times listed are correct according to the system time for the test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: Ingest Preprocessing, Request Manager, Polling, Ingest GUI, Interactive Ingest, SDSRV, STMGT, DSS GUI

Data: A sampling of Release A data types, including CERES, TSDIS, NESDIS, V0, Documentation

Tools: Ingest Insert Driver

Test Input:

From a valid admin account, use the appropriate command to change the system time to the end of the year on all appropriate machines. Any year can be used, as long as it is not a leap year, and the time should be changed to approximately 20 minutes before the end of the year (actually the date/time will be changed to 12/31 23:40). After the applications are initiated, several Ingest requests will be started, some that will finish before the year end, some that will be in progress during the year change, and some that will start/end after the year change.

Test Output:

Outputs to this test include insertion of metadata into the inventory and data into the archive as requested. The appropriate logs are created and updated accordingly.

Success Criteria:

This test is deemed successful if data for all insert requests is correctly transferred, validated and inserted into the archive, data is retrieved from the archive, and the appropriate logs are updated accordingly. It will also be deemed successful if the date correctly reflects December 31 (365) during a non-leap year, and then successfully changes to January 1.

Test Procedures:

Test Case ID: TS073.001	
Test Name: End of Year/Non-Leap Year Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	Shrink this xterm
4. Invoke the DSS GUI and the Ingest GUI on their appropriate xterms.	
5. Invoke Ingest processes on fourth xterm.	
6. Invoke the Interactive Ingest HTML screen on another xterm.	
7. At Ingest, start various ingest requests - one auto network, one polling, one HTML, and one 8mm tape ingest.	The requests are processed, as seen on the Ingest Monitor GUI screen.

8. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
9. Shortly before the turn of the year, insert more ingest requests as is needed to insure processes are in various states during the year change.	The requests are processed as expected.
10. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
11. 11. Shortly after the turn of the year, insert several more ingest processes.	The requests are processed, as seen on the Ingest Monitor GUI screen.
12. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
13. When all requests are complete, invoke the Ingest GUI History Log.	Dates and times in the History Log reflect those actually performed. The year change is displayed appropriately.
14. View the Ingest and DSS GUI screens.	All dates and times listed on the GUI screens reflect the new year.
15. Terminate all Ingest and Data Server processes and GUIs.	All processes and GUIs are terminated correctly.
16. Look at the Ingest MSS Event Log.	All messages pertaining to Ingest initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the year end.
17. Look at the DSS MSS Event Log.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the year end.
18. Logoff Workstation.	

4.9.9.2 Test Case 2: End of February/Non-Leap Year Test (TS073.002)

This test demonstrates the ability for Ingest and Data Server to perform correctly around the end of February during a non-leap year. Various requests to ingest data will be made before, during and after the month change, and it will be verified that no problems are encountered which are specifically related to the month end. It will also be verified that the appropriate messages were displayed and sent to the appropriate log files. The logs will be examined to verify all times listed are correct according to the system time for the test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: Ingest Preprocessing, Request Manager, Polling, Ingest GUI, Interactive Ingest, SDSRV, STMGT, DSS GUI

Data: A sampling of Release A data types, including CERES, TSDIS, NESDIS, V0, Documentation

Tools: Ingest Insert Driver

Test Input:

From a valid admin account, use the appropriate command to change the system time to the end of February on all appropriate machines. Any year can be used, as long as it is not a leap year, and the time should be changed to approximately 20 minutes before the end of February (actually the date/time will be changed to 2/28 23:40). After the applications are initiated, several Ingest requests will be started, some that will finish before the month end, some that will be in progress during the month change, and some that will start/end after the month change.

Test Output:

Outputs to this test include insertion of metadata into the inventory and data into the archive as requested. The appropriate logs are created and updated accordingly.

Success Criteria:

This test is deemed successful if data for all insert requests is correctly transferred, validated and inserted into the archive, and the appropriate logs are updated accordingly. It will also be deemed successful if the date correctly changes to March 1.

Test Procedure:

Test Case ID: TS073.002	
Test Name: End of February/Non-Leap Year Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **3. >rlogin <machine_name>** **4. >source dbrc.csh** **5. >source dssrc.csh** 6. **>./sdsrv &**	
7. Source the database on a second xterm. **8. >rlogin <db_machine_name>** 9. **>source .dbrc**	Shrink this xterm
10. Invoke the DSS GUI and the Ingest GUI on their appropriate xterms.	
11. Invoke Ingest processes on fourth xterm.	
12. Invoke the Interactive Ingest HTML screen on another xterm.	
13. At Ingest, start various ingest requests - one auto network, one polling, one HTML, and one 8mm tape ingest.	The requests are processed, as seen on the Ingest Monitor GUI screen.
14. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
15. Shortly before the turn of the month, insert more ingest requests as is needed to insure processes are in various states during the year change.	The requests are processed as expected.
16. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
17. 11.Shortly after the turn of the month, insert several more ingest processes.	The requests are processed, as seen on the Ingest Monitor GUI screen.

18. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
19. When all requests are complete, invoke the Ingest GUI History Log.	Dates and times in the History Log reflect those actually performed. The month change is displayed appropriately.
20. View the Ingest and DSS GUI screens.	All dates and times listed on the GUI screens reflect the new month.
21. Terminate all Ingest and Data Server processes and GUIs.	All processes and GUIs are terminated correctly.
22. Look at the Ingest MSS Event Log.	All messages pertaining to Ingest initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the month end.
23. Look at the DSS MSS Event Log.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the month end.
24. Logoff Workstation.	

4.9.9.3 Test Case 3: End of Year/ Leap Year Test (TS073.003)

This test demonstrates the ability for Ingest and Data Server to perform correctly around the end of the year. This test case covers a leap year end (vs. a non-leap year end). Various requests to ingest data will be made before, during and after the year change, and it will be verified that no problems are encountered which are specifically related to the year end. It will also be verified that the appropriate messages were displayed and sent to the appropriate log files. The logs will be examined to verify all times listed are correct according to the system time for the test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: Ingest Preprocessing, Request Manager, Polling, Ingest GUI, Interactive Ingest, SDSRV, STMGT, DSS GUI

Data: A sampling of Release A data types, including CERES, TSDIS, NESDIS, V0, Documentation

Tools: Ingest Insert Driver

Test Input:

From a valid admin account, use the appropriate command to change the system time to the end of the year on all appropriate machines. Any year can be used, as long as it is a leap year, and the time should be changed to approximately 20 minutes before the end of the year (actually the date/time will be changed to 12/31 23:40). After the applications are initiated, several Ingest requests will be started, some that will finish before the year end, some that will be in progress during the year change, and some that will start/end after the year change.

Test Output:

Outputs to this test include insertion of metadata into the inventory and data into the archive as requested. The appropriate logs are created and updated accordingly.

Success Criteria:

This test is deemed successful if data for all insert requests is correctly transferred, validated and inserted into the archive, and the appropriate logs are updated accordingly. It will also be deemed successful if the date correctly reflects December 31 (day 366) during a leap year, and then successfully changes to January 1.

Test Procedure:

Test Case ID: TS073.003	
Test Name: End of Year/ Leap Year Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	Shrink this xterm
4. Invoke the DSS GUI and the Ingest GUI on their appropriate xterms.	
5. Invoke Ingest processes on fourth xterm.	
6. Invoke the Interactive Ingest HTML screen on another xterm.	
7. At Ingest, start various ingest requests - one auto network, one polling, one HTML, and one 8mm tape ingest.	The requests are processed, as seen on the Ingest Monitor GUI screen.
8. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
9. Shortly before the turn of the year, insert more ingest requests as is needed to insure processes are in various states during the year change.	The requests are processed as expected.
10. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
11. 11.Shortly after the turn of the year, insert several more ingest processes.	The requests are processed, as seen on the Ingest Monitor GUI screen.
12. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
13. When all requests are complete, invoke the Ingest GUI History Log.	Dates and times in the History Log reflect those actually performed. The year change is displayed appropriately.
14. View the Ingest and DSS GUI screens.	All dates and times listed on the GUI screens reflect the new year.
15. Terminate all Ingest and Data Server processes and GUIs.	All processes and GUIs are terminated correctly.

16. Look at the Ingest MSS Event Log.	All messages pertaining to Ingest initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the year end.
17. Look at the DSS MSS Event Log.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the year end.
18. Logoff Workstation.	

4.9.9.4 Test Case 4: End of February/ Leap Year Test (TS073.004)

This test demonstrates the ability for Ingest and Data Server to perform correctly around the end of February during a leap year. Various requests to ingest data will be made before, during and after the yesr change, and it will be verified that no problems are encountered which are specifically related to the month end. It will also be verified that the appropriate messages were displayed and sent to the appropriate log files. The logs will be examined to verify all times listed are correct according to the system time for the test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: Ingest Preprocessing, Request Manager, Polling, Ingest GUI, Interactive Ingest, SDSRV, STMGT, DSS GUI

Data: A sampling of Release A data types, including CERES, TSDIS, NESDIS, V0, Documentation

Tools: Ingest Insert Driver

Test Input:

From a valid admin account, use the appropriate command to change the system time to the end of the month on all appropriate machines. Any year can be used, as long as it is a leap year, and the time should be changed to approximately 20 minutes before the end of February (actually the date/time will be changed to 2/28 23:40). After the applications are initiated, several Ingest requests will be started, some that will finish before the month end, some that will be in progress during the month change, and some that will start/end after the month change.

Test Output:

Outputs to this test include insertion of metadata into the inventory and data into the archive as requested. The appropriate logs are created and updated accordingly.

Success Criteria:

This test is deemed successful if data for all insert requests is correctly transferred, validated and inserted into the archive, and the appropriate logs are updated accordingly. It will also be deemed successful if the date successfully changes to February 29.

Test Procedure:

Test Case ID: TS073.004	
Test Name: End of February/ Leap Year Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	Shrink this xterm
4. Invoke the DSS GUI and the Ingest GUI on their appropriate xterms.	
5. Invoke Ingest processes on fourth xterm.	
6. Invoke the Interactive Ingest HTML screen on another xterm.	
7. At Ingest, start various ingest requests - one auto network, one polling, one HTML, and one 8mm tape ingest.	The requests are processed, as seen on the Ingest Monitor GUI screen.
8. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
9. Shortly before the turn of the month, insert more ingest requests as is needed to insure processes are in various states during the year change.	The requests are processed as expected.
10. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
11. 11.Shortly after the turn of the month, insert several more ingest processes.	The requests are processed, as seen on the Ingest Monitor GUI screen.
12. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
13. When all requests are complete, invoke the Ingest GUI History Log.	Dates and times in the History Log reflect those actually performed. The month change is displayed appropriately.
14. View the Ingest and DSS GUI screens.	All dates and times listed on the GUI screens reflect the new year.
15. Terminate all Ingest and Data Server processes and GUIs.	All processes and GUIs are terminated correctly.
16. Look at the Ingest MSS Event Log.	All messages pertaining to Ingest initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the month end.

17. Look at the DSS MSS Event Log.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the month end.
18. Logoff Workstation.	

4.9.9.5 Test Case 5: Century Crossing Test (TS073.005)

This test demonstrates the ability for Ingest and Data Server to perform correctly around the century change. Various requests to ingest data will be made before, during and after the century change, and it will be verified that no problems are encountered which are specifically related to the century change. It will also be verified that the appropriate messages were displayed and sent to the appropriate log files. The logs will be examined to verify all times listed are correct according to the system time for the test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: Ingest Preprocessing, Request Manager, Polling, Ingest GUI, Interactive Ingest, SDSRV, STMGT, DSS GUI

Data: A sampling of Release A data types, including CERES, TSDIS, NESDIS, V0, Documentation

Tools: Ingest Insert Driver

Test Input:

From a valid admin account, use the appropriate command to change the system time to the end of the year on all appropriate machines. The year 1999 must be used, and the time should be changed to approximately 20 minutes before the end of the year (actually the date/time will be changed to 12/31 23:40). After the applications are initiated, several Ingest requests will be started, some that will finish before the century change, some that will be in progress during the century change, and some that will start/end after the century change.

Test Output:

Outputs to this test include insertion of metadata into the inventory and data into the archive as requested. The appropriate logs are created and updated accordingly.

Success Criteria:

This test is deemed successful if data for all insert requests is correctly transferred, validated and inserted into the archive, and the appropriate logs are updated accordingly. It will also be deemed successful if the date successfully changes to January 1, 2000, and any indications of a two-digit year are reflected correctly.

Test Procedure:

Test Case ID: TS073.005	
Test Name: Century Crossing Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **>./sdsrv &**	
3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	Shrink this xterm
4. Invoke the DSS GUI and the Ingest GUI on their appropriate xterms.	
5. Invoke Ingest processes on fourth xterm.	
6. Invoke the Interactive Ingest HTML screen on another xterm.	
7. At Ingest, start various ingest requests - one auto network, one polling, one HTML, and one 8mm tape ingest.	The requests are processed, as seen on the Ingest Monitor GUI screen.
8. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
9. Shortly before the turn of the century, insert more ingest requests as is needed to insure processes are in various states during the year change.	The requests are processed as expected.
10. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
11. 11.Shortly after the turn of the century, insert several more ingest processes.	The requests are processed, as seen on the Ingest Monitor GUI screen.
12. View the DSS GUI to verify any insert requests are in the system.	The appropriate insert requests are listed as in progress.
13. When all requests are complete, invoke the Ingest GUI History Log.	Dates and times in the History Log reflect those actually performed. The century change is displayed appropriately.
14. View the Ingest and DSS GUI screens.	All dates and times listed on the GUI screens reflect the new year.
15. Terminate all Ingest and Data Server processes and GUIs.	All processes and GUIs are terminated correctly.
16. Look at the Ingest MSS Event Log.	All messages pertaining to Ingest initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the cdntury change.
17. Look at the DSS MSS Event Log.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the century change.
18. Logoff Workstation.	

4.9.10 Media Ingest Thread (TS014)

This thread demonstrates the capability to perform ingest from hard media. Hard media includes 4mm and 8mm tapes. Data is transferred from hard media via peripheral I/O access software. When a request is made to read data from hard media, a delivery record describing data content and location must be embedded in the media on the first record of the tape, or can be found on a specified network location. Both types of media ingest will be attempted.

TS014.001 SDPF Media Ingest Test Case

TS014.002 NMC/NESDIS Media Ingest Test Case

TS014.003 TSDIS Media Ingest Test Case

TS014.004 V0 Media Ingest Test Case

TS014.005 Media Ingest Error Test Case

4.9.10.1 Test Case 1: SDPF Media Ingest Test Case (TS014.001)

This test demonstrates the ability to ingest data provided by the SDPF, via the Ingest GUI Interface, from physical media into the DAAC. The data and metadata for ingest is on 8mm tapes. The Ingest GUI is initiated and information for media ingest is entered and a request to perform the media ingest is created. The request is checked to determine if the provider of the media is an authorized Ingest data provider and if the requested media type is supported. The request is assigned a unique identifier, and data and metadata are validated for completeness and correct format. Devices for storage are allocated. Associated Delivery Record files are either retrieved from a specified network directory or are extracted directly from the media. The media is accessed and read. Data is transferred from media to on-line storage. In addition, CERES and LIS data will be placed in the archive.

Test Configuration:

Hardware: Workstation, 4mm and 8mm Media and Peripherals

Software: INGST, SDSRV, and STMGT

Data: CERES and LIS data products

Tools: None.

Test Input:

Using the Ingest GUI interface, operational commands are submitted requesting media data ingest. Test will be repeated for CERES and LIS level-zero data.

Test Output:

Media is mounted and accessed. Data is retrieved from the media and written to the staging disk and to the archive. Status messages are displayed to the screen indicating successful data transfer.

Success Criteria:

All media is properly mounted. Access to read and copy data is successful. All submitted ingest requests are received and correctly validated. Status messages are displayed to the screen indicating successful data transfer.

Test Procedures:

Test Case ID: TS014.001	
Test Name: SDPF Media Ingest Test	
Test Steps:	Comments:
1. Logon to the Ingest workstation.	
2. Open an xterm and use this xterm to start an Ingest Client xterm, Ingest Server xterm and Data Server xterm.	
3. On the Ingest Server xterm start the Ingest Server process(es) if they are not currently running.	
4. On the Data Server xterm logon to the Science Data Server workstation and start the Science Data Server process(es) if they are not currently running.	
5. On the Ingest Client xterm start the Ingest Client simulator.	
6. On the Ingest Workstation, open an xterm and invoke the Ingest GUI.	
7. Select the Media Icon. > click the <Media> button on the screen	
8. Select Media Type > click on the 8mm-Tape button	S-INS-00425
9. Select the Data Provider	S-INS-00150
10. Select and enter the Tape Volume	
11. Select Data Delivery Record File Location > click "on Network"	
12. Specify the Data Delivery Record File Name	S-INS-00130
13. Click "OK"	S-INS-00140
14. Mount the media	
15. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
16. Verify successful ingest and preprocessing of the data by viewing the Ingest History Log GUI.	S-INS-00490
17. Enter search criteria for the request. Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.	

18. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	
19. Enter the Media GUI > click the <Media> button on the screen	
20. Select Media Type > click on the 8mm-Tape button	S-INS-00425
21. Select the Data Provider	S-INS-00150
22. Select and enter the Tape Volume	
23. Select Data Delivery Record File Location > click "Embedded in Media"	
24. Specify the Data Delivery Record File Name	
25. Click "OK"	S-INS-00130
26. Mount the media	S-INS-00140
27. Monitor the request using the Monitor GUI	
28. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
29. Verify successful ingest and preprocessing of the data by viewing the Ingest History Log GUI.	S-INS-00490
30. Enter search criteria for the request. Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.	
31. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	S-INS-00490
32. Enter the Media GUI > click the <Media> button on the screen	
33. Select Media Type > click on the 8mm-Tape button	S-INS-00425
34. Select the Data Provider	S-INS-00150
35. Select Data Delivery Record File Location > click "Embedded in Media"	Media contains a delivery record placed after the data.
36. Specify the Data Delivery Record File Name	
37. Click "OK"	S-INS-00130
38. Mount the media	S-INS-00140
39. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
40. Verify successful ingest and preprocessing of the data by bringing up the Ingest History Log GUI.	Note that the Data Delivery Record placed at the end of the data was detected. S-INS-00490
41. Enter search criteria for the request.	Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.
42. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	S-INS-00490

43. Enter the Media GUI > click the <Media> button on the screen	
44. Select Media Type > click on the 8mm-Tape button	
45. Select the Data Provider	S-INS-00150
46. Select Data Delivery Record File Location > click "Embedded in Media"	Media contains a delivery record placed on the second record.
47. Specify the Data Delivery Record File Name	
48. Click "OK"	S-INS-00130
49. Mount the media	S-INS-00140
50. Verify receipt of error message claiming data was not retrieved from the media because no delivery record was found.	Delivery Record must be placed on the first tape record.
51. Exit the Ingest GUI.	
52. Exit all ingest processes	
53. Compare the data that was ingested in steps above with the respective data that was archived.	The CERES and LIS data that was archived compares favorably with the respective data before it was ingested.
54. Logoff the EDF DAAC Ingest Server workstation.	This test should be repeated for all data types. S-INS-00165, S-INS-00170, S-INS-00430, S-INS-00440, S-INS-00409, S-INS-00460, S-INS-00470, S-INS-004800, S-DSS-03870, S-DSS-03972, S-DSS-20010, S-DSS-03412, S-DSS-03480, S-DSS-03500, S-DSS-03560, S-DSS-00520, S-DSS-00080, S-DSS-00090, S-DSS-20620, S-DSS-20621, S-DSS-20622, S-DSS-03010, S-DSS-03020, S-DSS-03110, S-DSS-03120, S-DSS-03130, S-DSS-03350, S-DSS-03360, S-DSS-03366, S-DSS-03367, S-DSS-03369, S-DSS-03370, S-DSS-03380, S-DSS-04360, S-DSS-00150, S-DSS-03170, S-DSS-03390, S-DSS-04520

4.9.10.2 Test Case 2: NMC/NESDIS Media Ingest Test Case (TS014.002)

This test demonstrates the ability to ingest data, provided by NESDIS, from physical media into the DAAC. The ingest data is received from the DAAC via 4mm and 8mm tape. A Media Ingest Request is entered. Associated Delivery Record files are either retrieved from a specified network directory or extracted directly from the media. The media is accessed and read. The request is checked to determine if the provider of the media is an authorized Ingest data provider and if the requested media type is supported. The request is assigned a unique identifier, and data and metadata are validated for completeness and correct format. Data is transferred from media to on-line storage and then to the archive.

Test Configuration:

Hardware: Workstation, 4mm and 8mm Media and Peripherals

Software: INGST, SDSRV, and STMGT

Data: NMC/NESDID data sets.

Tools: None.

Test Input:

Operational commands are submitted requesting media data ingest.

Test Output:

Media is mounted and accessed. Data is retrieved from the media and written to the staging disk. Status messages are displayed to the screen indicating successful data transfer.

Success Criteria:

Media is properly mounted. Access to read and copy data is successful. All submitted ingest requests are received and correctly validated. Status messages are displayed to the screen indicating successful data transfer.

Test Procedures:

Test Case ID: TS014.002	
Test Name: NMC/NESDIS Media Ingest Test	
Test Steps:	Comments:
Logon to the DAAC Ingest Server Workstation.	
1. Start the Ingest processes if they are not currently running.	
2. Remote logon to the NMC/NESDIS workstation using an xterm.	
3. Invoke the Ingest GUI.	
4. Enter the Media GUI > click the <Media> button on the screen	
5. Select Media Type > click on the 8mm-Tape button	S-INS-00425
6. Select the Data Provider	S-INS-00150
7. Select and enter the Tape Volume	
8. Select Data Delivery Record File Location > click "on Network"	
9. Specify the Data Delivery Record File Name	
10. Click "OK"	S-INS-00130
11. Mount the media	S-INS-00140
12. Monitor data ingest using the Ingest Monitor GUI.	
13. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
14. Verify successful ingest and preprocessing of the data by bringing up the Ingest History Log GUI.	S-INS-00490

15. Enter search criteria for the request. Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.	
16. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	S-INS-00490
17. Enter the Media GUI > click the <Media> button on the screen	
18. Specify Media Type > click on the 8mm-Tape button	S-INS-00425
19. Specify the Data Provider	S-INS-00150
20. Select and enter the tape volume.	
21. Specify Data Delivery Record File Location > click "Embedded in Media"	
22. Specify the Data Delivery Record File Name	
23. Click "OK"	S-INS-00130
24. Mount the media	S-INS-00140
25. Monitor data ingest using the Ingest Monitor GUI.	
26. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
27. Verify successful ingest and preprocessing of the data by bringing up the Ingest History Log GUI.	S-INS-00490
28. Enter search criteria for the request. Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.	
29. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	S-INS-00490
30. Enter the Media GUI > click the <Media> button on the screen	
31. Specify Media Type > click on the 8mm-Tape button	S-INS-00425
32. Specify the Data Provider	S-INS-00150
33. Select and enter the tape volume.	
34. Specify Data Delivery Record File Location > click "Embedded in Media"	Media contains a delivery record placed after the data.
35. Specify the Data Delivery Record File Name	
36. Click "OK"	S-INS-00130
37. Mount the media	S-INS-00140
38. Monitor data ingest using the Ingest Monitor GUI.	

39. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
40. Verify successful ingest and preprocessing of the data by bringing up the Ingest History Log GUI.	Note that the Data Delivery Record placed at the end of the data was detected. S-INS-00490
41. Enter search criteria for the request. Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.	
42. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	S-INS-00490
43. Enter the Media GUI > click the <Media> button on the screen	
44. Specify Media Type > click on the 8mm-Tape button	S-INS-00425
45. Specify the Data Provider	S-INS-00150
46. Select and enter the tape volume.	
47. Specify Data Delivery Record File Location > click "Embedded in Media"	Media contains a delivery record placed on the second record of the tape.
48. Specify the Data Delivery Record File Name	
49. Click "OK"	S-INS-00130
50. Mount the media	S-INS-00140
51. Monitor data ingest using the Ingest Monitor GUI.	
52. Verify receipt of error message stating data could not be extracted because no Delivery Record was found on the first record.	
53. Exit the Ingest GUI.	
54. Exit all Ingest Processes.	
55. Logoff the EDF DAAC Ingest Server workstation.	These tests should be repeated for all data types. S-INS-00165, S-INS-00170, S-INS-00430, S-INS-00440, S-INS-00409, S-INS-00460, S-INS-00470, S-INS-004800, S-DSS-03870, S-DSS-03972, S-DSS-20010, S-DSS-03412, S-DSS-03480, S-DSS-03500, S-DSS-03560, S-DSS-00520, S-DSS-00080, S-DSS-00090, S-DSS-20620, S-DSS-20621, S-DSS-20622, S-DSS-03010, S-DSS-03020, S-DSS-03110, S-DSS-03120, S-DSS-03130, S-DSS-03350, S-DSS-03360, S-DSS-03366, S-DSS-03367, S-DSS-03369, S-DSS-03370, S-DSS-03380, S-DSS-04360, S-DSS-00150, S-DSS-03170, S-DSS-03390, S-DSS-04520

4.9.10.3 Test Case 3: TSDIS Media Ingest Test Case (TS014.003)

This test demonstrates the ability to ingest data, provided by TSDIS, from physical media into the DAAC. The data is received from the DAAC via 4mm and 8mm tape. A Media Ingest Request is entered. Associated Delivery Record files are either retrieved from a specified

network directory or extracted directly from the media. The media is accessed and read. The request is checked to determine if the provider of the media is an authorized Ingest data provider and if the requested media type is supported. The request is assigned a unique identifier, and data and metadata are validated for completeness and correct format. Data is transferred from media to on-line storage and then to the archive.

Test Configuration:

Hardware: Workstation, 4mm and 8mm Media and Peripherals

Software: INGST, SDSRV, and STMGT

Data: TSDIS data sets.

Tools: None.

Test Input:

Operational commands are submitted requesting media data ingest.

Test Output:

Media is mounted and accessed. Data is retrieved from the media and written to the staging disk. Status messages are displayed to the screen indicating successful data transfer.

Success Criteria:

Media is properly mounted. Access to read and copy data is successful. All submitted ingest requests are received and correctly validated. Status messages are displayed to the screen indicating successful data transfer.

Test Procedures:

Test Case ID: TS014.003	
Test Name: TSDIS Media Ingest Test	
Test Steps:	Comments:
1. Logon to the DAAC Ingest Server Workstation.	
2. Start the Ingest processes if they are not currently running.	
3. Remote logon to the TSDIS workstation using an xterm.	
4. Invoke the Ingest GUI.	
5. Enter the Media GUI > click the <Media> button on the screen	
6. Select Media Type > click on the 8mm-Tape button	S-INS-00425
7. Select the Data Provider	S-INS-00150
8. Select and enter the Tape Volume	
9. Select Data Delivery Record File Location > click "on Network"	

10. Specify the Data Delivery Record File Name	
11. Click "OK"	S-INS-00130
12. Mount the media	S-INS-00140
13. Monitor data ingest using the Ingest Monitor GUI.	
14. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
15. Verify successful ingest and preprocessing of the data by bringing up the Ingest History Log GUI.	S-INS-00490
16. Enter search criteria for the request. Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.	
17. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	S-INS-00490
18. Enter the Media GUI > click the <Media> button on the screen	
19. Specify Media Type > click on the 8mm-Tape button	S-INS-00425
20. Specify the Data Provider	S-INS-00150
21. Select and enter the tape volume.	
22. Specify Data Delivery Record File Location > click "Embedded in Media"	
23. Specify the Data Delivery Record File Name	
24. Click "OK"	S-INS-00130
25. Mount the media	S-INS-00140
26. Monitor data ingest using the Ingest Monitor GUI.	
27. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
28. Verify successful ingest and preprocessing of the data by bringing up the Ingest History Log GUI.	
29. Enter search criteria for the request. Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.	
30. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	S-INS-00490
31. Enter the Media GUI > click the <Media> button on the screen	
32. Specify Media Type > click on the 8mm-Tape button	S-INS-00150
33. Specify the Data Provider	
34. Select and enter the tape volume.	
35. Specify Data Delivery Record File Location > click "Embedded in Media"	Media contains a delivery record placed after the data.

36. Specify the Data Delivery Record File Name	
37. Click "OK"	S-INS-00130
38. Mount the media	S-INS-00140
39. Monitor data ingest using the Ingest Monitor GUI.	
40. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
41. Verify successful ingest and preprocessing of the data by bringing up the Ingest History Log GUI.	Note that the Data Delivery Record placed at the end of the data was detected. S-INS-00490
42. Enter search criteria for the request. Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.	
43. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	S-INS-00490
44. Enter the Media GUI > click the <Media> button on the screen	
45. Specify Media Type > click on the 8mm-Tape button	S-INS-00425
46. Specify the Data Provider	S-INS-00150
47. Select and enter the tape volume.	
48. Specify Data Delivery Record File Location > click "Embedded in Media"	Media contains a delivery record placed on the second record of the tape.
49. Specify the Data Delivery Record File Name	
50. Click "OK"	S-INS-00130
51. Mount the media	
52. Monitor data ingest using the Ingest Monitor GUI.	
53. Verify receipt of error message stating data could not be extracted because no Delivery Record was found on the first record.	
54. Exit the Ingest GUI.	
55. Exit all Ingest Processes.	
56. Logoff the EDF DAAC Ingest Server workstation.	This test should be repeated for all data types. S-INS-00165, S-INS-00170, S-INS-00430, S-INS-00440, S-INS-00409, S-INS-00460, S-INS-00470, S-INS-004800, S-DSS-03870, S-DSS-03972, S-DSS-20010, S-DSS-03412, S-DSS-03480, S-DSS-03500, S-DSS-03560, S-DSS-00520, S-DSS-00080, S-DSS-00090, S-DSS-20620, S-DSS-20621, S-DSS-20622, S-DSS-03010, S-DSS-03020, S-DSS-03110, S-DSS-03120, S-DSS-03130, S-DSS-03350, S-DSS-03360, S-DSS-03366, S-DSS-03367, S-DSS-03369, S-DSS-03370, S-DSS-03380, S-DSS-04360, S-DSS-00150, S-DSS-03170, S-DSS-03390, S-DSS-04520

4.9.10.4 Test Case 4: V0 Media Ingest Test Case (TS014.004)

This test demonstrates the ability to ingest data, provided byV0, from physical media into the DAAC. The data is received from the DAAC via 4mm and 8mm tape. A Media Ingest Request is entered. Associated Delivery Record files are either retrieved from a specified network directory or extracted directly from the media. The media is accessed and read. The request is checked to determine if the provider of the media is an authorized Ingest data provider and if the requested media type is supported. The request is assigned a unique identifier, and data and metadata are validated for completeness and correct format. Data is transferred from media to on-line storage and then to the archive.

Test Configuration:

Hardware: Workstation, 4mm and 8mm Media and Peripherals

Software: INGST, SDSRV, and STMGT

Data: V0data sets.

Tools: None.

Test Input:

Operational commands are submitted requesting media data ingest.

Test Output:

Media is mounted and accessed. Data is retrieved from the media and written to the staging disk. Status messages are displayed to the screen indicating successful data transfer.

Success Criteria:

Media is properly mounted. Access to read and copy data is successful. All submitted ingest requests are received and correctly validated. Status messages are displayed to the screen indicating successful data transfer.

Test Procedures:

Test Case ID: TS014.004	
Test Name: V0 Media Ingest Test	
Test Steps:	Comments:
1. Logon to the DAAC Ingest Server Workstation.	
2. Start the Ingest processes if they are not currently running.	
3. Remote logon to the V0 workstation using an xterm.	
4. Invoke the Ingest GUI.	
5. Enter the Media GUI > click the <Media> button on the screen	

6. Select Media Type > click on the 8mm-Tape button	S-INS-00425
7. Select the Data Provider	S-INS-00150
8. Select and enter the Tape Volume	
9. Select Data Delivery Record File Location > click "on Network"	
10. Specify the Data Delivery Record File Name	
11. Click "OK"	S-INS-00130, S-INS-00160
12. Mount the media	S-INS-00140
13. Monitor data ingest using the Ingest Monitor GUI.	
14. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
15. Verify successful ingest and preprocessing of the data by bringing up the Ingest History Log GUI.	S-INS-00490
16. Enter search criteria for the request. Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.	
17. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	S-INS-00490
18. Enter the Media GUI > click the <Media> button on the screen	
19. Specify Media Type > click on the 8mm-Tape button	S-INS-00425
20. Specify the Data Provider	S-INS-00150
21. Select and enter the tape volume.	
22. Specify Data Delivery Record File Location > click "Embedded in Media"	
23. Specify the Data Delivery Record File Name	
24. Click "OK"	S-INS-00130, S-INS-00160
25. Mount the media	S-INS-00140
26. Monitor data ingest using the Ingest Monitor GUI.	
27. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
28. Verify successful ingest and preprocessing of the data by bringing up the Ingest History Log GUI.	S-INS-00490
29. Enter search criteria for the request. Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.	
30. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	S-INS-00490
31. Enter the Media GUI > click the <Media> button on the screen	

32. Specify Media Type > click on the 8mm-Tape button	S-INS-00425
33. Specify the Data Provider	S-INS-00150
34. Select and enter the tape volume.	
35. Specify Data Delivery Record File Location > click "Embedded in Media"	Media contains a delivery record placed after the data.
36. Specify the Data Delivery Record File Name	
37. Click "OK"	S-INS-00130, S-INS-00160
38. Mount the media	S-INS-00140
39. Monitor data ingest using the Ingest Monitor GUI.	
40. Verify receipt of dismount media request and dismount the media. This request indicates data transfer is completed.	
41. Verify successful ingest and preprocessing of the data by bringing up the Ingest History Log GUI.	Note that the Data Delivery Record placed at the end of the data was detected. S-INS-00490
42. Enter search criteria for the request. Search criteria may include: start/stop date/time, data provider, data type, final request status, and detail level. Search using any combination of criteria.	
43. Verify successful ingest by scrolling through the Browser portion of the History Log GUI.	S-INS-00490
44. Enter the Media GUI > click the <Media> button on the screen	
45. Specify Media Type > click on the 8mm-Tape button	S-INS-00425
46. Specify the Data Provider	S-INS-00150
47. Select and enter the tape volume.	
48. Specify Data Delivery Record File Location > click "Embedded in Media"	Media contains a delivery record placed on the second record of the tape.
49. Specify the Data Delivery Record File Name	
50. Click "OK"	S-INS-00130, S-INS-00160
51. Mount the media	S-INS-00140
52. Monitor data ingest using the Ingest Monitor GUI.	
53. Verify receipt of error message stating data could not be extracted because no Delivery Record was found on the first record.	
54. Exit the Ingest GUI.	
55. Exit all Ingest Processes.	

56. Logoff the EDF DAAC Ingest Server workstation.	This test should be repeated for all data types. S-INS-00810, S-INS-00165, S-INS-00170, S-INS-00430, S-INS-00440, S-INS-00409, S-INS-00460, S-INS-00470, S-INS-004800, S-DSS-03870, S-DSS-03972, S-DSS-20010, S-DSS-03412, S-DSS-03480, S-DSS-03500, S-DSS-03560, S-DSS-00520, S-DSS-00080, S-DSS-00090, S-DSS-20620, S-DSS-20621, S-DSS-20622, S-DSS-03010, S-DSS-03020, S-DSS-03110, S-DSS-03120, S-DSS-03130, S-DSS-03350, S-DSS-03360, S-DSS-03366, S-DSS-03367, S-DSS-03369, S-DSS-03370, S-DSS-03380, S-DSS-04360, S-DSS-00150, S-DSS-03170, S-DSS-03390, S-DSS-04520

4.9.10.5 Test Case 5: Media Ingest Error Test Case (TS014.005)

This test demonstrates the ability to respond to error conditions encountered during media ingest. The data and metadata for ingest is on physical media. Error testing is performed to include attempted ingest under the following erroneous conditions: media file transfer failure, invalid data type identifier, missing required metadata, invalid volume ID, media type not yet available, and missing required files. Status indicating error conditions is reported by way of a pop-up screen and in the appropriate logs.

Test Configuration:

Hardware: Workstation, Media and Peripherals

Software: INGST, SDSRV, STMGT

Data: Various invalid SDPF, V0, NMC, NESDIS, and TSDIS data sets on hard media

Tools: None.

Test Input:

Operational commands are submitted requesting media data ingest. All error conditions stated in this test description are tested. Tests for all errors are repeated for each data type.

Test Output:

Status messages are displayed to screen and written to the appropriate logs indicating successful/unsuccessful media ingest.

Success Criteria:

Access to read and copy data is unsuccessful when errors are encountered. All submitted ingest requests are received and correctly validated. Status messages are displayed to screen and in logs indicating data transfer is unsuccessful. Error status is correct, complete and readable.

Test Procedures:

Test Case ID: TS014.005	
Test Name: Media Ingest Error Test	
Test Steps:	Comments:
1. Logon to the DAAC Ingest Server Workstation.	
2. Start the Ingest Processes if they are not currently running.	
3. Remote logon to the <provider> workstation using an xterm.	Tests will be repeated for each Data Provider.
4. Invoke the initial ECS Ingest GUI Interface using an invalid User Identifier.	System will not invoke the GUI and will return an error indicating that an Invalid User Identifier was entered. S-INS-00160
5. Invoke the initial ECS Ingest GUI Interface using a valid User Identifier.	
6. Enter the Media GUI, and request an 8mm media ingest.	
7. Request a second 8mm media ingest.	View notification on screen that there are no available tape drives for this media ingest request.
8. Enter the Media GUI > click the <Media> button on the screen	
9. Place a Request for Media Ingest, including an invalid Media Volume ID	
10. After receiving notification to the screen, mount the media.	
11. View pop-up message indicating request was not accepted due to an invalid Media Volume ID.	
12. Enter a valid Media Ingest Request specifying an "Embedded in Media" Delivery Record.	
13. After receiving notification to the screen, mount the media which does not contain a Delivery Record.	
14. View pop-up message indicating data could not be ingested due to missing Delivery Record File on media.	
15. Enter the Media GUI > click the <Media> button on the screen	
16. Enter a valid Media Ingest Request specifying an "On Network" Delivery Record. Enter an invalid Delivery Record file name. (nonexistent in the system)	
17. After receiving notification to the screen, mount the media which does not include a Delivery Record.	
18. View pop-up message indicating data could not be ingested due to no Delivery Record File on network.	
19. Enter a valid Media Ingest Request	
20. After receiving notification to the screen, mount the media which includes a Delivery Record specifying an invalid data type identifier.	S-INS-00150

21. View pop-up message indicating data could not be ingested due to invalid data type identifier in the Delivery Record.	
22. Enter the Media GUI >click the <Media> button	
23. Enter a Media Ingest Request specifying "9Track-Tape" for the Media Type.	
24. After receiving notification to the screen, mount the media.	
25. View pop-up message indicating data could not be ingested due to ingest request specifying media type not yet available.	S-INS-00140
26. Enter the Media GUI >click the <Media> button	
27. Enter a valid Media Ingest Request	
28. After receiving notification to the screen, mount the media. Media should include data missing required metadata.	
29. View pop-up message indicating data could not be ingested due to missing required metadata.	
30. Enter the Media GUI > click the <Media> button on the screen	
31. Enter a valid Media Ingest Request specifying an "On Network" Delivery Record. Delivery Record should specify files not available on the tape.	
32. After receiving notification to the screen, mount the media.	
33. View pop-up message indicating data could not be ingested due to files not found on tape.	
34. Exit the Ingest GUI .	
35. Exit all Ingest Processes.	
36. Logoff the Ingest Server workstation.	S-INS-00165, S-INS-00170, S-INS-00340, S-DSS-04540, S-DSS-20030

4.9.11 V0 Ancillary Data Insert Thread (TS012)

This thread demonstrates the capability to insert data into the Science Data Server via data insert requests for V0 data and associated metadata.

TS012.001 V0 FTP Ingest and Archive Test

TS012.002 TRMM Ingest and Archive Error Log Test

4.9.11.1 Test Case 1: V0 FTP Ingest and Archive Test (TS012.001)

This test demonstrates the ability to receive and ingest ancillary data from the GSFC and LaRC V0 Systems, perform data preprocessing, update the DBMS (inventory) with core metadata and insert the science data and metadata into the archive using a Polling with Delivery Record protocol. A polling process at the ECS DAAC polls predetermined locations at a preset interval

at the GSFC or LaRC V0 Systems for new Delivery Records for subsequent ingest. Upon detection of new Delivery Records the ECS DAAC ftp(s) the data to a Working Storage location that has been pre-allocated. Metadata is then extracted, the data is converted to an acceptable ECS format and an insert request is submitted to the appropriate Science Data Server for data archiving. The insert is accepted, validated and acknowledged by the Science Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The ancillary data and are then placed in the archive location that has been allocated and metadata is placed in inventory. All detailed ingest and archive activities are recorded in the Ingest and Science Data Server History Logs as well as the MSS Event Log. Ingest activities are monitored using the Ingest GUI

Test Configuration:

Hardware: Ingest Server, Science Data Server, GSFC V0 Client Host, LaRC V0 Client Host, Working Storage and Archive Storage.

Software: Ingest Client Interface CSC, Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, SDRV, STGMT.

Data: TOMS: Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone, ADEOS Ozone

SAGEII: Aerosol Profile, Ozone Profile

Tools: None.

Test Input:

Placement of Delivery Records for ingest into the polling locations on the GSFC V0 and LaRC V0 Client Hosts.

Test Output:

Ingest requests are monitored, screen displays of the following messages, Authentication Response, DAA and DDN and screen displays of all logs, DBMS (inventory) queries and listings of the archive.

Success Criteria:

The ingest and archive of all data is successful. The ingest activities were able to be monitored. All logs were updated with detailed information. The database queries verify that the core metadata for all data has been inserted into the DBMS (inventory). The listings of the archive verify that all data has been successfully archived.

Test Procedures:

Test Case ID: TS012.001	
Test Name: V0 FTP Ingest and Archive Test	
Test Steps:	Comments:
1. Login to the Ingest workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest and archive of all data are active except for the polling process.
2. Open an xterm and use this xterm to start a GSFC V0 Client xterm, a LaRC V0 Client xterm, an Ingest Server xterm and a Data Server xterm.	
3. On the Ingest Server xterm start the Ingest GUI.	
4. On the Ingest GUI select the Monitor & Control function.	
5. On the INGEST GUI select Search By: Data Provider and enter GSFCV0. Then select Text View.	
6. On the Data Server xterm login to the Science Data Server workstation and start the Science Data Server processes.	
7. On the Data Server xterm start up the Science Data Server GUI.	
8. On the Data Server GUI select the System Requests function to view the insert request in progress.	
9. On the GSFC V0 Client xterm login to the simulated GSFC V0 Client Host. > rlogin <GSFC V0 hostname> > <password>	
10. On the GSFC V0 Client xterm place the Delivery Records containing the following data into the poll location: Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone.	
11. On the Ingest Server xterm start the GSFC V0 Ingest Polling process.	S-INS-00100, S-INS-00300, S-INS-00310
12. Use the Monitor GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the GSFC V0.
13. When the Monitor GUI indicates that the ingest process is 100 percent complete enter the History Log GUI.	
14. On the Ingest GUI select the History Log function.	
15. On the History GUI enter a date and time just prior to starting the test in the Start Date/Time field, enter GSFCV0 in the Data Provider field, select Detailed Report and then select the Display button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 12.
16. On the Ingest Server xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the ingest of the data from the GSFC V0.
17. On the Data Server GUI verify that there was a System Request to insert the Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone data.	

18. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone data.
19. On the Data Server xterm query the Science Data Server database to make sure the Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone core metadata was inserted.	Verify that the queries return information pertaining to the ingested Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone data. S-DSS-04520, S-DSS-04530
20. On the Data Server xterm get a directory listing of the archive to make sure the Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone data files were archived.	Verify that the Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone data and metadata files show up in the list command.
21. On the Ingest GUI select the Monitor & Control function.	
22. On the Ingest GUI select Search By: Data Provider and enter LaRCV0. Then select Text View.	
23. On the LaRC V0 Client xterm login to the simulated LaRC V0 Client Host. > rlogin <LaRC V0 hostname> > <password>	
24. On the LaRC V0 Client xterm place the Delivery Records containing the following data into the poll location: SAGEII Aerosol Profile and SAGEII Ozone Profile.	S-INS-00100, S-INS-00110
25. On the Ingest Server xterm start the LaRC V0 Ingest Polling process.	
26. Use the Monitor GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the LaRC V0. S-INS-00300, S-INS-00310, S-INS-00800
27. When the Monitor GUI indicates that the ingest process is 100 percent complete, select the History Log GUI.	
28. On the Ingest GUI select the History Log function.	
29. On the History GUI enter a date and time just prior to starting the test in the Start Date/Time field, enter LaRCV0 in the Data Provider field, select Detailed Report and then select the Display button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 26. S-INS-00500
30. On the Ingest Server xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the ingest of the data from the LaRC V0.
31. On the Data Server GUI verify that there was a System Request to insert the SAGEII Aerosol Profile and SAGEII Ozone Profile data.	
32. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the SAGEII Aerosol Profile and SAGEII Ozone Profile data.
33. On the Data Server xterm query the Science Data Server database to make sure the SAGEII Aerosol Profile and SAGEII Ozone Profile core metadata was inserted.	Verify that the queries return information pertaining to the ingested SAGEII Aerosol Profile and SAGEII Ozone Profile data. S-DSS-04520, S-DSS-04530

34. On the Data Server xterm get a directory listing of the archive to make sure the SAGEII Aerosol Profile and SAGEII Ozone Profile data files were archived.	Verify that the SAGEII Aerosol Profile and SAGEII Ozone Profile data and metadata files show up in the list command.
35. On the Data Server xterm shutdown the Data Server GUI .	
36. Exit the Data Server xterm.	
37. On the Ingest Server xterm shutdown the Ingest GUI.	
38. Exit the Ingest Server xterm.	
39. Exit the GSFC V0 Client xterm.	
40. On the LaRC V0 Client xterm remove all Delivery Record files from the poll location.	
41. Exit the LaRC V0 Client xterm.	
42. Logout of the Ingest workstation.	S-INS-00325, S-INS-00330, S-INS-00409, S-INS-00430, S-INS-00440, S-INS-00460, S-INS-00470, S-INS-00480, S-DSS-04520, S-DSS-04380, S-DSS-20020, S-DSS-20025, S-DSS-20030, S-DSS-20600, S-DSS-03870, S-DSS-03720, S-DSS-03870, S-DSS-03872, S-DSS-20010, S-DSS-03412, S-DSS-03480, S-DSS-03500, S-DSS-03560, S-DSS-00520, S-DSS-00080, S-DSS-00090, S-DSS-20620, S-DSS-20621, S-DSS-20622, S-DSS-03010, S-DSS-03020, S-DSS-03110, S-DSS-03120, S-DSS-03130, S-DSS-03350, S-DSS-03360, S-DSS-03366, S-DSS-03367, S-DSS-03369, S-DSS-03370, S-DSS-03380, S-DSS-04360, S-DSS-00150, S-DSS-03170, S-DSS-03390, S-DSS-04520

4.9.11.2 Test Case 2: TRMM Ingest and Archive Error Log Test (TS012.002)

This test demonstrates the ability to recognize and respond to error conditions encountered during ingest of V0 data. Error testing is performed to include attempted ingest under the following erroneous conditions: file transfer failure, file size discrepancies, missing required metadata, metadata parameters out of range, and the inability to transfer data within the specified time window. All detailed ingest and archive activities are recorded in the Ingest and Science Data Server History Logs as well as the MSS Event Log. Ingest activities are monitored using the ECS Ingest GUI.

Test Configuration:

Hardware: Ingest Server, Science Data Server, Working Storage and Archive Storage

Software: Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC, SDRV, STMGT.

Data: Invalid TOMS and SAGE data sets.

Tools: SDPF Ingest Simulator.

Test Input:

Placement of data for ingest into the polling location on the client host.

Test Output:

Ingest Requests are monitored. The Error Log is updated to record error conditions. Data is displayed for examination.

Success Criteria:

The ingest activities are correctly monitored. Errors are recognized and appropriate entries are made to the error log. All messages contain correct and appropriate wording. The Error Log is successfully displayed and inspected.

Test Procedures:

Test Case ID: TS012.002	
Test name: TRMM Ingest and Archive Error Log Test	
Test Steps:	Comments:
1. Login to the Ingest workstation. > rlogin <hostname> > <password>	Assumption: all necessary processes for the ingest and archive of all data are active except for the polling process.
2. Open an xterm and use this xterm to start a V0 Client xterm, a LaRC V0 Client xterm, an Ingest Server xterm and a Data Server xterm.	
3. On the Ingest Server xterm start the Ingest GUI Interface.	
4. On the Ingest GUI select the Monitor & Control function.	
5. On the Ingest GUI select Search By: Data Provider and enter V0. Then select Text View.	
6. On the Data Server xterm login to the Science Data Server workstation. > rlogin <Data Server GUI Hostname> > <password>	
7. On the Data Server xterm start up the Science Data Server processes and the Science Data Server GUI.	
8. On the Data Server GUI select the System Requests function.	S-INS-00100
9. On the V0 Client xterm login to the simulated V0 Client Host. > rlogin < V0 hostname> > <password>	
10. On the V0 Client xterm place the Delivery Records into the poll directory. Delivery Records should contain names of non-existent files. This will simulate file transfer failures.	
11. On the Ingest Server xterm start the V0 Ingest Polling process.	
12. Use the Ingest GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the V0. S-INS-00800

13. When the Ingest GUI indicates that the ingest process is 100 percent complete invoke the Monitor GUI.	
14. On the Ingest GUI select the Control/Monitor function.	
15. Double-click on the request. Message indicates an ftp error..	S-INS-00085
16. On the Ingest Server xterm display the MSS Event Log. Verify message in the Event Log indicates ingest could not be completed due to ftp errors.	
17. On the V0 Client xterm place the Delivery Records into the poll directory.	Data Files identified in the Delivery Records should contain missing metadata parameters.
18. On the Ingest Server xterm start the V0 Ingest Polling process.	S-INS-00100
19. Use the Ingest GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the V0.
20. When processing is complete, double click on the Request ID in the Monitor GUI. Error will indicate preprocessing failed due to missing metadata parameters.	
21. On the Ingest Server xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries pertaining to the errors in Missing Metadata Parameters.
22. On the V0 Client xterm place the Delivery Records into the poll directory.	Data Files identified in the Delivery Records should contain out of range metadata parameters.
23. On the Ingest Server xterm start the V0 Ingest Polling process.	S-INS-00100
24. Use the Ingest GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the V0.
25. When processing is complete, double click on the Request ID in the Monitor GUI. Error will indicate preprocessing failed due to metadata parameters out of range.	S-INS-00085
26. On the Ingest Server xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries pertaining to metadata parameters out of range.
27. On the V0 Client xterm place the Delivery Records into the poll directory.	Delivery Records should contain file size discrepancies.
28. On the Ingest Server xterm start the V0 Ingest Polling process.	
29. Use the Ingest GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the V0.
30. When the Ingest GUI indicates that the ingest process is 100 percent complete invoke the Monitor GUI.	
31. On the Ingest GUI select the Control/Monitor function.	
32. Double-click on the request. A message should indicate an error..	
33. On the Ingest Server xterm display the MSS Event Log. Verify a message in the Event Log indicates ingest could not be completed due to file size discrepancies.	S-INS-00085
34. On the V0 Client xterm place the Delivery Records into the poll directory.	Delivery Records should contain an already expired expiration time.

35. On the Ingest Server xterm start the V0 Ingest Polling process.	S-INS-00100
36. Use the Ingest GUI to monitor the ingest process.	Note the Request ID for the data being ingested from the V0. S-INS-00800
37. When the Ingest GUI indicates that the ingest process is 100 percent complete invoke the Monitor GUI.	
38. On the Ingest GUI select the Control/Monitor function.	
39. Double-click on the request. Message should indicate an error.	
40. On the Ingest Server xterm display the MSS Event Log. Verify message in the Event Log indicates ingest completed with a warning that the data availability time had expired.	S-INS-00085
41. On the Data Server xterm shutdown the Data Server GUI.	
42. Shut down the Data Server processes and exit the Data Server xterm.	
43. On the Ingest Server xterm shutdown the Ingest GUI Interface.	
44. Exit the Ingest Server xterm.	
45. Exit the V0 Client xterm.	
46. Logout of the Ingest workstation.	S-INS-00340, S-DSS-04520, S-DSS-04380, S-DSS-20020, S-DSS-20025, S-DSS-20030, S-DSS-20600, S-DSS-04540

4.9.12 Ingest and Archive 3 Build (BS012)

Testing is performed to verify the capability to receive data from external providers, ingest and perform preprocessing activities including metadata extraction and data format conversion, update the DBMS (inventory) with core metadata and insert the data into the archive. The external data providers include the SDPF, TSDIS, DAO, NESDIS, GSFC V0 System and LaRC V0 System. Data from SDPF and TSDIS are ingested using an Automated Electronic Network Interface protocol. Data from DAO, NESDIS and LaRC V0 System are ingested using a Polling Interface protocol. Data from the GSFC V0 System is ingested on 8mm tape. Testing is also performed to verify the following: Ingest startup, shutdown, failover and recovery; Ingest hardware conformance to UNIX POSIX.2 standards; Ingest hardware facilities conformance; Ingest hardware monitoring; Ingest hardware sizing; Ingest data rates; Ingest hardware availability performance; Ingest hardware support and Ingest interface performance. Tests include:

BS012.001 SDPF Ingest and Archive Test

BS012.002 TSDIS Ingest and Archive Test

BS012.003 DAO Ingest and Archive Test

BS012.004 NESDIS Ingest and Archive Test

BS012.005 HTML Interactive Ingest and Archive Test

BS012.006 V0 Ancillary Ingest and Archive Test

BS012.007 Ingest Startup, Shutdown, Failover, and Recovery Performance Test

BS012.008 Ingest UNIX POSIX.2 Conformance Test

BS012.009 Ingest Hardware Facilities Test

BS012.010 Ingest Hardware Monitor Test

BS012.011 LaRC Ingest Hardware Sizing Test

BS012.012 GSFC Ingest Hardware Sizing Test

BS012.013 LaRC Ingest Data Rate Test

BS012.014 GSFC Ingest Data Rate Test

BS012.015 Ingest Hardware Availability Performance Test

BS012.016 Ingest Hardware Support Test

BS012.017 Ingest Interface Test

4.9.12.1 Test Case 1: SDPF Ingest and Archive Test (BS012.001)

This test demonstrates the ability to receive and ingest TRMM CERES L0 and Definitive Orbit data from the SDPF, perform metadata extraction, update the DBMS (inventory) with core metadata and insert the science data and metadata into the archive using the Automated Electronic Network Interface protocol. SDPF creates a connection to an ECS DAAC Gateway and then sends an Authentication Request. The ECS DAAC verifies that SDPF is a valid data provider and sends an Authentication Response. SDPF then sends a DAN to the ECS DAAC where it is validated and the ECS DAAC sends a DAA in response. The ECS DAAC then FTPs the data to a Working Storage location that has been allocated and metadata is then extracted. The Advertising Service is called to determine the appropriate Data Sever to send an insert request too. The insert request is then submitted for data archiving. The insert is accepted, validated and acknowledged by the Science Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The science data and metadata are then placed in the archive location that has been allocated. The ECS DAAC then sends a DDN to SDPF to indicate successful archival of the science data and SDPF responds with a DDA which signals the end of the ingest and archive activities related to that specific DAN. All detailed ingest and archive activities are recorded in the Ingest History Log as well as the MSS Event Log. Ingest and Data Server activities are monitored using the INGEST GUI and the Data Server GUI..

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Server, SDPF Client Host, Working Storage and Archive Storage

Software: Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC, SDRV, STGMT

Data: TRMM CERES L0 and Definitive Orbit data

Tools: SDPF Ingest Simulator

Test Input:

Inputs to this test include Ingest Requests (automated electronic network) for CERES L0 and Definitive Orbit data.

Test Output:

Outputs to this test include monitoring of Ingest Requests; screen displays of the following messages: Authentication Response, DAA and DDN; screen displays of all logs; database queries and archive directory listings.

Success Criteria:

This test is deemed successful if the ingest and archive of all data is successful. The ingest activities were successfully monitored. The Authentication Response and DAA messages indicate acceptance and the DDN message indicates a successful archival of data. All logs were updated with detailed information. The database queries verify that the core metadata for all data has been inserted into the DBMS (inventory). The directory listings of the archive verify that all data has been successfully archived.

Test Procedures:

Test Case ID: BS012.001	
Test Name: SDPF Ingest and Archive Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. **> rlogin** *<hostname>* **>** *<password>*	Assumption: all necessary processes for the ingest and archive of all data are active.
2. Open an xterm and use this xterm to start three SDPF Client xterms, an Ingest Client xterm and a Data Server xterm. **> xterm -T SDPF_Client_1 &** **> xterm -T SDPF_Client_2 &** **> xterm -T SDPF_Client_3 &** **> xterm -T Ingest_Client &** **> xterm -T Data_Server &** **> exit**	

3. On the Ingest Client xterm start the INGEST GUI. **> cd** *<path>* **> source envsetup** **> cd** *<path>* **> ./InGUISession &**	
4. On the Data Server xterm login to the Science Data Server workstation. **> rlogin** *<hostname>* **>** *<password>*	
5. On the Data Server xterm start up the Data Server GUI.	
6. On the Data Server GUI select the **System Requests** function.	
7. On the INGEST GUI select the **Monitor & Control** function.	
8. On the INGEST GUI select Search By: **Data Provider** and enter **SDPF**. Then select **Text View**.	
9. On all three SDPF Client xterms login to the simulated SDPF Client Host. **> rlogin** *<hostname>* **>** *<password>*	
10. On the first SDPF Client xterm start up the SDPF Ingest simulator user interface.	
11. On the second SDPF Client xterm start up the SDPF Ingest simulator.	
12. On the second SDPF Client xterm send a valid Authentication Request.	
13. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
14. Use the INGEST GUI to monitor the Ingest Request.	Note the Request ID for the data being ingested from the SDPF. S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-00330
15. When the INGEST GUI indicates that the Ingest Request is 100 percent complete continue with the next step.	
16. On the third SDPF Client xterm display the Authentication Response, DAA and DDN messages and then remove them.	Verify that the Authentication Response disposition states acceptance, the DAA disposition states acceptance and the DDN disposition states successful. S-INS-00010, S-DSS-00520
17. On the INGEST GUI select the **History Log** function.	
18. On the INGEST GUI enter a date and time just prior to starting the test in the **Start Date/Time** field, enter **SDPF** in the **Data Provider** field, select **Detailed Report** and then select the **Display** button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 14. S-INS-00405(a,b), S-INS-00460, ,S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510

19. On the Ingest Client xterm display the Ingest MSS Event Log.	Verify that the Ingest MSS Event Log contains detailed entries for the ingest of the CERES L0 data. S-INS-00050, S-INS-00410, S-INS-00430
20. On the Data Server GUI verify that there was a System Request to insert the CERES L0 data.	S-DSS-01150, S-DSS-20025
21. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the CERES L0 data. S-DSS-00080, S-DSS-00090, S-DSS-20010
22. On the Data Server xterm query the Science Data Server inventory database to verify that the CERES L0 core metadata was inserted.	Verify that the query returns information pertaining to the ingested CERES L0 data. S-INS-00405(c), S-DSS-03390, S-DSS-04360, S-DSS-04380, S-DSS-20621, S-DSS-20622
23. On the Data Server xterm obtain a directory listing of the archive to verify that the CERES L0 data files were archived.	Verify that the CERES L0 data and metadata files show up in the list command. S-INS-00404(b), S-DSS-00694, S-DSS-03002, S-DSS-03170, S-DSS-03380, S-DSS-03412, S-DSS-04475, S-DSS-21365(p), S-DSS-21366(p)
24. On the INGEST GUI select the **Monitor & Control** function.	
25. On the INGEST GUI select Search By: **Data Provider** and enter **SDPF**. Then select **Text View**.	
26. On the first SDPF Client xterm send a DAN containing Definitive Orbit data.	
27. Use the INGEST GUI to monitor the Ingest Request.	Note the Request ID for the data being ingested from the SDPF. S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-00330
28. When the INGEST GUI indicates that the Ingest Request is 100 percent complete continue with the next step.	
29. On the third SDPF Client xterm display the Authentication Response, DAA and DDN messages and then remove them.	Verify that the Authentication Response disposition states acceptance, the DAA disposition states acceptance and the DDN disposition states successful. S-INS-00010, S-DSS-00520
30. On the INGEST GUI select the **History Log** function.	
31. On the INGEST GUI enter a date and time just prior to starting the test in the **Start Date/Time** field, enter **SDPF** in the **Data Provider** field, select **Detailed Report** and then select the **Display** button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 27. S-INS-00405(a,b), S-INS-00460, S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510

32. On the Ingest Client xterm display the Ingest MSS Event Log.	Verify that the Ingest MSS Event Log contains detailed entries for the ingest of the Definitive Orbit data. S-INS-00050, S-INS-00410, S-INS-00430
33. On the Data Server GUI verify that there was a System Request to insert the Definitive Orbit data.	S-DSS-01150, S-DSS-20025
34. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the Definitive Orbit data. S-DSS-00080, S-DSS-00090, S-DSS-20010
35. On the Data Server xterm query the Science Data Server inventory database to verify that the Definitive Orbit core metadata was inserted.	Verify that the query returns information pertaining to the ingested Definitive Orbit data. S-INS-00405(c), S-DSS-03390, S-DSS-04360, S-DSS-04380, S-DSS-20621, S-DSS-20622
36. On the Data Server xterm obtain a directory listing of the archive to verify that the Definitive Orbit data files were archived.	Verify that the Definitive Orbit data and metadata files show up in the list command. S-DSS-00694, S-DSS-03170, S-DSS-03380, S-DSS-03560, S-DSS-04475, S-DSS-21365(p), S-DSS-21366(p)
37. On the Data Server xterm shutdown the Data Server GUI.	
38. Exit the Data Server xterm.	
39. On the Ingest Client xterm shutdown the Ingest GUI Interface.	
40. Exit the Ingest Client xterm.	
41. On the first SDPF Client xterm shutdown the SDPF Ingest Client simulator.	
42. Exit all three SDPF Client xterms.	
43. Logout of the Ingest Client workstation.	S-INS-00408, S-INS-00409, S-INS-00440, S-INS-00470, S-INS-00520, S-DSS-00150, S-DSS-00650, S-DSS-00660, S-DSS-03870, S-DSS-03872, S-DSS-20020, DADS0130#A, DADS0190#A, DADS0250#A, DADS0290#A, DADS0300#A, DADS0310#A, DADS0350#A, DADS0360#A, DADS0440#A, DADS0465#A, DADS1380#A, DADS1805#A, DADS2040#A, DADS2315#A, DADS2340#A, DADS2020#A, C-ISS-01040, DADS1070#A, DADS1080#A, DADS1100#A, DADS1390#A, DADS1400#A, DADS1780#A, DADS1795#A, DADS1800#A, DADS1980#A, DADS2000#A, DADS2210#A, DADS2220#A, DADS3140#A, IMS0430#A, IMS0450#A, S-INS-00187, S-INS-00321

4. 9.12.2 Test Case 2: TSDIS Ingest and Archive Test (BS012.002)

This test demonstrates the ability to receive and ingest TRMM PR, TMI, GV and VIRS data from the TSDIS, perform metadata extraction, update the DBMS (inventory) with core metadata and insert the science data and metadata into the archive using the Automated Electronic Network Interface protocol. TSDIS creates a connection to an ECS DAAC Gateway and then sends an Authentication Request. The ECS DAAC verifies that TSDIS is a valid data provider and sends an Authentication Response. TSDIS then sends a DAN to the ECS DAAC where it is validated and the ECS DAAC sends a DAA in response. The ECS DAAC FTPs the data to a Working Storage location that has been allocated and metadata is then extracted. The Advertising Service is called to determine the appropriate Data Sever to send an insert request too. The insert request is then submitted for data archiving. The insert is accepted, validated and acknowledged by the Science Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The science data and metadata are then placed in the archive location that has been allocated. The ECS DAAC then sends a DDN to TSDIS to indicate successful archival of the science data and TSDIS responds with a DDA which signals the end of the ingest and archive activities related to that specific DAN. This test will also verify the ability for an operator with an authorized account can cancel an Ingest Request. All detailed ingest and archive activities are recorded in the Ingest History Log as well as the MSS Event Log. Ingest and Data Server activities are monitored using the INGEST GUI and the Data Server GUI.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Server, TSDIS Client Host, Working Storage and Archive Storage

Software: Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC, SDRV, STGMT

Data: PR: (1A-21, 1B-21, 1B-21 Browse, 1C-21, 1C-21 Browse, 2A-21, 2A-21 Browse, 2A-23, 2A-23 Browse, 2A-25, 2A-25 Browse, 2B-31, 2B-31 Browse, 3B-31, 3B-31 Browse, 3A-25, 3A-25 Browse, 3A-26, 3A-26 Browse)

TMI: (1A-11, 1B-11, 1B-11 Browse, 2A-12, 2A-12 Browse, 3A-11, 3A-11 Browse)

GV: (1B-51, 1C-51, 2A-52, 2A-53, 2A-53 Browse, 2A-54, 2A-54 Browse, 2A-55, 2A-55 Browse, 2A-56, 2A-57, 3A-53, 3A-53 Browse, 3A-54, 3A-54 Browse, 3A-55, 3A-55 Browse)

VIRS: (1A-01, 1B-01, 1B-01 Browse, 3B-42, 3B-42 Browse, 3B-43)

Tools: TSDIS Ingest Simulator

Test Input:

Inputs to this test include Ingest Requests (automated electronic network) for all levels of PR, TMI, GV and VIRS data and an operators command to cancel and Ingest Request..

Test Output:

Outputs to this test include monitoring of Ingest Requests, screen displays of all logs, DBMS (inventory) queries and directory listings of the archive.

Success Criteria:

The ingest and archive of all data is successful. The ingest activities were successfully monitored. The Authentication Response and DAA messages indicate acceptance and the DDN message indicates a successful archival of data. All logs were updated with detailed information. The database queries verify that the core metadata for all data has been inserted into the DBMS (inventory). The directory listings of the archive verify that all data has been successfully archived. The operator successfully cancels an Ingest Request.

Test Procedures:

Test Case ID: BS012.002	
Test Name: TSDIS Ingest and Archive Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. **> rlogin** *<hostname>* **>** *<password>*	Assumption: all necessary processes for the ingest and archive of all data are active.
2. Open an xterm and use this xterm to start three TSDIS Client xterms, an Ingest Client xterm and a Data Server xterm. **> xterm -T TSDIS_Client_1 &** **> xterm -T TSDIS_Client_2 &** **> xterm -T TSDIS_Client_3 &** **> xterm -T Ingest_Client &** **> xterm -T Data_Server &** **> exit**	
3. On the Ingest Client xterm start the INGEST GUI. **> cd** *<path>* **> source envsetup** **> cd** *<path>* **> ./InGUISession &**	
4. On the Data Server xterm login to the Science Data Server workstation. **> rlogin** *<hostname>* **>** *<password>*	
5. On the Data Server xterm start up the Data Server GUI.	
6. On the Data Server GUI select the **System Requests** function.	
7. On the INGEST GUI select the **Monitor & Control** function.	

8. On the INGEST GUI select Search By: **Data Provider** and enter **TSDIS**. Then select **Text View**.	
9. On all three TSDIS Client xterms login to the simulated TSDIS Client Host. **> rlogin** *<hostname>* **>** *<password>*	
10. On the first TSDIS Client xterm start up the TSDIS Ingest simulator user interface.	
11. On the second TSDIS Client xterm start up the TSDIS Ingest simulator.	
12. On the second TSDIS Client xterm send a valid Authentication Request.	
13. On the first TSDIS Client xterm send a DAN containing all levels of TRMM PR data.	
14. Use the INGEST GUI to monitor the Ingest Request.	Note the Request ID for the data being ingested from the TSDIS. S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-00330
15. When the INGEST GUI indicates that the Ingest Request is 100 percent complete continue with the next step.	
16. On the third TSDIS Client xterm display the Authentication Response, DAA and DDN messages and then remove them.	Verify that the Authentication Response disposition states acceptance, the DAA disposition states acceptance and the DDN disposition states successful. S-INS-00010, S-DSS-00520
17. On the INGEST GUI select the **History Log** function.	
18. On the INGEST GUI enter a date and time just prior to starting the test in the **Start Date/Time** field, enter **TSDIS** in the **Data Provider** field, select **Detailed Report** and then select the **Display** button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 14. S-INS-00405(a,b), S-INS-00460, S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510
19. On the Ingest Client xterm display the Ingest MSS Event Log.	Verify that the Ingest MSS Event Log contains detailed entries for the ingest of the data in the DAN. S-INS-00050, S-INS-00410, S-INS-00430, S-DSS-20010
20. On the Data Server GUI verify that there were System Requests to insert the data identified in the DAN.	S-DSS-01150, S-DSS-20025
21. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the data in the DAN. S-DSS-00080, S-DSS-00090,
22. On the Data Server xterm query the Science Data Server inventory database to verify that the core metadata pertaining to the data in the DAN was inserted.	Verify that the queries return information pertaining to the ingested data in the DAN. S-DSS-00405(c), S-DSS-03390, S-DSS-04360, S-DSS-04380, S-DSS-20621, S-DSS-20622

23. On the Data Server xterm obtain a directory listing of the archive to verify that the data files identified in the DAN were archived.	Verify that the data identified in the DAN and metadata files show up in the list command. S-INS-00404(c), S-DSS-00694, S-DSS-03002, S-DSS-03010, S-DSS-03020, S-DSS-03110, S-DSS-03120, S-DSS-03170, S-DSS-03380, S-DSS-03412, S-DSS-03480, S-DSS-04475, S-DSS-21365(p), S-DSS-21366(p)
24. On the INGEST GUI select the **Monitor & Control** function.	
25. On the INGEST GUI select Search By: **Data Provider** and enter **TSDIS**. Then select **Text View**.	
26. Repeat steps 13 through 25 except in step 13 send a DAN containing all levels of TRMM TMI data.	
27. Repeat steps 13 through 25 except in step 13 send a DAN containing all levels of TRMM GV data.	
28. Repeat steps 13 through 25 except in step 13 send a DAN containing all levels of TRMM VIRS data.	
29. On the first TSDIS Client xterm send a DAN containing all levels of TRMM PR data.	
30. Use the INGEST GUI to monitor the Ingest Request.	
31. When the INGEST GUI indicates that the Ingest Request has started select the Request ID and then select the cancel button.	
32. Use the INGEST GUI to monitor the Ingest Request.	Verify that the Ingest Request was canceled. S-INS-00350, S-INS-00360, S-INS-00364, S-INS-00369
33. On the Data Server xterm shutdown the Data Server GUI.	
34. Exit the Data Server xterm.	
35. On the Ingest Client xterm shutdown the Ingest GUI Interface.	
36. Exit the Ingest Client xterm.	
37. On the first TSDIS Client xterm shutdown the TSDIS Ingest Client simulator.	
38. Exit all three TSDIS Client xterms.	

39. Logout of the Ingest Client workstation.	S-INS-00408, S-INS-00409, S-INS-00440, S-INS-00470, S-INS-00560, S-DSS-00150, S-DSS-00650, S-DSS-00660, S-DSS-03870, S-DSS-03872, S-DSS-20020, DADS0170#A, DADS0175#A, DADS0190#A, DADS0250#A, DADS0290#A, DADS0300#A, DADS0310#A, DADS0350#A, DADS0360#A, DADS0440#A, DADS0465#A, DADS0475#A, DADS0490#A, DADS1235#A, DADS1380#A, DADS1805#A, DADS2315#A, DADS2340#A, DADS1070#A, DADS1080#A, DADS1100#A, DADS1390#A, DADS1400#A, DADS1780#A, DADS1795#A, DADS1800#A, DADS1980#A, DADS2000#A, DADS2210#A, DADS2220#A, DADS3140#A, IMS0430#A, IMS0450#A, S-INS-00187, S-INS-00321

4.9.12.3 Test Case 3: DAO Ingest and Archive Test (BS012.003)

This test demonstrates the ability to receive and ingest ancillary data from the DAO, perform data preprocessing, update the DBMS (inventory) with core metadata and insert the science data and metadata into the archive using the Polling with Delivery Record Interface protocol. A polling process at the ECS DAAC polls at a pre-set interval, predetermined locations at DAO for new Delivery Records to ingest data. Upon detection of new Delivery Records the ECS DAAC FTPs the data to a Working Storage location that has been allocated. Metadata is then extracted, the data is converted to and ECS acceptable format and the Advertising Service is called to determine the appropriate Data Server to send and insert request too. The insert request is then submitted to the Data Server for data archiving. The insert is accepted, validated and acknowledged by the Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The ancillary data and metadata are then placed in the archive location that has been allocated. All detailed ingest and archive activities are recorded in the Ingest History Log as well as the MSS Event Log. Ingest and Data Server activities are monitored using the INGEST GUI and the Data Server GUI.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Server, DAO Client Host, Working Storage and Archive Storage

Software: Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC, SDRV, STGMT.

Data: NMC: MRF, ETA, FNL data

Tools: None

Test Input:

Inputs to this test include placement of a Delivery Record for ingest into the polling locations on the DAO Client Host.

Test Output:

Outputs to this test include monitoring of Ingest Requests, screen displays of all logs, DBMS (inventory) queries and directory listings of the archive.

Success Criteria:

This test is deemed successful if the ingest and archive of all data is successful. The ingest activities were successfully monitored. All logs were updated with detailed information. The database queries verify that the core metadata for all data has been inserted into the DBMS (inventory). The directory listings of the archive verify that all data has been successfully archived.

Test Procedures:

Test Case ID: BS012.003	
Test Name: DAO Ingest and Archive Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. **> rlogin** *<hostname>* **>** *<password>*	Assumption: all necessary processes for the ingest and archive of all data are active except for the polling process.
2. Open an xterm and use this xterm to start a DAO Client xterm, an Ingest Client xterm and a Data Server xterm. **> xterm -T DAO_Client &** **> xterm -T Ingest_Client &** **> xterm -T Data_Server &** **> exit**	
3. On the Ingest Client xterm start the INGEST GUI. **> cd** *<path>* **> source envsetup** **> cd** *<path>* **> ./InGUISession &**	
4. On the INGEST GUI select the **Monitor & Control** function.	
5. On the INGEST GUI select Search By: **Data Provider** and enter **DAO**. Then select **Text View**.	
6. On the Data Server xterm login to the Science Data Server workstation. **> rlogin** *<hostname>* **>** *<password>*	
7. On the Data Server xterm start up the Science Data Server GUI.	
8. On the Data Server GUI select the **System Requests** function.	

9. On the DAO Client xterm login to the simulated DAO Client Host. **> rlogin** *<hostname>* **>** *<password>*	
10. On the DAO Client xterm place the Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
11. On the Ingest Client xterm start the DAO Ingest Polling process.	
12. Use the INGEST GUI to monitor the Ingest Request.	Note the Request ID for the data being ingested from the DAO. S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-00330
13. When the INGEST GUI indicates that the Ingest Request is 100 percent complete continue with the next step.	
14. On the INGEST GUI select the **History Log** function.	
15. On the INGEST GUI enter a date and time just prior to starting the test in the **Start Date/Time** field, enter **DAO** in the **Data Provider** field, select **Detailed Report** and then select the **Display** button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 12. S-INS-00405(a,b), S-INS-00460, S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510
16. On the Ingest Client xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the ingest of the data from the DAO. S-INS-00070, S-INS-00080, S-INS-00410, S-INS-00430
17. On the Data Server GUI verify that there were System Requests to insert the NMC ETA, NMC FNL and NMC MRF data.	S-DSS-01150, S-DSS-20025
18. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the NMC ETA, NMC FNL and NMC MRF data. S-DSS-00080, S-DSS-00090, S-DSS-03004, S-DSS-03006, S-DSS-03361, S-DSS-20010
19. On the Data Server xterm query the Science Data Server inventory database to verify that the NMC ETA, NMC FNL and NMC MRF core metadata was inserted.	Verify that the queries return information pertaining to the ingested NMC ETA, NMC FNL and NMC MRF data. S-INS-00405(c), S-DSS-03390, S-DSS-04360, S-DSS-04380, S-DSS-20621, S-DSS-20622
20. On the Data Server xterm obtain a directory listing of the archive to verify that the NMC ETA, NMC FNL and NMC MRF data files were archived.	Verify that the NMC ETA, NMC FNL and NMC MRF data and metadata files show up in the list command and are in HDF format. S-INS-00400, S-INS-00402, S-INS-00404(a), S-DSS-00694, S-DSS-03170, S-DSS-03380, S-DSS-03414, S-DSS-03741, S-DSS-04475, S-DSS-21365(p), S-DSS-21366(p)

21. On the Data Server xterm shutdown the Data Server GUI.	
22. Exit the Data Server xterm.	
23. On the Ingest Client xterm shutdown the Ingest GUI Interface.	
24. Exit the Ingest Client xterm.	
25. On the DAO Client xterm remove all NMC ETA, NMC FNL and NMC MRF data files from the poll locations.	
26. Exit the DAO Client xterm.	
27. Logout of the Ingest Client workstation.	S-INS-00085(h), S-INS-00408, S-INS-00409, S-INS-00440, S-INS-00470, S-INS-00620, S-INS-00640, S-DSS-00150, S-DSS-00650, S-DSS-00660, S-DSS-03870, S-DSS-03872, S-DSS-20020, DADS00145#A, DADS0190#A, DADS0250#A, DADS0260#A, DADS0290#A, DADS0300#A, DADS0310#A, DADS0350#A, DADS0360#A, DADS0440#A, DADS0465#A, DADS2345#A, DADS1070#A, DADS1080#A, DADS1100#A, DADS1390#A, DADS1400#A, DADS1780#A, DADS1795#A, DADS1800#A, DADS1980#A, DADS2000#A, DADS2210#A, DADS2220#A, DADS3140#A, IMS0430#A, IMS0450#A, S-INS-00187, S-INS-00321

4.9.12.4 Test Case 4: NESDIS Ingest and Archive Test (BS012.004)

This test demonstrates the ability to receive and ingest ancillary data from NESDIS, perform data preprocessing, update the DBMS (inventory) with core metadata and insert the science data and metadata into the archive using the Polling without Delivery Record Interface protocol. A polling process at the ECS DAAC polls at a pre-set interval, predetermined locations at NESDIS for new data to ingest. Upon detection of new data the ECS DAAC FTPs the data to a Working Storage location that has been allocated. Metadata is then extracted, the data is converted to and ECS acceptable format and the Advertising Service is called to determine the appropriate Data Server to send and insert request too. The insert request is then submitted to the Data Server for data archiving. The insert is accepted, validated and acknowledged by the Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The ancillary data and metadata are then placed in the archive location that has been allocated. All detailed ingest and archive activities are recorded in the Ingest and Science Data Server History Logs as well as the MSS Event Log. Ingest activities are monitored using the INGEST GUI.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Server, NESDIS Client Host, Working Storage and Archive Storage

Software: Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC, SDRV, STGMT.

Data: Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone

Tools: None

Test Input:

Inputs to this test include placement of data for ingest into the polling locations on the NESDIS Client Host.

Test Output:

Outputs to this test include monitoring of Ingest Requests, screen displays of all logs, DBMS (inventory) queries and directory listings of the archive.

Success Criteria:

This test is deemed successful if the ingest and archive of all data is successful. The ingest activities were successfully monitored. All logs were updated with detailed information. The database queries verify that the core metadata for all data has been inserted into the DBMS (inventory). The directory listings of the archive verify that all data has been successfully archived.

Test Procedures:

Test Case ID: BS012.004	
Test Name: NESDIS Ingest and Archive Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. **> rlogin** *<hostname>* **>** *<password>*	Assumption: all necessary processes for the ingest and archive of all data are active except for the polling process.
2. Open an xterm and use this xterm to start a NESDIS Client xterm, an Ingest Client xterm and a Data Server xterm. **> xterm -T NESDIS_Client &** **> xterm -T Ingest_Client &** **> xterm -T Data_Server &** **> exit**	
3. On the Ingest Client xterm start the INGEST GUI. **> cd** *<path>* **> source envsetup** **> cd** *<path>* **> ./InGUISession &**	
4. On the INGEST GUI select the **Monitor & Control** function.	
5. On the INGEST GUI select Search By: **Data Provider** and enter **NESDIS**. Then select **Text View**.	

6. On the Data Server xterm login to the Science Data Server workstation. **> rlogin** *<hostname>* **>** *<password>*	
7. On the Data Server xterm start up the Science Data Server GUI.	
8. On the Data Server GUI select the **System Requests** function.	
9. On the NESDIS Client xterm login to the simulated NESDIS Client Host. **> rlogin** *<hostname>* **>** *<password>*	
10. On the NESDIS Client xterm place the following data into their respective poll locations: Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone**.**	
11. On the Ingest Client xterm start the NESDIS Ingest Polling process.	
12. Use the INGEST GUI to monitor the Ingest Request.	Note the Request ID for the data being ingested from NESDIS. S-INS-00110, S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-00330
13. When the INGEST GUI indicates that the Ingest Request is 100 percent complete continue with the next step.	
14. On the INGEST GUI select the **History Log** function.	
15. On the INGEST GUI enter a date and time just prior to starting the test in the **Start Date/Time** field, enter **NESDIS** in the **Data Provider** field, select **Detailed Report** and then select the **Display** button**.**	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 12. S-INS-00405(a,b), S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510
16. On the Ingest Client xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the ingest of the data from NESDIS. S-INS-00410, S-INS-00430
17. On the Data Server GUI verify that there were System Requests to insert all data from DAO.	S-DSS-01150, S-DSS-20025
18. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone data. S-DSS-00080, S-DSS-00090, S-DSS-03004, S-DSS-03006, S-DSS-20010

19. On the Data Server xterm query the Science Data Server inventory database to verify that all core metadata pertaining to all data from DAO was inserted.	Verify that the queries return information pertaining to the ingested Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone data. S-INS-00405(c), S-DSS-03390, S-DSS-04360, S-DSS-04380, S-DSS-20621, S-DSS-20622
20. On the Data Server xterm obtain a directory listing of the archive to verify that all ingested data files were archived.	Verify that the Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone data and metadata files show up in the list command and are in HDF format. S-INS-00402, S-INS-00404(a), S-DSS-00694, S-DSS-03170, S-DSS-03380, S-DSS-03414, S-DSS-04475, S-DSS-21365(p), S-DSS-21366(p)
21. On the Data Server xterm shutdown the Data Server GUI.	
22. Exit the Data Server xterm.	
23. On the Ingest Client xterm shutdown the Ingest GUI Interface.	
24. Exit the Ingest Client xterm.	
25. On the NESDIS xterm remove the Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field, Snow/Ice Cover and Layer/Level Ozone data files from the poll locations.	
26. Exit the NESDIS xterm.	
27. Logout of the Ingest Client workstation.	S-INS-00100, S-INS-00408, S-INS-00409, S-INS-00440, S-INS-00630, S-DSS-00150, S-DSS-00650, S-DSS-00660, S-DSS-03870, S-DSS-03872, S-DSS-20020, DADS0145#A, DADS0190#A, DADS0250#A, DADS0260#A, DADS0290#A, DADS0300#A, DADS0310#A, DADS0320#A, DADS0350#A, DADS0360#A, DADS0440#A, DADS0465#A, DADS0770#A, DADS0780#A, DADS0800#A, DADS1380#A, DADS2345#A, DADS1070#A, DADS1080#A, DADS1100#A, DADS1390#A, DADS1400#A, DADS1780#A, DADS1795#A, DADS1800#A, DADS1980#A, DADS2000#A, DADS2210#A, DADS2220#A, DADS3140#A, IMS0430#A, IMS0450#A, S-INS-00187, S-INS-00321

4.9.12.5 Test Case 5: HTML Interactive Ingest and Archive Test (BS012.005)

This test demonstrates the ability to receive and ingest data from any authorized data provider, perform metadata extraction, update the DBMS (inventory) with core metadata and insert the data and metadata into the archive using the HTML Interactive Interface protocol. The data provider accesses the main HTML Interactive Ingest screen and sends a DAN to an ECS DAAC.

The ECS DAAC validates the DAN and sends a DAA in response. The ECS DAAC FTPs the data to a Working Storage location that has been allocated and metadata is then extracted. The Advertising Service is called to determine the appropriate Data Sever to send an insert request too. The insert request is then submitted for data archiving. The insert is accepted, validated and acknowledged by the appropriate Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The data and metadata are then placed in the archive location that has been allocated. The ECS DAAC then sends a DDN to the Data Provider to indicate successful archive of the data and the Data Provider responds with a DDA which signals the end of the ingest and archive activities related to that specific DAN. All detailed ingest and archive activities are recorded in the Ingest History Log as well as the MSS Event Log. Ingest and Data Server activities are monitored using the INGEST GUI and the Data Server GUI.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Server, Data Provider Client Host, Working Storage and Archive Storage

Software: Interactive Ingest Client Interface (HTML) CSC, Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Document Data Server CSC, SDSRV CSC, STGMT CSC

Data: CERES L0, document and Science Software Archive Package data

Tools: None

Test Input:

Inputs to this test include Ingest requests (HTML Interactive protocol) for CERES L0, document and Science Software Archive Package data.

Test Output:

Outputs to this test include monitoring of Ingest Requests, screen displays of all logs, DBMS (inventory) queries and directory listings of the archive.

Success Criteria:

This test is deemed successful if the ingest and archive of all data is successful. The ingest activities were successfully monitored. All logs were updated with detailed information. The database queries verify that the core metadata for all data has been inserted into the DBMS (inventory). The directory listings of the archive verify that all data has been successfully archived.

Test Procedures:

Test Case ID: BS012.005	
Test Name: HTML Interactive Ingest and Archive Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. **> rlogin** *<hostname>* **>** *<password>*	Assumption: all necessary processes for the ingest and archive of all data are active.
2. Open an xterm and use this xterm to start an HTML Client xterm, an Ingest Client xterm and a Data Server xterm. **> xterm -T HTML_Client &** **> xterm -T Ingest_Client &** **> xterm -T Data_Server &** **> exit**	
3. On the Ingest Client xterm start the INGEST GUI. **> cd** *<path>* **> source envsetup** **> cd** *<path>* **> ./InGUISession &**	
4. On the INGEST GUI select the **Monitor & Control** function.	
5. On the INGEST GUI select Search By: **Data Provider** and enter **SDPF**. Then select **Text View**.	
6. On the Data Server xterm login to the Science Data Server workstation. **> rlogin** *<hostname>* **>** *<password>*	
7. On the Data Server xterm start up the Science Data Server GUI.	
8. On the Data Server GUI select the **System Requests** function.	
9. On the HTML Client xterm login to the simulated Data Provider Client Host. **> rlogin** *<hostname>* **>** *<password>*	
10. On the HTML Client xterm FTP three DANs, one containing CERES L0 data, the second containing document data and the third containing Science Software Archive Package data to the ECS DAAC.	Verify that the DANs were transferred successfully. S-INS-00420
11. On the HTML Client xterm start the Mosaic browser and then access the HTML Interactive Ingest main page.	
12. On the HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
13. On the HTML Interactive Ingest Submit DAN page select the DAN that contains the CERES L0 data and then select the Submit button.	

14. Use the INGEST GUI to monitor the Ingest Request.	Note the Request ID for the data being ingested from SDPF. S-INS-00205, S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-00330
15. On the HTML Interactive Ingest main page enter SDPF as the User Name and select the Monitor Status function.	Verify that the status of the Ingest Request of the CERES L0 data is displayed. S-INS-00235, S-INS-00240, S-INS-00250, S-INS-00260
16. When the INGEST GUI indicates that the Ingest Request is 100 percent complete continue with the next step.	
17. On the HTML Interactive Ingest main page select the View Data Delivery Notice (DDN) function.	
18. On the HTML Interactive Ingest View DDN page select the appropriate DDN message the select the Submit button..	Verify that the DDN disposition states successful. S-INS-00220(k)
19. On the INGEST GUI select the **History Log** function.	
20. On the INGEST GUI enter a date and time just prior to starting the test in the **Start Date/Time** field, enter **SDPF** in the **Data Provider** field, select **Detailed Report** and then select the **Display** button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 14. S-INS-00405(a,b), S-INS-00460, S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510
21. On the Ingest Client xterm display the Ingest MSS Event Log.	Verify that the Ingest MSS Event Log contains detailed entries for the ingest of the CERES L0 data. S-INS-00410, S-INS-00430
22. On the Data Server GUI verify that there was a System Request to insert the CERES L0 data.	S-DSS-01150, S-DSS-20025
23. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the CERES L0 data. S-DSS-00080, S-DSS-00090, S-DSS-20010
24. On the Data Server xterm query the Science Data Server inventory database to verify that the CERES L0 core metadata was inserted.	Verify that the query returns information pertaining to the ingested CERES L0 data. S-INS-00405(c), S-DSS-03390, S-DSS-04360, S-DSS-04380, S-DSS-20621, S-DSS-20622
25. On the Data Server xterm obtain a directory listing of the archive to verify that the CERES L0 data files were archived.	Verify that the CERES L0 data and metadata files show up in the list command. S-DSS-00694, S-DSS-03170, S-DSS-03380, S-DSS-04475, S-DSS-21365(p), S-DSS-21366(p)
26. On the HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
27. On the HTML Interactive Ingest Submit DAN page select the DAN that contains the document data and then select the Submit button.	

28. Use the INGEST GUI to monitor the Ingest Request.	Note the Request ID for the data being ingested from SDPF. S-INS-00205, S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-00330
29. On the HTML Interactive Ingest main page enter SDPF as the User Name and select the Monitor Status function.	Verify that the status of the Ingest Request of the document data is displayed. S-INS-00235, S-INS-00240, S-INS-00250, S-INS-00260
30. When the INGEST GUI indicates that the Ingest Request is 100 percent complete continue with the next step.	
31. On the HTML Interactive Ingest main page select the View Data Delivery Notice (DDN) function.	
32. On the HTML Interactive Ingest View DDN page select the appropriate DDN message the select the Submit button..	Verify that the DDN disposition states successful. S-INS-00230(k)
33. On the INGEST GUI select the **History Log** function.	
34. On the INGEST GUI enter a date and time just prior to starting the test in the **Start Date/Time** field, enter **SDPF** in the **Data Provider** field, select **Detailed Report** and then select the **Display** button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 28. S-INS-00405(a,b), S-INS-00460, S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510
35. On the Ingest Client xterm display the Ingest MSS Event Log.	Verify that the Ingest MSS Event Log contains detailed entries for the ingest of the document data. S-INS-00410, S-INS-00430
36. On the Data Server xterm display the Document Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the document data. S-DSS-00080, S-DSS-00090, S-DSS-20010
37. On the Data Server xterm query the Document Data Server inventory database to verify that the document core metadata was inserted.	Verify that the query returns information pertaining to the ingested document data. S-INS-00405(c)
38. On the Data Server xterm obtain a directory listing of the archive to verify that the document data files were archived.	Verify that the document data and metadata files show up in the list command. S-DSS-04475, S-DSS-04476, S-DSS-10040
39. On the HTML Interactive Ingest main page enter SDPF as the User Name and select the Submit Data Availability Notice (DAN) function.	
40. On the HTML Interactive Ingest Submit DAN page select the DAN that contains the Science Software Archive Package data and then select the Submit button.	
41. Use the INGEST GUI to monitor the Ingest Request.	Note the Request ID for the data being ingested from SDPF. S-INS-00205, S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-00330

42. On the HTML Interactive Ingest main page enter SDPF as the User Name and select the Monitor Status function.	Verify that the status of the Ingest Request of the Science Software Archive Package data is displayed. S-INS-00235, S-INS-00240, S-INS-00250, S-INS-00260
43. When the INGEST GUI indicates that the Ingest Request is 100 percent complete continue with the next step.	
44. On the HTML Interactive Ingest main page select the View Data Delivery Notice (DDN) function.	
45. On the HTML Interactive Ingest View DDN page select the appropriate DDN message the select the Submit button..	Verify that the DDN disposition states successful. S-INS-00230(k)
46. On the INGEST GUI select the **History Log** function.	
47. On the INGEST GUI enter a date and time just prior to starting the test in the **Start Date/Time** field, enter **SDPF** in the **Data Provider** field, select **Detailed Report** and then select the **Display** button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 41. S-INS-00460, S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510
48. On the Ingest Client xterm display the Ingest MSS Event Log.	Verify that the Ingest MSS Event Log contains detailed entries for the ingest of the document data. S-INS-00410, S-INS-00430
49. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the Science Software Archive Package data. S-DSS-00080, S-DSS-00090, S-DSS-20010
50. On the Data Server xterm query the Science Data Server inventory database to verify that the document core metadata was inserted.	Verify that the query returns information pertaining to the ingested Science Software Archive Package data.
51. On the Data Server xterm obtain a directory listing of the archive to verify that the Science Software Archive Package data files were archived.	Verify that the Science Software Archive Package data and metadata files show up in the list command. S-DSS-03030, S-DSS-03040, S-DSS-04475, S-DSS-04476, S-DSS-10040
52. On the Data Server xterm shutdown the Data Server GUI.	
53. Exit the Data Server xterm.	
54. On the Ingest Client xterm shutdown the Ingest GUI Interface.	
55. Exit the Ingest Client xterm.	
56. Exit the Mosaic browser.	
57. Exit the HTML Client xterm.	

58. Logout of the Ingest Client workstation.	S-INS-00180, S-INS-00221, S-INS-00408, S-INS-00409, S-INS-00440, S-INS-00470, S-DSS-00150, S-DSS-00650, S-DSS-00660, S-DSS-03870, S-DSS-03872, S-DSS-20020, DADS0110#A, DADS0140#A, DADS0190#A, DADS0250#A, DADS0290#A, DADS0300#A, DADS0310#A, DADS0350#A, DADS0360#A, DADS0440#A, DADS0465#A, IMS0320#A, IMS0480#A, S-INS-00234, DADS1070#A, DADS1080#A, DADS1100#A, DADS1390#A, DADS1400#A, DADS1780#A, DADS1795#A, DADS1800#A, DADS1980#A, DADS2000#A, DADS2210#A, DADS2220#A, DADS3140#A, IMS0430#A, IMS0450#A, S-INS-00187, S-INS-00321

4.9.12.6 Test Case 6: V0 Ancillary Ingest and Archive Test (BS012.006)

This test demonstrates the ability to receive and ingest ancillary data from the GSFC and LaRC V0 Systems, perform data preprocessing, update the DBMS (inventory) with core metadata and insert the science data and metadata into the archive using 8mm tape ingest and the Polling with Delivery Record Interface protocol respectively. For GSFC V0 data ingest a Delivery Record is read from 8mm tape. A polling process at the ECS DAAC polls at a pre-set interval, a predetermined location at the LaRC V0 System for new Delivery Records to ingest data. Upon detection of new Delivery Records to ingest the ECS DAAC FTPs the data to a Working Storage location that has been allocated. Metadata is then extracted, the data is converted to and ECS acceptable format and the Advertising Service is called to determine the appropriate Data Server to send and insert request too. The insert request is then submitted to the Data Server for data archiving. The insert is accepted, validated and acknowledged by the Data Server. The metadata is validated and the DBMS (inventory) is updated with core metadata. The ancillary data and metadata are then placed in the archive location that has been allocated. All detailed ingest and archive activities are recorded in the Ingest History Log as well as the MSS Event Log. Ingest and Data Server activities are monitored using the INGEST GUI and Data Server GUI.

Test Configuration

Hardware: Ingest Client, Ingest DBMS Server, Science Data Server, LaRC V0 Client Host, Working Storage, Archive Storage, 8mm tape drive

Software: Ingest Client Interface CSC, Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC, SDRV, STGMT.

Data: GSFC: TOMS: Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone, ADEOS Ozone

LaRC: SAGEII: Aerosol Profile, Ozone Profile

Tools: None

Test Input

Inputs to this test include mounting an 8mm tape for GSFC V0 data ingest and placement of a Delivery Record for ingest into the polling location on the LaRC V0 Client Host.

Test Output:

Outputs to this test include monitoring of Ingest Requests, screen displays of all logs, DBMS (inventory) queries and directory listings of the archive.

Success Criteria:

This test is deemed successful if the ingest and archive of all data is successful. The ingest activities were successfully monitored. All logs were updated with detailed information. The database queries verify that the core metadata for all data has been inserted into the DBMS (inventory). The directory listings of the archive verify that all data has been successfully archived.

Test Procedures:

Test Case ID: BS012.006	
Test Name: V0 Ancillary Ingest and Archive Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. **> rlogin** *<hostname>* **>** *<password>*	Assumption: all necessary processes for the ingest and archive of all data are active except for the polling process.
2. Open an xterm and use this xterm to start a LaRC V0 Client xterm, an Ingest Client xterm and a Data Server xterm. **> xterm -T LaRC(V0)_Client &** **> xterm -T Ingest_Client &** **> xterm -T Data_Server &** **> exit**	
3. On the Data Server xterm login to the Science Data Server workstation. **> rlogin** *<hostname>* **>** *<password>*	
4. On the Data Server xterm start up the Science Data Server GUI.	
5. On the Data Server GUI select the **System Requests** function.	
6. On the Ingest Client xterm start the INGEST GUI. **> cd** *<path>* **> source envsetup** **> cd** *<path>* **> ./InGUISession &**	
7. On the INGEST GUI select the **Media Ingest** function.	

8. On the INGEST GUI select Media Type: **8mm-Tape** and enter **GSFCV0** as the Data Provider.	Note: the 8mm tape contains the following data: Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone.
9. On the INGEST GUI enter the Media Volume ID and select **Embedded in Media** for Data Delivery Record File Location.	
10. On the INGEST GUI enter the Data Delivery Record File Name and then select the **OK** button.	
11. On the INGEST GUI select the **Monitor & Control** function.	
12. On the INGEST GUI select Search By: **Data Provider** and enter **GSFCV0**. Then select **Text View**.	
13. Use the INGEST GUI to monitor the Ingest Request.	Note the Request ID for the data being ingested from the GSFC V0. S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-00330
14. When the INGEST GUI indicates that the Ingest Request is 100 percent complete continue with the next step.	
15. On the INGEST GUI select the **History Log** function.	
16. On the INGEST GUI enter a date and time just prior to starting the test in the **Start Date/Time** field, enter **GSFCV0** in the **Data Provider** field, select **Detailed Report** and then select the **Display** button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 12. S-INS-00405(a,b), S-INS-00460, S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510
17. On the Ingest Client xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the ingest of the data from the GSFC V0. S-INS-00070, S-INS-00080, S-INS-00410, S-INS-00430
18. On the Data Server GUI verify that there were System Requests to insert the Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone data.	S-DSS-01150, S-DSS-20025
19. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone data. S-DSS-00080, S-DSS-00090, S-DSS-20010
20. On the Data Server xterm query the Science Data Server inventory database to verify that all core metadata pertaining to the data in the Delivery Records was inserted.	Verify that the queries return information pertaining to the ingested Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone data. S-INS-00405(c), S-DSS-03390, S-DSS-04360, S-DSS-04380, S-DSS-20621, S-DSS-20622

21. On the Data Server xterm obtain a directory listing of the archive to verify all data files identified in the Delivery Records were archived.	Verify that the Nimbus Daily Ozone, Meteor3 Daily Ozone, Earth Probes Daily Ozone and ADEOS Ozone data and metadata files show up in the list command. S-INS-00404(d), S-INS-00810, S-DSS-00694, S-DSS-03004, S-DSS-03006, S-DSS-03170, S-DSS-03350, S-DSS-03360, S-DSS-03380, S-DSS-03414, S-DSS-04475, S-DSS-21365(p), S-DSS-21366(p)
22. On the INGEST GUI select the **Monitor & Control** function.	
23. On the INGEST GUI select Search By: **Data Provider** and enter **LaRCV0**. Then select **Text View**.	
24. On the LaRC V0 Client xterm login to the simulated LaRC V0 Client Host. **> rlogin** *<hostname>* **>** *<password>*	
25. On the LaRC V0 Client xterm place the Delivery Records containing the following data into the poll location: SAGEII Aerosol Profile and SAGEII Ozone Profile.	
26. On the Ingest Client xterm start the LaRC V0 Ingest Polling process.	
27. Use the INGEST GUI to monitor the Ingest Request.	Note the Request ID for the data being ingested from the LaRC V0. S-INS-00300, S-INS-00310, S-INS-00315, S-INS-00325, S-INS-00330
28. When the INGEST GUI indicates that the Ingest Request is 100 percent complete continue with the next step.	
29. On the INGEST GUI select the **History Log** function.	
30. On the INGEST GUI enter a date and time just prior to starting the test in the **Start Date/Time** field, enter **LaRCV0** in the **Data Provider** field, select **Detailed Report** and then select the **Display** button.	Verify that the Ingest History Log display contains the appropriate information for the Request ID noted in step 12. S-INS-00405(a,b), S-INS-00460, S-INS-00480, S-INS-00490, S-INS-00500, S-INS-00510
31. On the Ingest Client xterm display the MSS Event Log.	Verify that the MSS Event Log contains detailed entries for the ingest of the data from the LaRC V0. S-INS-00070, S-INS-00080, S-INS-00410, S-INS-00430
32. On the Data Server GUI verify that there were System Requests to insert the SAGEII Aerosol Profile and SAGEII Ozone Profile data.	S-DSS-01150, S-DSS-20025
33. On the Data Server xterm display the Data Server MSS Event Log.	Verify that the Data Server MSS Event Log contains detailed entries for the insertion into the Science Data Server of the SAGEII Aerosol Profile and SAGEII Ozone Profile data. S-DSS-00080, S-DSS-00090, S-DSS-20010

34. On the Data Server xterm query the Science Data Server inventory database to verify that all core metadata pertaining to the data in the Delivery Records were inserted.	Verify that the queries return information pertaining to the ingested SAGEII Aerosol Profile and SAGEII Ozone Profile data. S-INS-00405(c), S-DSS-03390, S-DSS-04360, S-DSS-04380, S-DSS-20621, S-DSS-20622
35. On the Data Server xterm obtain a directory listing of the archive to verify that all data files identified in the Delivery Records were archived.	Verify that the SAGEII Aerosol Profile and SAGEII Ozone Profile data and metadata files show up in the list command. S-INS-00404(d), S-DSS-00694, S-DSS-03004, S-DSS-03006, S-DSS-03170, S-DSS-03350, S-DSS-03360, S-DSS-03380, S-DSS-03414, S-DSS-04475, S-DSS-21365(p), S-DSS-21366(p)
36. On the Data Server xterm shutdown the Data Server GUI.	
37. Exit the Data Server xterm.	
38. On the Ingest Client xterm shutdown the Ingest GUI Interface.	
39. Exit the Ingest Client xterm.	
40. On the LaRC V0 Client xterm remove all Delivery Record files from the poll location.	
41. Exit the LaRC V0 Client xterm.	
42. Logout of the Ingest Client workstation.	S-INS-00085(h), S-INS-00408, S-INS-00409, S-INS-00440, S-INS-00470, S-INS-00800, S-DSS-00150, S-DSS-00650, S-DSS-00660, S-DSS-03870, S-DSS-03872, S-DSS-20020, DADS0190#A, DADS0250#A, DADS0290#A, DADS0300#A, DADS0310#A, DADS0350#A, DADS0360#A, DADS0440#A, DADS0465#A, DADS1070#A, DADS1080#A, DADS1100#A, DADS1390#A, DADS1400#A, DADS1780#A, DADS1795#A, DADS1800#A, DADS1980#A, DADS2000#A, DADS2210#A, DADS2220#A, DADS3140#A, IMS0430#A, IMS0450#A, S-INS-00187, S-INS-00321

4.9.12.7 Test Case 7: Ingest Startup, Shutdown, Failover and Recovery Performance Test (BS012.007)

This test demonstrates the startup, shutdown, failover and recovery performance capabilities of the Ingest Client and Ingest Server. Startup and initialization of the Ingest Client is completed within 30 minutes (TBR). Shutdown of the Ingest Client is completed within 30 minutes (TBR). The Ingest Client and Ingest Server has provision for Initialization, Failover, Recovery and an orderly shutdown. This test will require the assistance of HTSC.

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Servers, SDPF, TSDIS and DAO Client Hosts, Working Storage, Archive Storage and 8mm tape drive

Software: Ingest Client Interface CSC, Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, SDSRV CSC, STGMT CSC, Gateway CSC

Data: CERES L0 (network and media), PR L1A and NMC (ETA, FNL, MRF) data

Tools: SDPF and TSDIS Ingest Simulators

Test Input:

Inputs to this test include Ingest Client startup (cold start and warm start) commands, Ingest Client shutdown commands, powering off of the Ingest Client and Ingest Server workstations.

Test Output:

Outputs to this test include performance time for startup and shutdown. Recovery of active Ingest Requests upon failover to the backup Ingest Client Hardware and warm startup of the Ingest Client.

Success Criteria:

This test is deemed successful if the startup and shutdown times meet or exceed performance requirements. All active ingest requests that were halted due to the failure of the Ingest Client Hardware are restarted and completed after the failover to the backup Ingest Client Hardware and warm startup of the Ingest Client.

Test Procedures:

Test Case ID: BS012.007	
Test Name: Ingest Startup, Shutdown, Failover and Recovery Performance Test	
Test Steps:	Comments:
1. Login to the Primary Ingest Client workstation. **> rlogin** *<hostname>* **>** *<password>*	Assumption: all Gateway and Data Server processes are active.
2. Login to the Primary Ingest Server workstation. **> rlogin** *<hostname>* **>** *<password>*	
3. Login to the simulated SDPF Client workstation and start two xterms. **> rlogin** *<hostname>* **>** *<password>*	
4. Login to the simulated TSDIS Client workstation and start two xterms. **> rlogin** *<hostname>* **>** *<password>*	
5. Login to the Data Server workstation. **> rlogin** *<hostname>* **>** *<password>*	

6.	Login to the simulated DAO Client workstation. **> rlogin** *<hostname>* **>** *<password>*	
7.	On the Primary Ingest Client workstation cold start the Ingest Client.	Verify that the cold start of the Ingest Client is completed within 30 minutes. S-INS-60160
8.	On the Primary Ingest Client workstation, after all Ingest processes are started, start up the DAO Polling process.	
9.	On the Primary Ingest Client workstation set the polling interval to 30 seconds.	
10.	On the Data Server workstation start up the Science Data Server GUI.	
11.	On the Data Server GUI select the **System Requests** function.	
12.	On the first SDPF Client xterm start up the SDPF Ingest simulator user interface.	
13.	On the second SDPF Client xterm start up the SDPF Ingest simulator.	
14.	On the first TSDIS Client xterm start up the TSDIS Ingest simulator user interface.	
15.	On the second TSDIS Client xterm start up the TSDIS Ingest simulator.	
16.	On the Primary Ingest Client workstation start the INGEST GUI. **> cd** *<path>* **> source envsetup** **> cd** *<path>* **> ./InGUISession &**	
17.	On the INGEST GUI select the **Media Ingest** function.	
18.	On the INGEST GUI select Media Type: **8mm-Tape** and enter **SDPF** as the Data Provider.	
19.	On the INGEST GUI enter the Media Volume ID and select **Embedded in Media** for Data Delivery Record File Location.	
20.	On the DAO Client workstation place the Delivery Records containing the following data into the poll location: NMC ETA, NMC FNL, NMC MRF.	
21.	On the INGEST GUI enter the Data Delivery Record File Name and then select the **OK** button.	
22.	On the second SDPF Client workstation send a valid Authentication Request.	
23.	On the first SDPF Client workstation send a DAN containing CERES L0 data.	
24.	On the second TSDIS Client workstation send a valid Authentication Request.	
25.	On the first TSDIS Client workstation send a DAN containing PR L1A data.	
26.	On the INGEST GUI select the **Monitor & Control** function.	
27.	On the INGEST GUI select Search By: **Data Provider** and enter **SDPF, TSDIS, DAO**. Then select **Text View**.	

28.	Use the INGEST GUI to monitor the Ingest Requests.	Note the Request IDs for the data being ingested from SDPF, TSDIS and DAO.
29.	When all Ingest Requests from the SDPF, TSDIS and DAO have been started but not completed, have authorized HTSC personnel shutdown the Primary Ingest Client workstation.	
30.	Login to the Backup Ingest Client workstation. **> rlogin** *<hostname>* **>** *<password>*	
31.	On the Backup Ingest Client workstation warm start the Ingest Client.	Verify that the warm start of the Ingest Client is completed within 15 minutes. S-INS-60765
32.	On the Backup Ingest Client workstation, after all Ingest processes are started, start up the DAO Polling process.	
33.	On the Backup Ingest Client workstation start the INGEST GUI. **> cd** *<path>* **> source envsetup** **> cd** *<path>* **> ./InGUISession &**	
34.	On the INGEST GUI select the **Monitor & Control** function.	
35.	On the INGEST GUI select Search By: **Data Provider** and enter **SDPF, TSDIS, DAO**. Then select **Text View**.	
36.	Use the INGEST GUI to monitor the Ingest Requests that were suspended during the shutdown of the Ingest Subsystem.	Verify that all Request IDs noted in step 27 have been resumed and completed successfully. S-INS-04020, S-INS-04030
37.	On the Data Server GUI verify that there was System Requests to insert all the data that was ingested.	
38.	On the INGEST GUI select the **Media Ingest** function.	
39.	On the INGEST GUI select Media Type: **8mm-Tape** and enter **SDPF** as the Data Provider.	
40.	On the INGEST GUI enter the Media Volume ID and select **Embedded in Media** for Data Delivery Record File Location.	
41.	On the INGEST GUI enter the Data Delivery Record File Name and then select the **OK** button.	
42.	On the DAO Client workstation place new Delivery Records containing the following data into the poll location: NMC ETA, NMC FNL, NMC MRF.	
43.	On the first SDPF Client workstation send a DAN containing CERES L0 data.	
44.	On the first TSDIS Client workstation send a DAN containing PR L1A data.	
45.	On the INGEST GUI select the **Monitor & Control** function.	
46.	On the INGEST GUI select Search By: **Data Provider** and enter **SDPF, TSDIS, DAO**. Then select **Text View**.	

47.	Use the INGEST GUI to monitor the Ingest Requests.	Verify that all Ingest Requests complete successfully. S-INS-04000, S-INS-04010
48.	On the Data Server GUI verify that there were System Requests to insert all the data that was ingested.	
49.	On the Backup Ingest Client workstation shutdown the DAO Polling process and the Ingest Client.	Verify that the shutdown process is completed within 30 minutes. S-INS-60170
50.	Login to the Primary Ingest Client workstation. **> rlogin** *<hostname>* **>** *<password>*	
51.	On the Primary Ingest Client workstation warm start the Ingest Client.	
52.	On the Primary Ingest Client workstation, after all Ingest processes are started, start up the DAO Polling process.	
53.	On the Primary Ingest Client workstation start the INGEST GUI. **> cd** *<path>* **> source envsetup** **> cd** *<path>* **> ./lnGUISession &**	
54.	On the INGEST GUI select the **Media Ingest** function.	
55.	On the INGEST GUI select Media Type: **8mm-Tape** and enter **SDPF** as the Data Provider.	
56.	On the INGEST GUI enter the Media Volume ID and select **Embedded in Media** for Data Delivery Record File Location.	
57.	On the INGEST GUI enter the Data Delivery Record File Name and then select the **OK** button.	
58.	On the DAO Client workstation place new Delivery Records containing the following data into the poll location: NMC ETA, NMC FNL, NMC MRF.	
59.	On the first SDPF Client workstation send a DAN containing CERES L0 data.	
60.	On the first TSDIS Client workstation send a DAN containing PR L1A data.	
61.	On the INGEST GUI select the **Monitor & Control** function.	
62.	On the INGEST GUI select Search By: **Data Provider** and enter **SDPF, TSDIS, DAO**. Then select **Text View**.	
63.	Use the INGEST GUI to monitor the Ingest Requests.	Verify that all Ingest Requests complete successfully.
64.	On the Data Server GUI verify that there were System Requests to insert all the data that was ingested.	
65.	On the INGEST GUI select the **Media Ingest** function.	
66.	On the INGEST GUI select Media Type: **8mm-Tape** and enter **SDPF** as the Data Provider.	

67.	On the INGEST GUI enter the Media Volume ID and select **Embedded in Media** for Data Delivery Record File Location.	
68.	On the DAO Client workstation place the Delivery Records containing the following data into the poll location: NMC ETA, NMC FNL, NMC MRF.	
69.	On the INGEST GUI enter the Data Delivery Record File Name and then select the **OK** button.	
70.	On the first SDPF Client workstation send a DAN containing CERES L0 data.	
71.	On the first TSDIS Client workstation send a DAN containing PR L1A data.	
72.	On the INGEST GUI select the **Monitor & Control** function.	
73.	On the INGEST GUI select Search By: **Data Provider** and enter **SDPF, TSDIS, DAO**. Then select **Text View**.	
74.	Use the INGEST GUI to monitor the Ingest Requests.	Note the Request IDs for the data being ingested from SDPF, TSDIS and DAO.
75.	On the Primary Ingest Server workstation have authorized HTSC personnel kill the Ingest DBMS Server process while the Ingest Requests are in different states.	
76.	Verify that the SDPF, TSDIS and DAO are notified that the Ingest DBMS Server has failed and that each Ingest Request must be resubmitted.	
77.	On the Primary Ingest Client xterm shutdown the INGEST GUI, the DAO Polling process and the Ingest Client.	
78.	Login to the Backup Ingest DBMS Server workstation. **> rlogin** *<hostname>* **>** *<password>*	
79.	On the Backup Ingest Server workstation start the Ingest DBMS Server.	
80.	On the Primary Ingest Client workstation warm start the Ingest Client.	
81.	On the Primary Ingest Client workstation, after all Ingest processes are started, start up the DAO Polling process.	
82.	On the INGEST GUI select the **Media Ingest** function.	
83.	On the INGEST GUI select Media Type: **8mm-Tape** and enter **SDPF** as the Data Provider.	
84.	On the INGEST GUI enter the Media Volume ID and select **Embedded in Media** for Data Delivery Record File Location.	
85.	On the INGEST GUI enter the Data Delivery Record File Name and then select the **OK** button.	
86.	On the DAO Client workstation place new Delivery Records containing the following data into the poll location: NMC ETA, NMC FNL, NMC MRF.	
87.	On the first SDPF Client workstation send a DAN containing CERES L0 data.	

88. On the first TSDIS Client workstation send a DAN containing PR L1A data.	
89. On the INGEST GUI select the **Monitor & Control** function.	
90. On the INGEST GUI select Search By: **Data Provider** and enter **SDPF, TSDIS, DAO**. Then select **Text View**.	
91. Use the INGEST GUI to monitor the Ingest Requests.	Verify that all Ingest Requests complete successfully.
92. On the Data Server GUI verify that there were System Requests to insert all the data that was ingested.	
93. On the Data Server workstation shutdown the Data Server GUI.	
94. Logout of the Data Server workstation.	
95. On the first SDPF Client xterm shutdown the SDPF Ingest Client simulator.	
96. On the SDPF Client workstation exit both SDPF Client xterms.	
97. Logout of the SDPF Client workstation.	
98. On the first TSDIS Client xterm shutdown the TSDIS Ingest Client simulator.	
99. On the TSDIS Client workstation exit both TSDIS Client xterms.	
100. Logout of the TSDIS Client workstation.	
101. On the Ingest Client workstation shutdown the Ingest GUI Interface and the DAO Polling process.	
102. On the DAO Client workstation remove all Delivery Record files from the poll location.	
103. Logout of the DAO Client workstation.	
104. Logout of the Backup Ingest Client workstation.	
105. Logout of the Primary Ingest Client workstation.	S-INS-60110, S-INS-60140, S-INS-60150, DADS1340#A, DADS1472#A

4.9.12.8 Test Case 8: Ingest UNIX POSIX.2 Conformance Test (BS012.008)

This test demonstrates that each Ingest UNIX platform in the hardware conforms to the following POSIX.2 standards:

- operating system
- perl, emacs, gzip, tar, imake, prof, gprof and nm utilities
- man and vi user portability utilities
- make software development utility
- lex and yacc language development utilities
- C, Bourne and Korn shells
- on-line or printed documentation for each installed tool
- one or more development environments supporting C and FORTRAN-77 languages

- compiles and links strictly conformant POSIX:compliant source code
- interactive source level debugger for ECS supported languages

Test Configuration:

N/A

Test Input:

Inputs to this test include inspection of DAAC Facility documents.

Output:

Outputs to this test include specification data related to requirements for analysis.

Success Criteria:

This test is deemed successful if the specifications meet or exceed requirements.

Test Procedures:

Test Case ID: BS012.008	
Test Name: Ingest UNIX POSIX.2 Conformance Test	
Test Steps:	Comments:
1. Obtain copies of the DAAC Facility documents.	
2. Review the DAAC Facility documents and collect the necessary Ingest UNIX platform specification data.	
3. Analyze the collected data.	Verify that the collected data meets or exceeds all requirements. S-INS-60810, S-INS-60820, S-INS-60830, S-INS-60840, S-INS-60850, S-INS-60860, S-INS-60870, S-INS-60880, S-INS-60890, S-INS-60895
4. Return the copies of the Facility documents to the DAAC.	

4.9.12.09 Test Case 9: Ingest Hardware Facilities Test (BS012.009)

This test demonstrates that the Ingest Hardware is in accordance with the ECS Facilities Plan requirements.

Test Configuration:

N/A

Test Input:

Inputs to this test include inspection of the DAAC Facility Plan document.

Output:

Outputs to this test include specification data related to the requirements for analysis.

Success Criteria:

This test is deemed successful if specifications meet or exceed requirements.

Test Procedures:

Test Case ID: BS012.009	
Test Name: Ingest Hardware Facilities Test	
Test Steps:	Comments:
1. Obtain a copy of the DAAC Facility Plan document.	
2. Review the DAAC Facility Plan document and collect the necessary hardware specifications data.	
3. Analyze the collected data.	Verify that the data meets or exceeds all requirements. S-INS-60510, S-INS-60540, S-INS-60550, S-INS-60560, S-INS-60570, S-INS-60580, S-INS-60590
4. Return the copy of the Facility Plan document to the DAAC.	

4.9.12.10 Test Case 10: Ingest Hardware Monitor Test (BS012.010)

This test demonstrates the capability to monitor the status of the Ingest Client Hardware using HP OpenView. This test will require the assistance of HTSC.

Test Configuration:

Hardware: Ingest Client, MSS Server

Software: HP OpenView

Data: None

Tools: None

Test Input:

Inputs to this test include shutdown and startup of the Ingest Client Hardware.

Output:

Outputs to this test include monitoring of HP OpenView displays.

Success Criteria:

This test is deemed successful if the Ingest Client Hardware is successfully monitored using HP OpenView and a fault on the Ingest Client Hardware is detected by HP OpenView.

Test Procedures:

Test Case ID: BS012.010	
Test Name: Ingest Hardware Monitor Test	
Test Steps:	Comments:
1. Login to MSS Server workstation. **> rlogin** *<hostname>* **>** *<password>*	
2. On the MSS Server workstation open an xterm.	
3. On the xterm initialize the HP OpenView GUI.	
4. On the HP OpenView GUI search the sub-maps until the Ingest Client Hardware icon is found.	Verify that the Ingest Client Hardware icon does not indicate a fault (not yellow/red).
5. On the HP OpenView GUI return to the top map.	
6. Have authorized HTSC personnel shutdown the Ingest Client Hardware.	
7. On the HP OpenView GUI follow the fault trail through the sub-maps.	Verify that the fault trail leads to the Ingest Client Hardware. The Ingest Client Hardware icon should be red. S-INS-60180
8. Have authorized HTSC personnel startup the Ingest Client Hardware.	
9. On the HP OpenView GUI monitor the Ingest Client Hardware icon.	Verify that the Ingest Client Hardware icon does not indicate a fault (not yellow or red).
10. Exit the HP OpenView GUI.	
11. Exit the xterm.	
12. Logout of the MSS Server workstation.	S-INS-60190, S-INS-60650

4.9.12.11 Test Case 11: LaRC Ingest Hardware Sizing Test (BS012.011)

This test demonstrates Hardware sizing performance for LaRC:

- the ICLHW CI at the LaRC DAAC is sized to store and maintain TBD bytes of data for a 1 year period of time
- the ICLHW CI at the LaRC DAAC is sized to support TBD bytes/second at the electronic data ingest interface to support the TRMM mission
- the ICLHW CI at the LaRC DAAC is sized to temporarily store TBD bytes of ingest data to support the TRMM mission

Test Configuration:

N/A

Test Input:

Inputs to this test include inspection of ECS LaRC DAAC facility documentation.

Test Output:

Outputs to this test include hardware sizing data for analysis.

Success Criteria:

This test is deemed successful if the hardware sizing data meets or exceeds the requirements.

Test Procedures:

Test Case ID: BS012.011	
Test Name: LaRC Ingest Hardware Sizing Test	
Test Steps:	Comments:
1. Obtain copies of the facility documentation for the ECS LaRC DAAC.	
2. Review the documentation and collect the necessary hardware sizing specifications data.	
3. Analyze the collected data.	Verify that the data meets or exceeds all requirements. S-INS-60725, S-INS-60740, S-INS-60755
4. Return the copies of the facility documentation to the ECS LaRC DAAC.	DADS2778#A

4.9.12.12 Test Case 12: GSFC Ingest Hardware Sizing Test (BS012.012)

This test demonstrates Hardware sizing performance for LaRC:

- the ICLHW CI at the GSFC DAAC is sized to store and maintain TBD bytes of data for a 1 year period of time
- the ICLHW CI at the GSFC DAAC is sized to support TBD bytes/second at the electronic data ingest interface to support the TRMM mission
- the ICLHW CI at the GSFC DAAC is sized to temporarily store TBD bytes of ingest data to support the TRMM mission

Test Configuration:

N/A

Test Input:

Inputs to this test include inspection of the ECS GSFC DAAC facility documentation.

Test Output:

Outputs to this test include hardware sizing data for analysis.

Success Criteria:

This test is deemed successful if the hardware sizing data meets or exceeds the requirements.

Test Procedures:

Test Case ID: BS012.012	
Test Name: GSFC Ingest Hardware Sizing Test	
Test Steps:	Comments:
1. Obtain copies of the facility documentation for the ECS GSFC DAAC.	
2. Review the documentation and collect the necessary hardware sizing specifications data.	
3. Analyze the collected data.	Verify that the data meets or exceeds all requirements. S-INS-60720, S-INS-60735, S-INS-60750
4. Return the copies of the facility documentation to the ECS GSFC DAAC.	DADS2778#A

4.9.12.13 Test Case 13: LaRC Ingest Data Rate Test (BS012.013)

This test demonstrates ingest data receipt performance for the following:

- the INGST CI at the LaRC DAAC is capable of receiving data from the SDPF once per day within 24 hours of the last acquisition Client Session
- the ICLHW CI at the LaRC DAAC shall be capable of ingesting data from the SDPF at the nominal daily rate specified in Table E-3 of Appendix E
- the ICLHW CI at the LaRC DAAC shall be capable of ingesting data from the SDPF at a maximum daily rate that is three times the nominal rate specified in Table E-3 of Appendix E
- the ICLHW CI supports an agreed upon number of transactions per day, as specified for each release and corresponding DAAC sites
- the ICLHW CI at the LaRC DAAC shall be capable of ingesting data, by network data transfer from the NESDIS, at the nominal daily rate specified in Table E-3 of Appendix E
- the ACMHW CI at the LaRC DAAC shall be capable of ingesting Version 0 data by network data transfer at the nominal rate specified in Section E.4 of Appendix E
- the DIPHW CI at the LaRC DAAC shall be capable of ingesting Version 0 data from physical media agreed upon between ECS and Version 0, at the nominal rate specified in Section E.4 of Appendix E

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Servers, SDPF, LaRC V0 and NESDIS Client Hosts, Working Storage, Archive Storage and 8mm tape drive

Software: Ingest Client Interface CSC, Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC, SDRV, STGMT

Data: CERES and Ancillary (electronic and media) data

Tools: SDPF Ingest Simulator

Test Input:

Inputs to this test include Ingest Requests (automated electronic network) from SDPF and placement of data and Delivery Records for ingest into the polling locations on the NESDIS and LaRC V0 Client Host respectively. Also mounting of 8mm tapes from the LaRC V0 System.

Test Output:

Outputs to this test include performance data for analysis.

Success Criteria:

This test is deemed successful if all data is ingested and archived successfully and the data rates meet or exceed performance requirements.

Test Procedures:

Test Case ID: BS012.013	
Test Name: LaRC Ingest Data Rate Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. **> rlogin** *<hostname>* **>** *<password>*	Assumption: all necessary processes for the ingest and archive of all data are active except for the polling processes.
2. Open an xterm and use this xterm to start two SDPF Client xterms, a NESDIS Client xterm, a LaRC V0 Client xterm and an Ingest Client xterm. **> xterm -T SDPF_Client_1 &** **> xterm -T SDPF_Client_2 &** **> xterm -T NESDIS_Client &** **> xterm -T LaRC(V0)_Client &** **> xterm -T Ingest_Client &** **> exit**	
3. On the Ingest Client xterm start the INGEST GUI. **> cd** *<path>* **> source envsetup** **> cd** *<path>* **> ./InGUISession &**	
4. On the INGEST GUI select the **Monitor & Control** function.	
5. On the INGEST GUI select Search By: **Data Provider** and enter **SDPF, NESDIS, LaRCV0**. Then select **Text View**.	
6. On the Ingest Client xterm set the polling interval to 600 seconds.	
7. On the Ingest Client xterm start the NESDIS and LaRC V0 Ingest Polling processes.	

8. On the NESDIS Client xterm login to the simulated NESDIS Client Host. **> rlogin** *<hostname>* **>** *<password>*	
9. On the NESDIS Client xterm place the following data into their respective poll locations: Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field and Snow/Ice Cover**.**	
10. On the LaRC V0 Client xterm login to the simulated LaRC V0 Client Host. **> rlogin** *<hostname>* **>** *<password>*	
11. On the LaRC V0 Client xterm place the Delivery Records containing the following data into the poll location: SAGEII Aerosol Profile and SAGEII Ozone Profile.	
12. On both SDPF Client xterms login to the simulated SDPF Client Host. **> rlogin** *<hostname>* **>** *<password>*	
13. On the first SDPF Client xterm start up the SDPF Ingest simulator user interface.	
14. On the second SDPF Client xterm start up the SDPF Ingest simulator.	
15. On the second SDPF Client xterm send a valid Authentication Request.	
16. On the first SDPF Client xterm send a DAN containing CERES L0 data.	
17. Use the INGEST GUI to monitor the Ingest Requests.	Verify that all Ingest Requests are successfully completed. S-INS-00990, S-INS-01000, S-INS-01030, S-INS-01040, S-INS-60210, S-DSS-61010
18. When the INGEST GUI indicates that the Ingest Requests are successfully completed continue with the next step.	
19. Repeat steps 9, 14 and 15 until three times the amount of data specified in Appendix E (Table E-3) of DID 304 is reached.	
20. On the INGEST GUI select the **Media Ingest** function.	
21. On the INGEST GUI select Media Type: **8mm-Tape** and enter **LaRCV0** as the Data Provider.	
22. On the INGEST GUI enter the Media Volume ID and select **Embedded in Media** for Data Delivery Record File Location.	
23. On the INGEST GUI enter the Data Delivery Record File Name and then select the **OK** button.	
24. On the INGEST GUI select the **Monitor & Control** function.	
25. On the INGEST GUI select Search By: **Data Provider** and enter **LaRCV0**. Then select **Text View**.	

26. Use the INGEST GUI to monitor the Ingest Request.	Verify that all Ingest Requests are successfully completed. S-DSS-90320
27. When the INGEST GUI indicates that the Ingest Request has successfully completed continue with the next step.	
28. Repeat steps 20 through 26 until the amount of data specified in Appendix E (Table E-3) of DID 304 is reached.	
29. On the NESDIS xterm remove the Normalized Vegetation Index, Aerosol Weekly 100km Analyzed Field and Snow/Ice Cover data files from the poll locations.	
30. Exit the NESDIS xterm.	
31. On the first SDPF Client xterm shutdown the SDPF Ingest Client simulator.	
32. Exit both SDPF Client xterms.	
33. Logout of the Ingest Client workstation.	

4.9.12.14 Test Case 14: GSFC Ingest Data Rate Test (BS012.014)

This test demonstrates ingest data receipt performance for the following:

- the ICLHW CI supports an agreed upon number of transactions per day, as specified for each release and corresponding DAAC sites
- ACMHW CI at the GSFC DAAC shall be capable of ingesting data from TSDIS at the nominal rate specified in Sections E.2 & E.3 of Appendix E
- the ACMHW CI at the GSFC DAAC shall be capable of ingesting data at a maximum rate that is three times the nominal rate specified in Sections E.2 & E.3 of Appendix E.
- the ACMHW CI at the GSFC DAAC shall be capable of ingesting Version 0 data at the nominal rate specified in Section E-4 of Appendix E
- the ACMHW CI at the GSFC DAAC shall be capable of ingesting data at an agreed upon nominal rate from the DAO by network data transfer
- the DIPHW CI at the GSFC DAAC shall be capable of ingesting Version 0 data from physical media agreed upon between ECS and Version 0, at the nominal rate specified in Section E-4 and E-5 of Appendix E

Test Configuration:

Hardware: Ingest Client, Ingest DBMS Server, Science Data Servers, TSDIS and DAO Client Hosts, Working Storage, Archive Storage and 8mm tape drive

Software: Ingest Client Interface CSC, Polling Ingest Client Interface CSC, Ingest Request Processing CSC, Ingest Working File Collection CSC, Ingest DBMS CSC, Ingest Data Preprocessing CSC, Metadata CSC, Server CSC, SDRV, STGMT

Data: VIRS and Ancillary data

Tools: TSDIS Ingest Simulator

Test Input:

Inputs to this test include Ingest Requests (automated electronic network) from TSDIS and placement of Delivery Records for ingest into the polling location on the DAO Client Host.

Test Output:

Outputs to this test include performance data for analysis.

Success Criteria:

This test is deemed successful if the data rates meet or exceed performance requirements.

Test Procedures:

Test Case ID: BS012.014	
Test Name: GSFC Ingest Data Rate Test	
Test Steps:	Comments:
1. Login to the Ingest Client workstation. **> rlogin** *<hostname>* **>** *<password>*	Assumption: all necessary processes for the ingest and archive of all data are active except for the polling processes.
2. Open an xterm and use this xterm to start two TSDIS Client xterms, a DA0 Client xterm and an Ingest Client xterm. **> xterm -T TSDIS_Client_1 &** **> xterm -T TSDIS_Client_2 &** **> xterm -T DA0_Client &** **> xterm -T Ingest_Client &** **> exit**	
3. On the Ingest Client xterm start the INGEST GUI. **> cd** *<path>* **> source envsetup** **> cd** *<path>* **> ./InGUISession &**	
4. On the Ingest Client xterm set the polling interval to 600 seconds.	
5. On the Ingest Client xterm start the DAO Polling process.	
6. On the INGEST GUI select the **Media Ingest** function.	
7. On the INGEST GUI select Media Type: **8mm-Tape** and enter **GSFCV0** as the Data Provider.	
8. On the INGEST GUI enter the Media Volume ID and select **Embedded in Media** for Data Delivery Record File Location.	
9. On the INGEST GUI enter the Data Delivery Record File Name and then select the **OK** button.	
10. On the INGEST GUI select the **Monitor & Control** function.	

11. On the INGEST GUI select Search By: **Data Provider** and enter **TSDIS, DAO, GSFCV0**. Then select **Text View**.	
12. On the DAO Client xterm login to the simulated DAO Client Host. **> rlogin** *<hostname>* **>** *<password>*	
13. On the DAO Client xterm place the Delivery Records containing the following data into the poll location: NMC ETA , NMC FNL, NMC MRF.	
14. On both TSDIS Client xterms login to the simulated TSDIS Client Host. **> rlogin** *<hostname>* **>** *<password>*	
15. On the first TSDIS Client xterm start up the TSDIS Ingest simulator user interface.	
16. On the second TSDIS Client xterm start up the TSDIS Ingest simulator.	
17. On the second TSDIS Client xterm send a valid Authentication Request.	
18. On the second TSDIS Client xterm send a DAN containing all levels of TRMM VIRS data.	
19. Use the INGEST GUI to monitor the Ingest Requests.	Verify that all Ingest Requests are successfully completed. S-INS-60210, S-DSS-60930, S-DSS-60940, S-DSS-60950, S-DSS-60970, S-DSS-90300
20. When the INGEST GUI indicates that the Ingest Requests are successfully completed continue with the next step.	
21. Repeat steps 6 through 11, 13, 18 and 19 until three times the amount of data specified in Appendix E (Tables E-2, E-3, E-4 and E-5) of DID 304 is reached.	
22. On the DAO xterm remove the Delivery Record files from the poll location.	
23. Exit the DAO xterm.	
24. On the first TSDIS Client xterm shutdown the TSDIS Ingest Client simulator.	
25. Exit both TSDIS Client xterms.	
26. Logout of the Ingest Client workstation.	

4.9.12.15 Test Case 15: Ingest Hardware Availability Performance Test (BS012.015)

This test demonstrates ingest hardware availability performance for the following:

- the ICLHW CI is capable of operating in a 24 hour per day, 7 days a week mode.
- the ICLHW CI is capable of supporting system maintenance without impact to normal operations.
- the ICLHW CI is configured to support the receipt of science data function's Availability (A0) requirement of .99900 and Mean Down Time (MDT) requirement of 2 hours or less.

Test Configuration:

N/A

Test Input:

Inputs to this test include entries in a Daily Operations/Maintenance Log for tracking ICLHW CI performance statistics.

Test Output:

Outputs to this test include analyzing the performance statistics in the Daily Operations/Maintenance Log.

Success Criteria:

This test is deemed successful if the availability of the ICLHW CI meets or exceeds performance requirements.

Test Procedures:

Test Case ID: BS012.015	
Test Name: Ingest Hardware Availability Performance Test	
Test Steps:	Comments:
1. Create a Daily Operations/Maintenance Log.	
2. Make an entry each day throughout the testing period reflecting ICLHW CI performance.	
3. At the end of the testing period analyze the ICLHW CI performance statistics.	Verify that the performance statistics meet or exceed performance requirements. S-INS-60310, S-INS-60320, S-INS-60330

4.9.12.16 Test Case 16: Ingest Hardware Support Test (BS012.016)

This test demonstrates the test support of ingest capabilities. Each ICLHW CI element supports end-to-end test and verification activities of the EOS program including during the pre-launch, spacecraft verification, and instrument verification phases. The following testing is performed on the ICLHW CI: unit, subsystem, integration and end to end. The ICLHW CI supports test activities throughout the development phase. Internal testing is performed on the ICLHW CI which includes tests of hardware functions, and integration testing with other SDPS subsystems.

Test Configuration:

N/A

Test Input:

Execution of all levels of testing.

Test Output:

Completion of all levels of testing.

Success Criteria:

This test is deemed successful if all levels of testing have been successfully completed.

Test Procedures:

Test Case ID: BS012.016	
Test Name: Ingest Hardware Support Test	
Test Steps:	Comments:
1. Verify that all levels of testing have been completed (Unit testing, Subsystem testing, Integration & Test, End-to-End testing).	S-INS-60610, S-INS-60640
2. Verify that testing included testing of hardware functions and integration testing with other SDPS subsystems.	S-INS-60620, S-INS-60630

4.9.12.17 Test Case 17: Ingest Interface Test (BS012.017)

This test demonstrates ingest interface performance capabilities for the following:

- the ICLHW CI provides maintenance interfaces to support the function of System Maintenance
- the ICLHW CI provides operations interfaces to support the function of System Maintenance
- the ICLHW CI supports the hardware resource requirements of the INGST CI and its interface requirements with the operations staff
- the ICLHW CI shall contain the storage and interface resources to support the ingest functions for the TRMM mission instruments of CERES and LIS
- the ICLHW CI platforms shall have provision for interfacing with one or more Local Area Networks (LANs).

Test Configuration:

N/A

Test Input:

Inputs to this test include inspection of the ECS DAAC facility Ingest Subsystem for INGST CI hardware resources and operator interfaces, interfaces for the support of System Maintenance and interfaces to LANs.

Test Output:

Identification of Ingest Subsystem INGST CI hardware resources and operator interfaces, System Maintenance interfaces and interfaces to LANs..

Success Criteria:

This test is deemed successful if the Ingest Subsystem contains the necessary hardware and operator interfaces to support all ingest functions, the necessary interfaces to support System Maintenance and interfaces to one or more LANs.

Test Procedures:

Test Case ID: BS012.017	
Test Name: Ingest Interface Test	
Test Steps:	Comments:
1. Inspect the Ingest Subsystem hardware resources and operator interfaces at the ECS DAAC.	Verify that all necessary hardware resources and operator interfaces are present and available for all ingest functions. S-INS-60110, S-INS-60710
2. Inspect the System Maintenance interfaces of the Ingest Subsystem at the ECS DAAC.	Verify that all necessary interfaces for the support of System Maintenance are present and available. S-INS-60410, S-INS-60420
3. Inspect the Ingest Subsystem LAN interfaces at the ECS DAAC.	Verify that there is at leas one interface to a LAN. S-INS-60430

4.10 User Search Services 3 Tests

4.10.1 Document Data Server Thread (TS041)

4.10.1.1 Test Case 1: Update to Metadata (TS041.001)

This test case will illustrate that the Document Data Server will have the ability to generate updates to the metadata. The updates will reflect changes in data holdings, resulting from an unexpected loss and from a purge operation (backup and recovery). The tester will access the ECS Document Data Server via a Guide URL. The tester will request that the Administrator delete a single metadata type and one of the metadata groups. The tester will review transaction logs generated by the Document Data Server, before conducting a backup and recovery of the repository. The tester will review another transaction log generated by the Document Data Server, to verify that the update to the metadata was conducted by ECS Document Data Server.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case includes the title, description, and version number of the document

Test Output:

Outputs to this test case include a report log containing transactions occuring before and after the backup and recovery

Success Criteria:

This test is considered successful if the Document Data Server is able to generate updates to the metadata showing the changes that occurred in the data holdings, as a result of the purge operation (backup and recovery) and from an unexpected loss. The tester will compare the log reports before and after the backup, ensuring that the update to the metadata was performed by the Document Data Server. Notification must be returned to the tester in a clear and meaningful error message if the documents can not be returned.

Test Procedures:

Test Case ID: TS041.001	
Test Name: Update to Metadata	Comments
Test Steps:	
1. Using a network browser, enter the URL for the ECS Document Data Sever home page:	
2. Select <**data type**>	
3. Verify that the Repository view is returned	S-DSS-04476
4. Select a "Metadata document"	
5. Select delete from the bottom of the page	
6. Review the Metadata repository and verify that the changes occurred in the data holdings	S-DSS-10052
7. Select a metadata group	
8. Delete the selected metadata group	
9. Review the Metadata repository and verify that the changes occurred in the data holdings	S-DSS-10080
10. Access the **Illustra** Database	This is the database where the documents reside
11. Delete a selected data record	
12. Exit the Illustra database	
13. Using a network browser, enter the URL for the ECS Document Data Sever home page:	
14. Search the repository for the selected data record that was deleted	
15. Verify that the Repository view is returned	
16. Verify that the updates to the metadata holdings reflect that the data record has been removed	S-DSS-10053

4.10.1.2 Test Case 2: Documents in HTML, Postscript, and ASCII Format (TS041.002)

This test case will illustrate that the ECS Document Data Server will have the ability to make available documentation in Postscript, HTML, and ASCII Text format. The tester will access the ECS Document Data Server via Guide URL. The tester will select Document Repository from the DDSRV home page. The tester will select an HTML, Postscript and ASCII formatted document.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case includes the title, description, and version number of the document

Test Output:

Outputs to this test case includes selected documents formatted in HTML, Postscript, and ASCII text formats.

Success Criteria:

This test is considered successful if, the tester is be able to retrieve the selected files in HTML, Postscript and ASCII format. Notification must be returned to the tester in a clear and meaningful error message if the documents can not be returned.

Test Procedures:

Test Case ID: TS041.002	
Test Name: HTML, Postscript, and ASCII Format	Comments
Test Steps:	
1. 1.Using a network browser, enter the URL for the ECS Document Data Sever home page:	
2. Select the DDSRV Document Repository	
3. Verify that the DDSRV Document Repository is returned	
4. Select a "**Guide Repository**"	
5. Select the "List" icon	This will list the ESDTs for selected repository
6. Verify that the Document Earth Science Data Types returns a list of documents	

7. Select "**Guide**"	
8. Select " **View** "	
9. Verify the DDSRV: Repository View is returned	
10. Verify that the Repository name is Guide Repository	
11. Select "**Browse** "	
12. Verify that the DDSRV: Repository Browse is returned	
13. Select Document ID	
14. Verify that the HTML document is returned	S-DSS-10204 S-DSS-04476
15. Exit the HTML document	
16. Select Document ID	
17. Verify that the Text document is returned	S-DSS-10200 S-DSS-04476
18. Exit the Text document	
19. Select Document ID	
20. Verify that the PDF document is returned	
21. Exit the PDF document	
22. Select Document ID	
23. Verify that the RTF document is returned	
24. Exit the RTF document	
25. Select Document ID	
26. Verify that the PostScript document is returned	S-DSS-10209 S-DSS-04476
27. Exit the PostScript document	

4.10.1.3 Test Case 3: Processing Algorithms (TS041.003)

This test will illustrate the ability of the Document Data Server to receive documentation processing algorithms used for EOS and other Earth Science Data Products generated by the ECS. The tester will access the ECS Document Data Server via Guide URL. The tester will conduct a search on processing algorithms. Once the document(s) related to the search are returned, the tester will access the document(s).

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test cases includes keywords "Processing Algorithms"

Test Output:

Outputs to this test case includes document(s) that are related to the selected processing algorithms

Success Criteria:

This test is considered successful on two accounts: 1) the tester must be able to submit a search for the selected document and 2) the document must be successfully retrieved, from the repository.

Test Procedures:

Test Case ID: TS041.003	
Test Name: Processing Algorithms	Comments
Test Steps:	
1. 1.Using a network browser, enter the URL for the ECS Document Data Sever home page:	
2. Select the DDSRV Document Repository	
3. Verify that the DDSRV Document Repository is returned	
4. Select a Algorithm Repository	
5. Select the “List” icon	This will list the Earth Science Data Type for selected repository
6. Verify that the Document Earth Science Data Types returns a list of documents	
7. Select Algorithm	
8. Select View	
9. Verify the DDSRV: Repository View is returned	
10. Verify that the Repository name is Algorithm Repository	
11. Select “Browse “	
12. Verify that the DDSRV: Repository Browse is returned	
13. Select Document ID	
14. Verify that the Text document is returned	S-DSS-10090
15. Exit the Text document	

4.10.1.4 Test Case 4: Receiving Reference Documentation (TS041.004)

This test will illustrate the ability of the Document Data Server to receive references to results of science data quality assessments. The tester will access the ECS Document Data Server via Guide URL. The tester will conduct a search on data quality assessments. Once the document(s) related to the search are returned, the tester will access the document(s).

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient,

DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case includes keywords “data quality assessments”

Test Output:

Outputs to this test case includes document(s) that are related to the selected science data quality assessments

Success Criteria:

This test is considered successful on two accounts: 1) the tester must be able to submit a search for the selected document and 2) the document must be successfully retrieved, from the repository.

Test Procedures:

Test Case ID: TS041.004	
Test Name: Receiving Reference Documentation	Comments
Test Steps:	
1. 1.Using a network browser, enter the URL for the ECS Document Data Sever home page	
2. Select the DDSRV Document Repository	
3. Verify that the DDSRV Document Repository is returned	
4. Select a “Reference Repository ”	
5. Select the “List” icon	This will list the ESDTs for selected repository
6. Verify that the Document Earth Science Data Types returns a list of documents	
7. Select “ View “	
8. Verify the DDSRV: Repository View is returned	
9. Verify that the Repository name is Reference Repository	
10. Select “Browse “	
11. Verify that the DDSRV: Repository Browse is returned	
12. Select Document ID	
13. Verify that the Text document is returned	S-DSS-10100
14. Exit the Text document	

4.10.1.5 Test Case 5: Bibliography Literature Documentation (TS041.005)

This test will illustrate the ability of the Document Data Server to receive bibliography information of published and unpublished literature derived from the ECS project. The tester will access the ECS Document Data Server via Guide URL. The tester will conduct a search on ECS

literature, then narrow the search to published literature. Once the document(s) are returned, the tester will conduct another search on ECS literature, then narrow the search to unpublished literature. Once the document(s) related to the search are returned, the tester will access the document(s).

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case include keywords - “ECS Unpublished”, and “Published”.

Test Output:

Outputs to this test case include ECS document(s) that are derived from the ECS project, that are published and unpublished

Success Criteria:

This test is considered successful when, the tester is able to submit a search for the selected literature and have the literature successfully retrieved from the repository. When the tester conducts a search on unpublished literature, the ECS Document Data Server, must only return literature that is derived from the project and the literature must be unpublished. When the tester conducts a search on published literature, the ECS Document Data Server, must only return literature that is derived from the project and must be published. Notification must be returned to the tester in a clear and meaningful error message if the documents can not be returned.

Test Procedures:

Test Case ID: TS041.005	
Test Name: Bibliography Literature Documentation	Comments
Test Steps:	
1. Logon to the workstation	
2. Open an xterm and use this term to start an Ingest GUI,	
3. Start Netscape in the xterm window	
4. Select “Open” button to open URL file	The URL dialog windows
5. Enter <**URL address>** for Ingest	
6. Select Open	
7. 7.Verify that the Interactive Ingest Main Form is returned	

8. Enter “lcooper” in the username field	
9. Enter the password in the password field	
10. Select “Submit Ingest Request” located at the bottom of the page	
11. Verify that the Submit Ingest Request home page is returned	
12. Select Bibliography Literature document from the Ingest directory listing	This DAN contains a Document Data Type Identifier.
13. Select submit located at the bottom of the page	
14. Verify that the Interactive Ingest Main form is returned	
15. Enter a data provider in the provider field	
16. Select “Submit Ingest Request”	
17. Select “Submit”	
18. Verify that the Submit Request home page is returned	
19. Select Bibliography Literature	
20. Select “Submit” located at the bottom of the page	
21. Verify “ Ingest Request On-going Status “ is returned	
22. Verify that the Bibliography Literature was accepted	This home page will indicate if the Bibliography Literature ingested was accepted
23. 23.Using a network browser, enter the URL for the ECS Document Data Sever home page	
24. Select the DDSRV Document Repository	
25. Verify that the DDSRV Document Repository is returned	
26. Select a “Reference Repository ”	
27. Select the “List” icon	This will list the Earth Science Data Types for selected repository
28. Verify that a list of documents are returned	
29. Select “ View “	
30. Verify the DDSRV: Repository View is returned	
31. Verify that the Repository name is Reference Repository	
32. Select “Browse “	
33. Verify that the DDSRV: Repository Browse is returned	
34. Select Document ID	
35. Verify that the document is returned	S-DSS-10110
36. Exit the document	
37.	

4.10.1.6 Test Case 6: Cross References Documentation (TS041.006)

This test will illustrate the ability of Document Data Server to provide a cross reference between differing studies of the same data. The tester will access the ECS Document Data Server via Guide URL. The tester will select a specific data subject, and conduct a search on that subject. Once various documents are returned, the documents will be accessed and each document and viewed.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case include document data server search criteria based on data subject.

Test Output:

Outputs to this test case include documents which satisfy the search criteria.

Success Criteria:

This test is considered successful when the tester is able to submit a search for the selected subject matter, and have the documents successfully retrieved from the repository. The ECS Document Data Server must return documents related to various studies of the subject matter, from the repository.

Test Procedures:

Test Case ID: TS041.006	
Test Name: Cross References Documentation	Comments
Test Steps:	
Log onto a workstation	
1. Open an xterm	
2. Create a directory named “Ingest”	
3. Enter “**vi editor”** at the command line	
4. Enter “**East Coast Water Status 1996 by Dr. Campbell**” and “**East Coast Status Water by Dr. Woodson 1996**	
5. Edit the vi editor and save the file as “Cross References”	This will save the file to an ASCII file
6. Open an xterm and use this term to start an Ingest GUI,	
7. Start Netscape in the xterm	
8. Select “Open” button to open URL file	The URL dialog windows
9. Enter <**URL address>** for Ingest	
10. Select Open	
11. 12. Verify that the Interactive Ingest Main Form is returned	
12. Enter “**lcooper**” in the user name field	
13. Enter the password in the password field	
14. Select “Submit Ingest Request” located at the bottom of the page	

15. Verify that the Submit Ingest Request home page is returned	
16. Select Cross References	This DAN contains a Document Data Type Identifier.
17. Select submit located at the bottom of the page	
18. Verify that the Interactive Ingest Main form is returned	
19. Enter a data provider in the provider field	
20. Select “Submit Ingest Request”	
21. Select “Submit”	
22. Verify that the Submit Request home page is returned	
23. Select Cross References	
24. Select “Submit” located at the bottom of the page	
25. Select “Interactive Ingest Main” located at the bottom of the page	
26. Select “View Ingest Request Completion Status”	
27. Select “Submit” located at the bottom of the page	
28. Verify that Cross References was accepted	
29. 30. Using a network browser, enter the URL for the ECS Document Data Sever home page:	
30. Select the DDSRV Document Repository	
31. Verify that the DDSRV Document Repository is returned	
32. Select “ View “	
33. Verify the DDSRV: Repository View is returned	
34. Select “Browse “	
35. Verify that the DDSRV: Repository Browse is returned	
36. Select Document ID	
37. Verify that the document is returned	S-DSS-10120
38. Exit the document	

4.10.1.7 Test Case 7: ECS Version 0 Guide Data (TS041.007)

This test will illustrate the ability of Document Data Server to receive Guide Data from the Version 0. The tester will access the ECS Document Data Server via Guide URL. The tester will view the documents in the Document Repositories installed in the Release A Document Data Server. The tester will view the contents, then conduct a search for the Guide repository. The tester will select and access a selective Guide document. Once the tester has accessed the document, he/she will view the document in the HTML and ASCII format.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case includes keywords related to ECS Version 0 Guide data-

Test Output:

Outputs to this test case includes documents which satisfy the search criteria.

Success Criteria:

This test is considered successful when, the tester is be able to submit a search for Guide data from the Version 0 IMS. Notification must be returned to the tester in a clear and meaningful error message if the documents can not be returned.

Test Procedures:

Test Case ID: TS041.007	
Test Name: ECS Version 0 Guide Documentation	Comments
Test Steps:	
1. Log onto a workstation	
2. Open an xterm	
3. Create a directory named Ingest	
4. Enter "**vi editor"** at the command line	
5. Enter "**ECS Version 0 Guide**"	
6. Edit the vi editor and save <file name>	This will save the file to an ASCII file
7. Open an xterm and use this term to start an Ingest GUI,	
8. On the HTML browser xterm run Netscape	The Netscape browser home page is displayed
9. Select "Open" button to open URL file	The URL dialog windows
10. Enter <**URL address>** for Ingest	
11. Select Open	
12. 12.Verify that the Interactive Ingest Main Form is returned	
13. Enter "**lcooper**" in the user name field	
14. Enter password in the password field	
15. Select "Submit Ingest Request" located at the bottom of the page	
16. Verify that the Submit Ingest Request home page is returned	
17. Select ECS Version 0 Guide	This DAN contains a Document Data Type Identifier.
18. Select submit located at the bottom of the page	
19. Verify that the Interactive Ingest Main form is returned	
20. Enter a data provider in the provider field	
21. Select "Submit Ingest Request"	
22. Select "Submit"	
23. Verify that the Submit Request home page is returned	
24. Select ECS Version 0 Guide	
25. Select "Submit" located at the bottom of the page	

26. Select “Interactive Ingest Main” located at the bottom of the page	
27. Select “View Ingest Request Completion Status”	
28. Select “Submit” located at the bottom of the page	
29. Verify that ECS Version 0 Guide was accepted	
30. 30.Using a network browser, enter the URL for the ECS Document Data Sever home page:	
31. Select the DDSRV Document Repository	
32. Verify that the DDSRV Document Repository is returned	
33. Select Guide Repository	
34. Select “ View “	
35. Verify the DDSRV: Repository View is returned	
36. Select “Browse “	
37. Verify that the DDSRV: Repository Browse is returned	
38. Select Document ID - Version 0	
39. Verify that the Text document is returned	S-DSS-10190 S-DSS-10220
40. Exit out of the document	
41. Select the HTML format	
42. Verify the document is returned with any embedded images	S-DSS-10190 S-DSS-10220
43. Exit the document	

4.10.1.8 Test Case 8: Quality Assessment of EOS DATA (TS041.008)

This test will illustrate the ability of Document Data Server to receive other documents relevant to quality assessment of EOS data. The tester will access the ECS Document Data Server via a Guide URL. The tester will conduct a search on quality assessment. Once the document(s) related to the search are returned, the tester will access the document(s).

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case include keyword “quality assessment”

Test Output:

Output to this test case include document(s) that are related to quality assessment of EOS data

Success Criteria:

This test is considered successful when the tester is able to submit a search for the documents related to the quality assessment of EOS Data. Notification must be returned to the tester in a clear and meaningful error message if the documents can not be returned.

Test Procedures:

Test Case ID: TS041.008	
Test Name: Quality Assessment of EOS DATA	Comments
Test Steps:	
1. Log onto a workstation	
2. Open an xterm	
3. Create a directory named Ingest	
4. Enter "**vi editor"** at the command line	
5. Enter "**Quality Assessment of EOS DATA**"	
6. Select the escape key, : w and q key, and enter Quality Assessment of EOS DATA as the file name	This will save the file to an ASCII file
7. Open an xterm and use this term to start an Ingest GUI,	
8. On the HTML browser xterm run Netscape	The Netscape browser home page is displayed
9. Select "Open" button to open URL file	The URL dialog windows
10. Enter <**URL address>** for Ingest	
11. Select Open	
12. 12.Verify that the Interactive Ingest Main Form is returned	
13. Enter "**lcooper**" in the username field	
14. Enter password in the password field	
15. Select "Submit Ingest Request" located at the bottom of the page	
16. Verify that the Submit Ingest Request home page is returned	
17. Select Quality Assessment of EOS DATA	This DAN contains a Document Data Type Identifier.
18. Select submit located at the bottom of the page	
19. Verify that the Interactive Ingest Main form is returned	
20. Enter a data provider in the provider field	
21. Select "Submit Ingest Request"	
22. Select "Submit"	
23. Verify that the Submit Request home page is returned	
24. Select Quality Assessment of EOS DATA	
25. Select "Submit" located at the bottom of the page	
26. Select "Interactive Ingest Main" located at the bottom of the page	
27. Select "View Ingest Request Completion Status"	

28. Select “Submit” located at the bottom of the page	
29. Verify that Quality Assessment of EOS DATA was accepted	
30. 30.Using a network browser, enter the URL for the ECS Document Data Sever home page:	
31. Select the DDSRV Document Repository	
32. Verify that the DDSRV Document Repository is returned	
33. Select Guide Repository	
34. Select “ View “	
35. Verify the DDSRV: Repository View is returned	
36. Select “Browse “	
37. Verify that the DDSRV: Repository Browse is returned	
38. Select Document ID	
39. Verify that the Text document is returned	S-DSS-10130
40. Exit the Text document	

4.10.1.9 Test Case 9: Data Set Documentation (TS041.009)

This test will illustrate the ability of Document Data Server to receive data describing format and media options and subsetting, subsampling, and transformation options available for a given data set. The tester will access the ECS Document Data Server via Guide URL. The tester will conduct a search on a selected data set. Once the data is returned, the tester will refine the search to search for description of format, media options, subsetting, subsampling, and transformation options available for the selected data set. Once the document(s) related to the search are returned, the tester will access the document(s).

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case include keyword documentation describing format, media, subsetting, subsampling, and transformation options for data sets

Test Output:

Output to this test case include document(s) that are related to the format and media subsetting, subsampling, and transformation options for selected data set

Success Criteria:

This test is considered successful when the tester is able to submit a search for the documents related to the format and media options for data sets. Any description of format, media options, subsetting, subsampling, and transformation options available for the data set selected, must be returned. Notification must be returned to the tester in a clear and meaningful error message messages if the documents can not be returned.

Test Procedures:

Test Case ID: TS041.009	
Test Name: Data Set Documentation	Comments
Test Steps:	
1. Log onto a workstation	
2. Open an xterm	
3. Create a directory named Ingest	
4. Enter "**vi editor"** at the command line	
5. Verify that the editor term is returned	
6. Select I	This will allow you to begin typing the text
7. Exit the vi editor and save the <file name>	This will save the file to an ASCII file
8. Open an xterm and use this term to start an Ingest GUI,	
9. On the HTML browser xterm run Netscape	The Netscape browser home page is displayed
10. Select "Open" button to open URL file	The URL dialog windows
11. Enter **<URL address>** for Ingest	
12. Select Open	
13. 13.Verify that the Interactive Ingest Main Form is returned	
14. Enter "**lcooper**" in the user name field	
15. Enter password in the password field	
16. Select "Submit Ingest Request" located at the bottom of the page	
17. Verify that the Submit Ingest Request home page is returned	
18. Select format and media options	This DAN contains a Document Data Type Identifier.
19. Select submit located at the bottom of the page	
20. Verify that the Interactive Ingest Main form is returned	
21. Enter a data provider in the provider field	
22. Select "Submit Ingest Request"	
23. Select "Submit"	
24. Verify that the Submit Request home page is returned	
25. Select format and media options	
26. Select "Submit" located at the bottom of the page	
27. Select "Interactive Ingest Main" located at the bottom of the page	
28. Select "View Ingest Request Completion Status"	
29. Select "Submit" located at the bottom of the page	
30. Verify that format and media options was accepted	
31. 31.Using a network browser, enter the URL for the ECS Document Data Sever home page:	

32. Select the DDSRV Document Repository	
33. Verify that the DDSRV Document Repository is returned	
34. Select DataCenter Repository	
35. Select " View "	
36. Verify the DDSRV: Repository View is returned	
37. Select "Browse "	
38. Verify that the DDSRV: Repository Browse is returned	
39. Select Document ID <file name>	
40. Verify that the Text document is returned	S-DSS-10180 S-DSS-10140
41. Exit the Text document	

4.10.1.10 Test Case 10: Spacecraft-housekeeping and Ancillary Data Parameters Documentation (TS041.010)

This test will illustrate the ability of the Document Data Server to receive information that describes spacecraft-housekeeping and Ancillary Data parameters stored in the Science Data Server. The tester will access the ECS Document Data Server via Guide URL. The tester will review the documents in the repositories installed in the Release A Document Data Server. The tester will view documents that describe spacecraft-housekeeping and documents that describe Ancillary data. The tester will select each and access each selective document.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case include keywords "spacecraft-housekeeping", and "ancillary data"

Test Output:

Outputs to this database include documents that are related to the selected spacecraft-housekeeping and ancillary data parameters

Success Criteria:

This test is considered successful when, the ECS Document Data Server is able to receive data that describes spacecraft-keeping and Ancillary data. Notification must be returned to the tester in a clear and meaningful error message if the documents can not be returned.

Test Procedures:

Test Case ID: TS041.010	
Test Name: Spacecraft-housekeeping and Ancillary Data parameters	Comments
Test Steps:	
1. Log onto a workstation	
2. Open an xterm	
3. Create a directory named Ingest	
4. Enter "**vi editor"** at the command line	
5. Enter "spacecraft-keeping and Ancillary data"	
6. Exit the vi editor and save the <file name>	This will save the file to an ASCII file
7. Open an xterm and use this term to start an Ingest GUI,	
8. On the HTML browser xterm run Netscape	The Netscape browser home page is displayed
9. Select "Open" button to open URL file	The URL dialog windows
10. Enter **<URL address>** for Ingest	
11. Select Open	
12. 12.Verify that the Interactive Ingest Main Form is returned	
13. Enter "**lcooper**" in the username field	
14. Enter password in the password field	
15. Select "Submit Ingest Request" located at the bottom of the page	
16. Verify that the Submit Ingest Request home page is returned	
17. Select spacecraft-keeping and Ancillary data	This DAN contains a Document Data Type Identifier.
18. Select submit located at the bottom of the page	
19. Verify that the Interactive Ingest Main form is returned	
20. Enter a data provider in the provider field	
21. Select "Submit Ingest Request"	
22. Select "Submit"	
23. Verify that the Submit Request home page is returned	
24. Select spacecraft-keeping and Ancillary data	
25. Select "Submit" located at the bottom of the page	
26. Select "Interactive Ingest Main" located at the bottom of the page	
27. Select "View Ingest Request Completion Status"	
28. Select "Submit" located at the bottom of the page	
29. Verify that spacecraft-keeping and Ancillary data was accepted	
30. 30.Using a network browser, enter the URL for the ECS Document Data Sever home page:	
31. Select the DDSRV Document Repository	

32. Verify that the DDSRV Document Repository is returned	
33. Select Instrument Repository	
34. Select " View "	
35. Verify the DDSRV: Repository View is returned	
36. Select "Browse "	
37. Verify that the DDSRV: Repository Browse is returned	
38. Select Document ID <file name>	
39. Verify that the Text document is returned	S-DSS-10210
40. Exit the Text document	

4.10.1.11 Test Case 11: Submittal of Documents (TS041.011)

This test will illustrate that the tester will have the ability to supply documents to the ECS Document Data Server in HTML and ASCII text format. The tester will access the ECS Document Data Server via Guide URL. The tester will select Request Management from the home page. The tester will submit a document to the Release A ECS Document Data Server, in HTML and ASCII format.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case include the title, priority level, component, service request, and requester of the document

Test Output:

Output to this test case include notification that the submittal request was received

Success Criteria:

This test is considered successful when, the tester is able to supply documents to the ECS Document Data Server in HTML and ASCII format. The tester must receive notification that his/her request was received, and the state is pending. Notification must be returned to the tester in a clear and meaningful error message if the documents can not be returned.

Test Procedures:

Test Case ID: TS041.011	
Test Name: Submittal of Documents	Comments
Test Steps:	
1. Log onto a workstation	
2. Open an xterm	
3. Create a directory named Ingest	
4. Enter "**vi editor"** at the command line	
5. Enter "**Document Submittal 1**"	
6. Exit the vi editor and save the file to "ECS VO"	This will save the file to an ASCII file
7. Open an xterm and use this term to start the Ingest GUI,	
8. Start Netscape in this xterm window	The Netscape browser home page is displayed
9. Select "Open" button to open URL file	The URL dialog windows
10. Enter **<URL address>** for Ingest	
11. Select Open	
12. 12.Verify that the Interactive Ingest Main Form is returned	
13. Enter "**lcooper**" in the username field	
14. Enter password in the password field	
15. Select "Submit Ingest Request" located at the bottom of the page	
16. Verify that the Submit Ingest Request home page is returned	
17. Select Document Submittal 1	This DAN contains a Document Data Type Identifier.
18. Select submit located at the bottom of the page	
19. Verify that the Interactive Ingest Main form is returned	
20. Enter a data provider in the provider field	
21. Select "Submit Ingest Request"	
22. Select "Submit"	
23. Verify that the Submit Request home page is returned	
24. Select Document Submittal 1	
25. Select "Submit" located at the bottom of the page	
26. Select "Interactive Ingest Main" located at the bottom of the page	
27. Select "View Ingest Request Completion Status"	
28. Select "Submit" located at the bottom of the page	
29. Verify that Document Submittal 1 was accepted	
30. 30.Using a network browser, enter the URL for the ECS Document Data Sever home page:	
31. Select the DDSRV Document Repository	
32. Verify that the DDSRV Document Repository is returned	
33. Select Data Center Repository	
34. Select " View "	
35. Verify the DDSRV: Repository View is returned	
36. Select "Browse "	
37. Verify that the DDSRV: Repository Browse is returned	
38. Select Document ID	

39. Verify that the Text document is returned	S-DSS-10170 S-DSS-10241
40. Exit the Text document	

4.10.1.12 Test Case 12: Instrument Specifications (TS041.012)

This test will illustrate that the ECS Document Data Sever will have the ability to receive instrument specifications. The tester will access the ECS Document Data Server via Guide URL. The tester will select Document Repository from the home page. The tester will select the repository that contains data concerning instrument specification. The tester will submit a request to view the data. The tester will refine the search criteria, to search for data concerning instrument specifications.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case include keyword “Instrument specifications”

Test Output:

Outputs to this database include documents that are related to instrument specification

Success Criteria:

This test is considered successful when, the ECS Document Data Server is able to able to return to the tester data concerning instrument specification. Notification must be returned to the tester in a clear and meaningful error message if the documents can not be returned.

Test Procedures:

Test Case ID: TS041.012	
Test Name: Instrument Specifications	Comments
Test Steps:	
1. Log onto a workstation	
2. Open an xterm	
3. Create a directory named Ingest	
4. Enter “**vi editor”** at the command line	
5. Enter “Instrument Specifications”	
6. Exit the vi editor and save the <file name>	This will save the file to an ASCII file

7. Open an xterm and use this term to start an Ingest GUI,	
8. On the HTML browser xterm run Netscape	The Netscape browser home page is displayed
9. Select “Open” button to open URL file	The URL dialog windows
10. Enter <**URL address>** for Ingest	
11. Select Open	
12. 12.Verify that the Interactive Ingest Main Form is returned	
13. Enter “**lcooper**” in the username field	
14. Enter password in the password field	
15. Select “Submit Ingest Request” located at the bottom of the page	
16. Verify that the Submit Ingest Request home page is returned	
17. Select Instrument Specifications	This DAN contains a Document Data Type Identifier.
18. Select submit located at the bottom of the page	
19. Verify that the Interactive Ingest Main form is returned	
20. Enter a data provider in the provider field	
21. Select “Submit Ingest Request”	
22. Select “Submit”	
23. Verify that the Submit Request home page is returned	
24. Select Instrument Specifications	
25. Select “Submit” located at the bottom of the page	
26. Select “Interactive Ingest Main” located at the bottom of the page	
27. Select “View Ingest Request Completion Status”	
28. Select “Submit” located at the bottom of the page	
29. Verify that Instrument Specifications was accepted	
30. 30.Using a network browser, enter the URL for the ECS Document Data Sever home page:	
31. Select the DDSRV Document Repository	
32. Verify that the DDSRV Document Repository is returned	
33. Select Instrument Repository	
34. Select “ View “	
35. Verify the DDSRV: Repository View is returned	
36. Select “Browse “ the list of documents	
37. Select Document ID	
38. Verify that the Text document is returned	S-DSS-10150
39. Exit the Text document	

4.10.1.13 Test Case 13: Production Plan Data (TS041.013)

This test will illustrate that the ECS Document Data Sever will have the ability to provide storage for production plan data. The tester will access the ECS Document Data Server via a Guide URL. The tester will select Document Repository from the home page. The tester will view the Document Earth Science Data Types. The tester will select and view Production from the repository.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case includes the title, priority level, component, service request, and requester of the document

Test Output:

Outputs to this database include documents that are related to production plan data

Success Criteria:

This test is considered successful when, the ECS Document Data Server is able to accept Production Planning data into the repository. The tester must be able to select and access the data. Notification must be returned to the tester in a clear and meaningful error message if the documents can not be returned.

Test Procedures:

Test Case ID: TS041.013	
Test Name: Production Plan Data	Comments
Test Steps:	
1. Log onto a workstation	
2. Open an xterm	
3. Create a directory named Ingest	
4. Enter "**vi editor"** at the command line	
5. Enter "Production Plan Data"	
6. Exit the vi editor and save the <file name>	This will save the file to an ASCII file
7. Enter "**vi editor"** at the command line	
8. Enter "PLANG Data"	
9. Exit the vi editor and save the <file name>	This will save the file to an ASCII file
10. Open an xterm and use this term to start an Ingest GUI,	
11. On the HTML browser xterm run Netscape	The Netscape browser home page is displayed
12. Select "Open" button to open URL file	The URL dialog windows
13. Enter <**URL address>** for Ingest	
14. Select Open	
15. 15.Verify that the Interactive Ingest Main Form is returned	

16. Enter "**lcooper**" in the username field	
17. Enter password in the password field	
18. Select "Submit Ingest Request" located at the bottom of the page	
19. Verify that the Submit Ingest Request home page is returned	
20. Select Production Plan Data	This DAN contains a Document Data Type Identifier.
21. Select submit located at the bottom of the page	
22. Verify that the Interactive Ingest Main form is returned	
23. Enter a data provider in the provider field	
24. Select "Submit Ingest Request"	
25. Select "Submit"	
26. Verify that the Submit Request home page is returned	
27. Select PLANG Data	
28. Select submit located at the bottom of the page	This DAN contains a Document Data Type Identifier.
29. Verify that the Interactive Ingest Main form is returned	
30. Enter a data provider in the provider field	
31. Select "Submit Ingest Request"	
32. Select "Submit"	
33. Verify that the Submit Request home page is returned	
34. Select Production Plan Data	
35. Select "Submit" located at the bottom of the page	
36. Select "Interactive Ingest Main" located at the bottom of the page	
37. Select "View Ingest Request Completion Status"	
38. Select "Submit" located at the bottom of the page	
39. Verify that Production Plan Data was accepted	
40. 39.Using a network browser, enter the URL for the ECS Document Data Sever home page:	
41. Select the DDSRV Document Repository	
42. Verify that the DDSRV Document Repository is returned	
43. Select Production Plan Data Repository	
44. Select " View "	
45. Verify the DDSRV: Repository View is returned	
46. Select "Browse "	
47. Verify that the DDSRV: Repository Browse is returned	
48. Select Document ID	
49. Verify that the document is returned	S-DSS-10238 S-DSS-10095
50. Exit the document	

4.10.1.14 Test Case 14: Observation Logs (TS041.014)

This test will illustrate that the ECS Document Data Sever will have the ability to receive summaries of data sets derived from observation logs. The tester will access the ECS Document Data Server via Guide URL. The tester will select Document Repository from the home page. The tester will view and access a Document Earth Science Data Type form the repository. After

viewing the data sets, the tester will conduct a search for summaries of data sets that had been derived from observation logs.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case includes data that related to summaries of data sets derived from observations logs

Test Output:

Outputs to this database includes documentation that was derived from observation logs

Success Criteria:

This test is considered successful when, the ECS Document Data Server is able to receive summaries of data sets derived from observation logs. Notification must be returned to the tester in a clear and meaningful error message if the documents can not be returned.

Test Procedures:

Test Case ID: TS041.014	
Test Name: Observation Logs	Comments
Test Steps:	
1. Log onto a workstation	
2. Open an xterm	
3. Create a directory named Ingest	
4. Enter "**vi editor"** at the command line	
5. Enter "**data that concerns with summaries of data sets derived from observations logs**"	
6. Exit the vi editor and save the <file name>	This will save the file to an ASCII file
7. Open an xterm and use this term to start an Ingest GUI,	
8. On the HTML browser xterm run Netscape	The Netscape browser home page is displayed
9. Select "Open" button to open URL file	The URL dialog windows
10. Enter **<URL address>** for Ingest	
11. Select Open	
12. 12.Verify that the Interactive Ingest Main Form is returned	

13. Enter "**lcooper**" in the username field	
14. Enter password in the password field	
15. Select "Submit Ingest Request" located at the bottom of the page	
16. Verify that the Submit Ingest Request home page is returned	
17. Select Observation Logs	This DAN contains a Document Data Type Identifier.
18. Select submit located at the bottom of the page	
19. Verify that the Interactive Ingest Main form is returned	
20. Enter a data provider in the provider field	
21. Select "Submit Ingest Request"	
22. Select "Submit"	
23. Verify that the Submit Request home page is returned	
24. Select Observation Logs	
25. Select "Submit" located at the bottom of the page	
26. Select "Interactive Ingest Main" located at the bottom of the page	
27. Select "View Ingest Request Completion Status"	
28. Select "Submit" located at the bottom of the page	
29. Verify that Observation Logs was accepted	
30. 30.Using a network browser, enter the URL for the ECS Document Data Sever home page:	
31. Select the DDSRV Document Repository	
32. Verify that the DDSRV Document Repository is returned	
33. Select Data Center Repository	
34. Select " View "	
35. Verify the DDSRV: Repository View is returned	
36. Select "Browse "	
37. Verify that the DDSRV: Repository Browse is returned	
38. Select Document ID <file name>	
39. Verify that the Text document is returned	S-DSS-10160
40. Exit the Text document	

4.10.1.15 Test Case 15: Add, Delete, or Modify (TS041.015)

This test will illustrate that the tester will have the ability to add, delete, individual and groups of ECS Metadata. The tester will access the ECS Document Data Server via Guide URL. The tester will select Document Repository from the home page. The tester will view a document from the repository. After viewing the document, the tester will delete a document from the repository. After deleting the document, the tester will add a document back to the repository. Once the document is added, the tester will modify the title.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient,

DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case includes the title, priority level, component, service request, and requester of the document.

Test Output:

Outputs to this test case includes notification that a document was added, deleted or modified

Success Criteria:

This test is considered successful when, the tester is able to add, delete and modify individual or groups of metadata entries from the document repository. Notification must be returned to the tester in a clear and meaningful error message if the function can not be conducted

Test Procedures:

Test Case ID: TS041.015	
Test Name: Add, Delete or Modify	Comments
Test Steps:	
1. 1.Using a network browser, enter the URL for the ECS Document Data Sever home page:	
2. Select the Document Earth Science Data Type Repository	
3. Select “delete a document”	
4. Verify that the delete a document home page is returned	
5. Delete the ECS Metadata entry	S-DSS-10051
6. Select submit located at the bottom of the page	
7. Select Update located at the bottom of the page	
8. Verify Update a document home page is returned	
9. Update the version number to 2.0	S-DSS-10051
10. Select submit	
11. Verify the ECS Metadata entries document was updated	
12. Select add a document	S-DSS-10051
13. Verify add a document home page is returned	
14. Enter “ECS 1” in the title	
15. Enter 1.0 in the version”	
16. Enter “this is a test” in the description	
17. Select submit located at the bottom of the page	
18. Select ECS Document Data Server home page located at the bottom of the page	

4.10.1.16 Test Case 16: System Error or Fault Notification (TS041.016)

This test demonstrates the ability of the DDSRV to return appropriate error messages to the operations staff involving system errors or faults. Two methods will be used to create a system error: a. disabling the Document Data Servers access to the DBMS and b. Renaming a required data file. The user will log onto a browser and access the Document Data Server. Once the Document Data Server is accessed, the tester will attempt to search and retrieve a document while the database is not operating. The tester will also change the name of a file that the server must use in order to access documents. The tester will than attempt to access documents from the Document Data Server.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case includes the guide document filename.

Test Output:

Output to this test case include appropriate error messages resulting from the system error.

Success Criteria:

This test is considered successful if the operations staff is properly notified that a system error exists.

Test Procedures:

Test Case ID: TS041.016	
Test Name: System Error or Fault Notification	
Test Steps:	Comments:
1. Login to the DDSRV server machine. Determine the process id for the Document Data Server application and execute the Unix "kill" command to stop the server.	The Unix "ps" command may be used to determine the process id.
2. Enter the following command to change the value of the DBNAME environment variable: "setenv DBNAME xxx"	The DBNAME variable is used to tell the Document Data Server which data base to use. Changing this value will disable access to the database.
3. Restart the Document Data Server and minimize the xterm window.	

4. Using a network browser, enter the URL for the Document Data Server	
5. Verify the Document Data Server HTML Home Page appears	
6. Select the document search button	
7. Verify the search screen is returned	
8. Enter "**RADIANCE**" in the search parameters	
9. Select the Execute Search button	
10. Verify an appropriate error is returned stating that there is no database connection	S-DSS-10184
11. Return to the Document Data Server home page	
12. Exit the browser	
13. Open the server xterm window. Determine the process id for the Document Data Server application and execute the Unix "kill" command to stop the server.	This xterm window was minimized in a previous step. It is the same window in which the server was started.
14. Reset the DBNAME environment variable to the correct database name	
15. Restart the Document Data Server and minimize the xterm window.	
16. Open an xterm window	
17. Access the Document Data Server directory	
18. Change the name of a required data file	The data file will be selected during the testing phase.
19. Exit the xterm window	
20. 20. Using a network browser, enter the URL for the Document Data Server	
21. Select the search button	
22. Enter "**RADIANCE**" in the search criteria field	
23. Verify that an appropriate error message was initiated on the Operations Console.	S-DSS-10184 S-DSS-00849

4.10.1.17 Test Case 17: Management Directives (TS041.017)

This test case will demonstrate that the ECS Document Data Server will have the capability to receive management directives when the client is shutdown.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest,, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Input to this test case include shutting down the ECS Document Data Server

Test Outputs:

Output to this test case include notification that the ECS Document Data Server is down

Success Criteria:

This test is considered successful if the tester is able to shutdown the ECS Document Data Server. The tester will be able to utilize OpenView, and verify that the ECS Document system that has been shutdown

Test Procedures:

Test Case ID: TS041.017	
Test Name: Management Directives	
Test Steps:	Comments:
1. Using a network browser, enter the URL for the ECS Document Data Sever home page	
2. 2.Shut down the ECS Document Server	
3. Log onto <**client name**>	
4. Initialize HP OpenView by ennnnnddtering: **ovw &**	HP OpenView B.04.00 should come up and run in the background.
5. Verify that a map depiction of the network is accurately displayed.	
6. Verify that the ECS Document Data Server machine is visible	
7. Verify the ECS Document Data Server status condition.	
8. Verify that the OpenView is showing that ECS Document Data Server is down	
9. Bring the ECS Document Data Server back on line	S-DSS-10292

4.10.1.18 Test Case 18: Document Ordering (TS041.018)

This test demonstrates the ability of the tester to order documents from the ECS Document Data Server repository. The tester will submit a request to receive specific data file(s) from the repository. Once the document is returned, the user will browse through available listings of documents and select specific documents for review.

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case include selected documents based on the search parameters

Test Outputs:

Outputs to this test case includes documents which the search criteria parameters

Success Criteria:

This test is considered successful if the tester is able to order the document, and have the document supplied to them. The document will return in PDF, RTF, and/or PostScript format with any embedded images, or in Text format. The formats must be readable and must correspond to the selected browse listing or the keywords used for searching.

Test Procedures:

Test Case ID: TS041.018	
Test Name: Document Ordering	
Test Steps:	Comments:
1. Logon to the workstation	
2. Open an xterm and access the “document ordering form	
3. Verify that the form is return	
4. Enter <**data title**> in the title field	
5. Enter <**description**>in the description field	
6. Select submit	
7. Verify that the request was submitted	
8. Verify that the specified is returned	S-DSS-10290

4.10.2 Release A Search and Order Tool Thread (TS042)

The Release A Search and Order Tool thread verifies the capabilities of accessing information and metadata through Directory, Guide, and Inventory searches. Directory search provides brief concise high-level information about data from any point in the system. Guide Search provides detailed description about data sets, platforms, sensors, projects, and data centers in hypertext documents. Inventory search provides description of specific observations or collection of observations of data (granules) that are available for request from a data archive. Order Data allows users to view information pertaining to orderable data products, then construct a request which is forwarded to the relevant archive for order processing. The functionality's that will be tested in phase 3 include:

- The ability to perform searches (Directory, Guide, and Inventory).
- The ability to add, delete, and modify search criteria.
- The ability to order data products.
- The ability to search for phrase, exact word, and string matches.
- The ability to browse data for data selection.

- The ability to view a graphical coverage map.

4.10.2.1 Test Case 1: Directory, Guide, and Inventory Search (TS042.001)

This test demonstrates the ability to perform Directory, Guide, and Inventory Search using the Release A Search and Order Tool. Directory search provides brief concise high-level information about data from any point in the system. Guide Search provides detailed description about data sets, platforms, sensors, projects, and data centers in hypertext documents. Inventory search provides description of specific observations or collection of observations of data (granules) that are available for request from a data archive.

Test Configuration:

Hardware: CLHW, DDSHW, DMGHW, DRPHW

Software: DmGwDirectoryQuery,DmGwDirectoryResult,DmGwQuery, StringVec,DmGwDataValue,DmGwDatatime,DmGwDirectoryRequest, DmGwErrorResult,DmGwODLAggregate,DmGwODLNonAggregate, DmGwODLParameter,DmGwODLTree,DmGwQuit, DmGwRSTAggregate,DmGwRSTNonAggregate,DmGwSpatial, DmGwTemportal,DmGwUserInfo,DmGwV0ECSMapper, DmGwV0Request,DmGwInvESDTReference,DmGwInvQuery,DmGwInvRequests,DmGwInvSearchRequest

Data: Global Change Master Directory (GCMD), Inventory Data, Guide Documents

Tools: XRunner

Test Input:

Inputs to this test case consist of guide, directory and inventory search criteria.

Test Output:

The requested level of information (Directory, Guide, Inventory) is obtained and displayed to the user.

Success Criteria:

This test is considered successful if the requested level of information (Directory, Guide, Inventory) is obtained and displayed to the user.

Test Procedures:

Test Case ID: TS042.001	
Test Name: Directory, Guide, and Inventory Search	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Open an xterm window and start the V0 client by entering an execution script on the command line.	

3. The Release A Search and Order Tool V0 Welcome screen is displayed.	
4. Move the cursor to the menu bar at the top of the screen .	
5. Click on the menu bar option Go To.	
6. A pull down menu is displayed, select the User Profile option.	
7. The User Profile screen is displayed.	
8. Enter your user profile information.	
9. Then click on the Save button at the bottom of the screen.	
10. A dialog box pops up, select the OK button to save your user profile information.	
11. Then click on the Close button at the bottom of the screen.	
12. This brings you back to the Welcome screen.	
13. Move the cursor to the menu bar at the top of the screen .	
14. Click on the menu bar option Go To	
15. A pull down menu is displayed, select the Search Screen option.	
16. The Search Screen is displayed.	
17. Enter the search criteria on the screen.	
18. Execute the search by selecting the "Execute Search" button at the bottom of the screen.	
19. Verify the "Communication Status" window is displayed on the workstation. Verify the search is executing by observing the status on the "Communication Status" window.	
20. When the search is completed note the number of granules reported on the "Communication Status" window.	
21. Select the "Data" button for ECS data.	
22. Verify the "Directory Results Screen" appears on the workstation screen.	
23. Verify the directory search results match the search criteria selected.	CLS-10015
24. Select the "Count" button to the left of the first dataset displayed.	
25. Select "Detail Directory" at the bottom of the Directory Results Screen.	
26. Observe the Information pertaining to the selected data set.	
27. Click on the Close button at the bottom of the Detail Directory and Directory Results screens. The Directory Search Communication Status screen will be displayed.	
28. Click on the Close button at the bottom of the Directory Search Communication Status Screen. GoTo the Search Screen.	
29. Select the Guide type Search.	
30. Use the Screen Functions menu to select Clear Form.	

31. Select the YES button on the "Do you really want to clear the search message?" dialog box.	
32. Select the Source/Platform List button	
33. Select a Source/Platform and click on the Add button. Click on the OK button at the bottom of the screen.	
34. Click on the Execute Search button at the bottom of the Search screen.	
35. Observe the list of Guide documents.	
36. Select the Close button at the bottom of the screen. The Search Screen is displayed.	
37. Select the Text String field and type in a Source/Platform.	
38. Select the Execute Search button at the bottom of the screen. See if the list of Guide documents has expanded to a longer list.	
39. Select the Close button at the bottom of the screen. The Search screen is displayed.	
40. Select the Screen functions menu; select Clear Form. Select Yes in the dialog box asking Do you really want to clear the search.	
41. Select Inventory type Search.	
42. Select the Parameters List button	
43. Select the Parameters of your choice.	
44. Select the OK button at the bottom of the screen.	
45. Select the number of Granules returned for each dataset field.	
46. Reduce the number of Granules returned to 10 (from the default value of 100).	
47. Clear the Dataset ID field (if it has anything in it).	
48. Select the Geographic Information area by clicking on the None button in the upper right corner of the screen (a menu will appear).	
49. Select Point.	
50. Enter a Latitude and a Longitude.	
51. Click on the Execute Search button at the bottom of the screen. If asked "Do you wish to save previous results?", Click on the No button.	
52. Once the search has completed, select the Data button in the EDC row. The Inventory Results screen will be displayed.	
53. Select a Latitude and a Longitude with a Start Date and Time by clicking on the granule.	
54. Mark the granule for Integrated Browse, Detail Info., Coverage, and Order by clicking in the marking area in the right side of the screen.	
55. Select the Selection List button at the bottom of the screen.	
56. Observe the granule you selected.	
57. Click on the Inventory Results button at the bottom of the screen.	
58. Go to Detailed Information for Granules. The Detailed Inventory Results screen will be displayed.	

59. Observe the detailed granule information for the granule and select the Close button at the bottom of the screen. The Inventory Results screen will be displayed.	
60. Click on the Close button at the bottom of the screen.	
61. Click on the YES button at the "Do you wish to exit" dialog box.	

4.10.2.2 Test Case 2: Add, Delete, and Modify Search Criteria (TS042.002)

This test demonstrates the ability to Add, Delete, and Modify Search Criteria using the Release A Search and Order Tool. The user will be allowed to refine and resubmit a Search Request.

Test Configuration:

Hardware: CLHW, DDSHW, DMGHW, DRPHW

Software: DmGwDirectoryQuery,DmGwDirectoryResult,DmGwQuery, StringVec,DmGwDataValue,DmGwDatatime,DmGwDirectoryRequest, DmGwErrorResult,DmGwODLAggregate,DmGwODLNonAggregate, DmGwODLParameter,DmGwODLTree,DmGwQuit, DmGwRSTAggregate,DmGwRSTNonAggregate,DmGwSpatial, DmGwTemportal,DmGwUserInfo,DmGwV0ECSMapper, DmGwV0Request

Data: Global Change Master Directory (GCMD), Inventory Data, Guide Documents

Tools: Xrunner

Test Input:

Inputs to this test case include modified guide, directory and search criteria.

Test Output:

The user is able to add, delete, and modify the search criteria before resubmitting.

Success Criteria:

This test is considered successful if the user is able to add, delete, and modify the search criteria before resubmitting.

Test Procedures:

Test Case ID: TS042.002	
Test Name: Add, Delete, and Modify Search Criteria	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Open an xterm window and start the V0 client by entering an execution script on the command line.	
3. The Release A Search and Order Tool V0 Welcome screen is displayed.	

4. Move the cursor to the menu bar at the top of the screen .	
5. Click on the menu bar option Go To.	
6. A pull down menu is displayed, select the User Profile option.	
7. The User Profile screen is displayed.	
8. Enter your user profile information.	
9. Then click on the Save button at the bottom of the screen.	
10. A dialog box pops up, select the OK button to save your user profile information.	
11. Then click on the Close button at the bottom of the screen.	
12. This brings you back to the Welcome screen.	
13. Move the cursor to the menu bar at the top of the screen .	
14. Click on the menu bar option Go To	
15. A pull down menu is displayed, select the Search Screen option.	
16. The Search Screen is displayed.	
17. Enter the search criteria on the screen.	
18. Execute the search by selecting the "Execute Search" button at the bottom of the screen.	
19. Verify the "Communication Status" window is displayed on the workstation. Verify the search is executing by observing the status on the "Communication Status" window.	
20. When the search is completed note the number of granules reported on the "Communication Status" window.	
21. Add additional search criteria, Delete some of the search criteria, or Modify the search criteria.	CLS-10020
22. Repeat steps 18 thru 20.	
23. Click on the Close button at the bottom of the screen.	
24. Click on the YES button at the "Do you wish to exit" dialog box.	

4.10.2.3 Test Case 3: Order Data Products (TS042.003)

This test demonstrates the ability to order data products using the Release A Search and Order Tool. Order Data allows users to view information pertaining to data products which may be ordered, and then construct a request which is forwarded to the relevant archive for order processing.

Test Configuration:

Hardware: CLHW, DDSHW, DMGHW, DRPHW

Software: DmGwDirectoryQuery,DmGwDirectoryResult,DmGwQuery, StringVec,DmGwDataValue,DmGwDatatime,DmGwDirectoryRequest, DmGwErrorResult,DmGwODLAggregate,DmGwODLNonAggregate, DmGwODLParameter,DmGwODLTree,DmGwQuit,

DmGwRSTAggregate,DmGwRSTNonAggregate,DmGwSpatial, DmGwTemportal,DmGwUserInfo,DmGwV0ECSMapper, DmGwV0Request

Data: Inventory Data, data granules

Tools: XRunner

Test Input:

Inputs to this test case include selection criteria for data products to be ordered.

Test Output:

The selected data products are ordered for the user.

Success Criteria:

This test is considered successful if the user is able select the data products to order by clicking in the O column (for order).

Test Procedures:

Test Case ID: TS042.003	
Test Name: Order Data Products	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Open an xterm window and start the V0 client by entering an execution script on the command line.	
3. The Release A Search and Order Tool V0 Welcome screen is displayed.	
4. Move the cursor to the menu bar at the top of the screen .	
5. Click on the menu bar option Go To.	
6. A pull down menu is displayed, select the User Profile option.	
7. The User Profile screen is displayed.	
8. Enter your user profile information.	
9. Then click on the Save button at the bottom of the screen.	
10. A dialog box pops up, select the OK button to save your user profile information.	
11. Then click on the Close button at the bottom of the screen.	
12. This brings you back to the Welcome screen.	
13. Move the cursor to the menu bar at the top of the screen .	
14. Click on the menu bar option Go To	
15. A pull down menu is displayed, select the Search Screen option.	
16. The Search Screen is displayed.	
17. Enter the search criteria on the screen.	
18. Execute the search by selecting the "Execute Search" button at the bottom of the screen.	

19. Inventory Results will be returned.	
20. Mark the desired data granules for order by clicking in the O column.	CLS-10050
21. Using the Go To menu choose Order Data.	
22. Select packaging options and submit the order.	

4.10.2.4 Test Case 4: Phrase, Exact Word, and String Matching (TS042.004)

This test demonstrates the ability to perform Phrase, Exact Word, and String matching criteria for query of alpha-numeric non-geographic Metadata.

Test Configuration:

Hardware: CLHW, DDSHW, DMGHW, DRPHW

Software: DmGwDirectoryQuery,DmGwDirectoryResult,DmGwQuery, StringVec,DmGwDataValue,DmGwDatatime,DmGwDirectoryRequest, DmGwErrorResult,DmGwODLAggregate,DmGwODLNonAggregate, DmGwODLParameter,DmGwODLTree,DmGwQuit, DmGwRSTAggregate,DmGwRSTNonAggregate,DmGwSpatial, DmGwTemportal,DmGwUserInfo,DmGwV0ECSMapper, DmGwV0Request,DmGwInvESDTReference,DmGwInvQuery,DmGwInvRequests,DmGwInvSearchRequest

Data: Valid list of selection parameters

Tools: XRunner

Test Input:

Inputs to this test case include text entry for phrase, exact word, or string matching.

Test Output:

The phrase, exact word, or a string are searched for and returned.

Success Criteria:

This test is considered successful if the phrase, exact word, or a string is searched for and returned.

Test Procedures:

Test Case ID: TS042.004	
Test Name: Phrase, Exact Word, and String Matching	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Open an xterm window and start the V0 client by entering an execution script on the command line.	
3. The Release A Search and Order Tool V0 Welcome screen is displayed.	

4. Move the cursor to the menu bar at the top of the screen .	
5. Click on the menu bar option Go To.	
6. A pull down menu is displayed, select the User Profile option.	
7. The User Profile screen is displayed.	
8. Enter your user profile information.	
9. Then click on the Save button at the bottom of the screen.	
10. A dialog box pops up, select the OK button to save your user profile information.	
11. Then click on the Close button at the bottom of the screen.	
12. This brings you back to the Welcome screen.	
13. Move the cursor to the menu bar at the top of the screen .	
14. Click on the menu bar option Go To	
15. A pull down menu is displayed, select the Search Screen option.	
16. The Search Screen is displayed.	
17. Click on Search Type Guide in order to do Exact Word matching.	
18. Enter a Exact Word in the Text String field to search for.	CLS-10110
19. Click on the push button "Execute Search".	
20. The search is completed and all matches of the Exact Word are returned on the screen.	
21. Next search for a String.	
22. Any Search Type(Directory, Inventory, or Guide) can be used.	
23. Click on List option next to one of the entry fields.	
24. A Valids List screen is displayed.	
25. At the bottom left of the screen is a free text field, enter the String to search for .	CLS-10120
26. Click on the OK button to conduct the search.	
27. The search is completed and all matches of the String are returned on the screen.	
28. Next search for a Phrase	
29. Any Search Type(Directory, Inventory, or Guide) can be used.	
30. Click on List option next to one of the entry fields.	
31. Valids List screen is displayed.	
32. At the bottom left of the screen is a free text field, enter the Phrase to search for .	CLS-10100
33. Click on the OK button to conduct the search.	
34. The search is completed and all matches of the Phrase are returned on the screen.	

4.10.2.5 Test Case 5: Geographical Coverage Map (TS042.005)

This test demonstrates the ability to display a Geographical Coverage Map for Selected data. The Geographical Coverage Map is a two-dimensional graphical representation of the geographic coverage of selected inventory granules, it displays the earth in an orthographic projection.

Test Configuration:

Hardware: CLHW, DDSHW, DMGHW, DRPHW

Software: DmGwDirectoryQuery,DmGwDirectoryResult,DmGwQuery, StringVec,DmGwDataValue,DmGwDatatime,DmGwDirectoryRequest, DmGwErrorResult,DmGwODLAggregate,DmGwODLNonAggregate, DmGwODLParameter,DmGwODLTree,DmGwQuit, DmGwRSTAggregate,DmGwRSTNonAggregate,DmGwSpatial, DmGwTemportal,DmGwUserInfo,DmGwV0ECSMapper, DmGwV0Request

Data: Inventory data, Coverage map data

Tools: XRunner

Test Input:

Inputs to this test case include inventory search criteria and selection of the geographical coverage map.

Test Output:

Displays a geographical coverage map for the selected data.

Success Criteria:

This test is considered successful if the selected data is displayed as a geographical coverage map.

Test Procedures:

Test Case ID: TS042.005	
Test Name: Geographical Coverage Map	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Open an xterm window and start the V0 client by entering an execution script on the command line.	
3. The Release A Search and Order Tool V0 Welcome screen is displayed.	
4. Move the cursor to the menu bar at the top of the screen .	
5. Click on the menu bar option Go To.	
6. A pull down menu is displayed, select the User Profile option.	
7. The User Profile screen is displayed.	
8. Enter your user profile information.	

9. Then click on the Save button at the bottom of the screen.	
10. A dialog box pops up, select the OK button to save your user profile information.	
11. Then click on the Close button at the bottom of the screen.	
12. This brings you back to the Welcome screen.	
13. Move the cursor to the menu bar at the top of the screen .	
14. Click on the menu bar option Go To	
15. A pull down menu is displayed, select the Search Screen option.	
16. The Search Screen is displayed.	
17. Enter the search criteria on the screen.	
18. Execute the search by selecting the "Execute Search" button at the bottom of the screen.	
19. Inventory Results will be returned.	
20. Select the inventory granules to display in a two-dimensional graphical map.	CLS-10040
21. From the menu bar select option Go To and from the pull down menu select option Coverage Map.	
22. The Coverage Map screen will be displayed.	
23. The user can then select the various options (Pan, Zoom, Select, Cycle, Mark, and Choose) to enhance the coverage map.	CLS-10060
24. Select the Close button at the bottom of the screen to exit the Coverage Map screen.	

4.10.2.6 Test Case 6: Browse Data (TS042.006)

This test demonstrates the ability to Browse Data for data selection. Browse function allows a user to locate and retrieve reduced resolution images as an aid to data selection.

Test Configuration:

Hardware: CLHW, DDSHW, DMGHW, DRPHW

Software: DmGwDirectoryQuery,DmGwDirectoryResult,DmGwQuery, StringVec,DmGwDataValue,DmGwDatatime,DmGwDirectoryRequest, DmGwErrorResult,DmGwODLAggregate,DmGwODLNonAggregate, DmGwODLParameter,DmGwODLTree,DmGwQuit, DmGwRSTAggregate,DmGwRSTNonAggregate,DmGwSpatial, DmGwTemportal,DmGwUserInfo,DmGwV0ECSMapper, DmGwV0Request

Data: HDF Browse Files, Inventory data

Tools: XRunner

Test Input:

Inputs to this test case include inventory search criteria and selection of available browse products.

Test Output:

The integrated browse screen displays the selected browse image.

Success Criteria:

This test is considered successful if the integrated browse screen displays the selected browse image.

Test Procedures:

Test Case ID: TS042.006	
Test Name: Browse Data	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Open an xterm window and start the V0 client by entering an execution script on the command line.	
3. The Release A Search and Order Tool V0 Welcome screen is displayed.	
4. Move the cursor to the menu bar at the top of the screen .	
5. Click on the menu bar option Go To.	
6. A pull down menu is displayed, select the User Profile option.	
7. The User Profile screen is displayed.	
8. Enter your user profile information.	
9. Then click on the Save button at the bottom of the screen.	
10. A dialog box pops up, select the OK button to save your user profile information.	
11. Then click on the Close button at the bottom of the screen.	
12. This brings you back to the Welcome screen.	
13. Move the cursor to the menu bar at the top of the screen .	
14. Click on the menu bar option Go To	
15. A pull down menu is displayed, select the Search Screen option.	
16. The Search Screen is displayed.	
17. Enter the search criteria on the screen.	
18. Execute the search by selecting the "Execute Search" button at the bottom of the screen.	
19. Inventory Results will be returned.	
20. Select the granules to be browsed.	
21. From the menu bar select option Go To and from the pull down menu select option Browse.	
22. The Browse screen will be displayed.	
23. Pan and Zoom the image, adjust the contrast.	
24. Display a description of the image and a legend, using the buttons at the bottom of the screen.	CLS-10030

25. Mark for Order if you want to order the data. Delete from results list if you want to delete the data.	
26. Select the Close button at the bottom of the screen to exit the Browse screen.	

4.10.3 EOSView Thread (TS043)

The EOSView thread demonstrates the data visualization capabilities available in support of viewing data. EOSView is the data visualization tool kit developed for viewing and verification of the HDF-EOS data files. EOSView capabilities include the ability to display 8-bit and 24 bit raster images, display multidimensional data sets, zooming and panning of displayed images, animation of browse images and the capability to select different color palettes.

4.10.3.1 Test Case 1: Raster Image Display (TS043.001)

This test demonstrates the ability to display 8 bit and 24 bit raster images using EOSView. The client shall provide the capability of zooming and panning pseudo color visualizations of data. and raster images.

Test Configuration:

Hardware: Workstation

Software: EOSView

Data: Selected 8/24 bit raster images as supplied by each DAAC

Tools: Xrunner

Test Input:

Inputs to this test include 8 bit and 24 bit raster images, and application commands to zoom and pan the raster image.

Test Output:

Correct display of the selected image.

Success Criteria:

This test is considered successful if the 8 bit and 24 bit image files are properly displayed using EOSView. The zoom features must allow users to magnify the image up to the maximum zoom ratio and return to the default zoom ratio without changing the image. The pan feature must also function properly, allowing users to view specific areas of interest.

Test Procedures:

Test Case ID: TS043.001	
Test Name: EOSView Raster Image Display	
Test Steps:	Comments:
1. Log on to workstation and execute EOSView. **EOSView &**	EOSView main window will display.
2. Select **File** from the EOSView main window menu bar. Select **Open** from the pulldown.	A file selection window will display.
3. Find and select a known 8 bit or 24 bit raster image.	S-CLS-10370 IMS-0690 (partial) Browse information received from the raster image will be displayed within an new EOSView popup window in a textual format.
4. Double click on "**Image**" line within window.	S-CLS-10330 (for 8-bit raster image) S-CLS-10340 (for 24-bit raster image) IMS-1530 (partial) The "**EOSView - Image Display Window**" will popup and the raster image will be displayed within the window.
5. Using **Zoom** features of **Image Display Window**, click on **Zoom In** and verify image display capabilities. Zoom in as far as possible and record the zoom factor.	Image will increase in magnification.
6. Using the **Pan Window** and mouse pointer, **Click** in different areas within the **Pan window** image.	S-CLS-10450 (Panning capabilities) IMS-1550 (partial) Verify the full image displays information within the panned region.
7. Using **Zoom** features of **Image Display Window**, click on **Zoom Out** and verify image display capabilities. Zoom out to original, zoom factor 1. Verify image has not changed in form or display.	S-CLS-10450 (Zooming capabilities) IMS-1550 (partial) The image will zoom out, and display according to zoom factor.
8. Select **Palette** from the **Image Animation Window** menu bar. Select **Select**, and iterate through color palette options. **Default, Greyscale, Antarctica, Rainbow, World Colors.**	S-CLS-10420 IMS-1550 (partial) Verifies ability to select different color palette options for image.
9. Perform above steps for both 8 bit and 24 bit raster images.	
10. Select **File** from the EOSView main window menu bar, and **Exit**.	Exits all EOSView windows.

4.10.3.2 Test Case 2: Array Data Display (TS043.002)

This test demonstrates the ability to display ECS supported visualization data using EOSView. The test will verify that ECS supported visualization data may be displayed as a two-dimensional color scatter plot and as a pseudo color image. The pan and zoom features will also be tested for each image displayed.

Test Configuration:

Hardware: workstation

Software: EOSView

Data: Non-hdf data image files.

Tools: N/A

Test Input:

Inputs to this test include 2D array data sets, application commands to view the data as color scatter plots and images, and pan and zoom the image displays.

Test Output:

Outputs to this test include color scatter plots and pseudo color images of the data sets.

Success Criteria:

The test is considered successful when EOSView displays two-dimensional color scatter plot, two-dimensional data arrays as pseudo color image, and allows pan and zoom of the displays.

Test Procedures:

Test Case ID: TS043.002	
Test Name: EOSView Array Data Display	
Test Steps:	Comments:
1. Log on to workstation and execute EOSView. **EOSView &**	EOSView main window will display.
2. Select **File** from the EOSView main window menu bar. Select **Open** from the pulldown.	A file selection window will display.
3. Find and select a non-hdf data file.	S-CLS-10370 IMS-0690 Browse information received from the data file will be displayed within an new EOSView popup window in a textual format.
4. Depending on type of data file, click on **Numeric Data Group, Vgroup, or Vdata.**	S-CLS-10360 IMS-0690 Vgroup and Vdata, will popup a window showing data in table format. Numeric Data Group information will display another window, click on **Table** to display the data in table format.
5. If Vdata, from table select **File** from the menu bar, then **Plot**. A Color scatter plot of the data will be displayed.	S-CLS-10410 IMS-1540 (partial)
6. If Numeric Data Group, from table window, select **File** from the menu bar, then **Make Image**. The information will be displayed as a pseudo color image.	S-CLS-10430 IMS-1540 (partial)
7. Using **Zoom** features of **Image Display Window**, click on **Zoom In** and verify image display capabilities. Zoom in as far as possible and record the zoom factor.	Image will increase in magnification.
8. Using the **Pan Window** and mouse pointer, **Click** in different areas within the **Pan window** image.	S-CLS-10440 (Panning capabilities) IMS-1550 (partial) Verify the full image displays information within the panned region.

9. Using **Zoom** features of **Image Display Window**, click on **Zoom Out** and verify image display capabilities. Zoom out to original, zoom factor 1. Verify image has not changed in form or display.	S-CLS-10440 (Zooming capabilities) IMS-1550 (partial) The image will zoom out, and display according to zoom factor.
10. Select **Palette** from the **Image Animation Window** menu bar. Select **Select**, and iterate through color palette options. **Default, Greyscale, Antarctica, Rainbow, World Colors.**	S-CLS-10420 IMS-1550 (partial) Verifies ability to select different color palette options for image.
11. From each EOSView window, select **File**, then **Close** the window and exit.	Exits each image, and window.

4.10.3.3 Test Case 3: Animation (TS043.003)

This test demonstrates the ability of EOSView to display a series of visualizations as an animation. The application shall provide the capability to produce an animation of a browse movie loop. The user will test the capability to animate the raster images as continuous forward, step forward, backward, step backward, and bounce animations. The test will also verify that EOSView provides the capability to display browse information in text format.

Test Configuration:

Hardware: Workstation

Software: EOSView

Data: selected animation files as supplied by each DAAC

Tools: XRunner

Test Input:

Inputs to this test include data files which contain animation loops, and application commands to perform the animations.

Test Output:

Outputs to this test include animation of the browse information in differing color palettes, and in different animation loops, continuous forward, continuous back, and bounce. Also previous to animation, the application will display the data file information in a text format.

Success Criteria:

This test is successful if EOSView displays the browse information in a text format, and also animates the browse information using the available playback options, and color palette options.

Test Procedures:

Test Case ID: TS043.003	
Test Name: EOSView Animation	
Test Steps:	Comments:
1. Log on to workstation and execute EOSView. **EOSView &**	EOSView main window will display.
2. Select **File** from the EOSView main window menu bar. Select **Open** from the pulldown.	A file selection window will display.
3. Find and select a known hdf animation file.	S-CLS-10370 IMS-0690 (partial) Browse information received from the animation file will be displayed within an new EOSView popup window in a text format.
4. Select **Options** from the animation file EOSView window, and select **Animate Images**.	S-CLS-10400 IMS-1530 (partial) The EOSView - Image Animation Window will popup, and all the animation images will be read into the window.
5. Click on **>>** to begin Forward animation.	S-CLS-10380 Let the animation run through to the end. The bottom right-hand of the Image Animation Window will indicate when all frames of the image have been animated.
6. Click on **<<** to begin Backward animation.	S-CLS-10380 Let the animation run through to the end. The bottom right-hand of the Image Animation Window will indicate when all frames of the image have been animated.
7. Click on **>|** to animate one frame.	S-CLS-10380 The image will animate to the next forward frame and stop.
8. Click on **|<** to animate one frame.	S-CLS-10380 The image will animate to the previous frame and stop.
9. Select **Options** from the **Image Animation Window** menu bar. Select **Mode**, and **Continuous Run**.	The animation, forward or backward, will run in a continuous loop. The **Stop at End** option is the default.
10. Click on **>>** to begin Forward animation. Let animation continue for 2 iterations, then stop animation, click on **||**.	S-CLS-10380 Testing continuous forward animation.
11. Click on **<<** to begin Backward animation.	S-CLS-10380 Testing continuous backward animation.
12. During animation, select **Palette** from the **Image Animation Window** menu bar. Select **Select**, and iterate through color palette options. **Default, Greyscale, Antarctica, Rainbow, World Colors.**	S-CLS-10420 IMS-1550 (partial) Verifies ability to select different color palette options for animations.
13. Click on **||** to stop animation.	
14. Select **Options** from the **Image Animation Window** menu bar. Select **Mode**, and **Bounce**.	The animation will bounce from forward to backward when it reaches the ending frames.
15. Click on **>>** to begin animation. Verify "bounce" affect by watching frame count in bottom right-hand corner of window.	S-CLS-10380

16. Adjust **Speed** of animation by increasing and decreasing **Speed** scroll bar.	Animation will increase or decrease in speed, related to user selection.
17. Click on **||** to end animation. Select **File** from the **Image Animation Window** and select **Close** to exit window.	**Image Animation Window** will disappear and the browse image window will gain focus.
18. From browse image window, select **File** and **Close** to close browse image and window.	Browse image window disappears and **EOSView Main Window** gains focus.

4.10.3.4 Test Case 4 : Latitude/Longitude Display (TS043.004)

This test demonstrates the ability of EOSView to display a series of latitude/longitude pairs as lines and symbols, displayed in their proper geolocation on top of all visualizations.

Test Configuration:

Hardware: workstation

Software: EOSView

Data: selected raster files as supplied by each DAAC

Tools: N/A

Test Input:

Inputs to this test include raster image files, and application commands to display the latitude/longitude lines on the raster image displays.

Test Output:

Outputs to this test include the display of the raster image and the latitude/longitude lines.

Success Criteria:

This test is considered successful if EOSView properly displays a selected series of latitude/longitude pairs as lines over the raster image display.

Test Procedures:

Test Case ID: TS043.004	
Test Name: EOSView Latitude/Longitude Display	
Test Steps:	Comments:
1. Log on to workstation and execute EOSView. **EOSView &**	EOSView main window will display.
2. Select **File** from the EOSView main window menu bar. Select **Open** from the pulldown.	A file selection window will display.
3. Find and select a raster image file.	S-CLS-10370 IMS-0690 (partial) Browse information received from the raster image file will be displayed within an new EOSView popup window in a text format.
4. Double click on "**Image**" line within window.	The "**EOSView - Image Display Window**" will popup and the raster image will be displayed within the window.

5. Select and display the latitude/longitude lines over the raster image.	S-CLS-10350 IMS-0580 (partial) Verify through analysis that the placement of the lat/lon lines are correct.
6. Select **File** from the EOSView main window menu bar, and **Exit**.	

4.10.3.5 Test Case 5: Multiple Image View (TS043.005)

This test demonstrates the ability of EOSView to multiple images at a time. Specifically, the user will access and display one image, and proceed to load and view another image.

Test Configuration:

Hardware: Workstation

Software: EOSView

Data: selected raster/data set files as supplied by each DAAC

Tools: N/A

Test Input:

Inputs to this test include raster/data set files, and application commands to display each file while accessing another.

Test Output:

Outputs to this test include the display of multiple raster/data set images.

Success Criteria:

This test is considered successful when EOSView allows the user to load and view more than one image file at a time.

Test Procedures:

Test Case ID: TS043.005	
Test Name: EOSView Multiple Image View	
Test Steps:	Comments:
1. Execute Test #1 (TC043.001), but do not exit the image display or EOSView.	The EOSView application will be executed and a raster image will be displayed.
2. Execute Test #2 (TC043.002).	S-CLS-10290 IMS-0690 (partial) The color scatter plot/pseudo color image will be displayed in another window. Verify both display windows remain on screen.
3. Execute EOSView.	

4.10.4 Desktop 3 Thread (TS044)

The Desktop 3 thread verifies the capabilities of the client to provide a desktop environment. The Desktop provides the capability to organize and present various desktop objects an operator/user interacts with. The desktop functionality's that will be tested in phase 3 include:

- The ability to obtain help information (Generic and Specific).
- The ability to select user preferences for icon sizes, sorting, and deleting.
- The ability to save screen location of all programs the Desktop is managing.
- The ability to support logins by science users who do not have DCE on their workstations, as well as the operators who do have DCE.
- The ability to Modify Actions or Modify Drag and Drop Info.
- The ability to perform Copy As Link.
- The ability to perform to Change Permissions for files.

4.10.4.1 Test Case 1: Help Information (TS044.001)

This test demonstrates the ability of the Desktop to provide help information to the user. Both generic and specific help text will be provided by the desktop. The types of help consist of: On Help (displays help about using help), On Context (displays help about individual screen elements), On Window (displays general help about the window), On Keys (displays help about using the keyboard), Index, Tutorial, On Version (displays software versions) , and On Mode (displays the current ECS operating mode).

Test Configuration:

Hardware: CLHW

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Select the menu bar Help option and then select the desired help type from the pull down menu.

Test Output:

A dialog with Help text pops up for the specific help type chosen. Only exception being for help type (On Context). Instead when you double click on help type On Context the cursor changes to a question mark (?).

Success Criteria:

This test is considered successful if the help type selected obtains the appropriate help text information.

Test Procedures:

Test Case ID: TS044.001	
Test Name: Help Information	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Desktop window is displayed with the menu bar options at the top of the screen.	
3. Select the menu bar option Help.	
4. A pull down menu is displayed. Select the various types of help (i.e. On Help, On Context, On Window, On Keys, Index, Tutorial, On Version, and On Mode) one at a time.	CLS-00110
5. A dialog with Help text pops up for each help type selected, the only exception being for help type On Context.	
6. For help type On Context a dialog with Help text does not pop up, instead when you double click on the On Context option the cursor changes to a question mark (?).	
7. Then by placing the cursor (?) on the widget you want help on and clicking on it the dialog with Help text is provided as long as help is defined for that widget.	CLS-00100
8. Check each of the dialogs with the Help text to make sure the appropriate help information is obtained.	
9. Also check the help provided on the pop up dialog boxes by clicking on the Help button or pointing the cursor on a pull down menu option and pressing HELP key or the F1 key.	
10. A dialog with Help text pops up.	

4.10.4.2 Test Case 2: User Preferences (Icon Sizes, Sorting, and Deleting) (TS044.002)

This test demonstrates the ability of the user to select from among four choices (i.e. tiny, small, medium, and large) for the desired icon size, sorting by sort options (i.e. alphabetical, type, date, and size), and sort order (i.e. ascending and descending), and deleting with confirm and without confirm.

Test Configuration:

Hardware: CLHW

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Select the desired icon size, sort option, sort order, and delete option.

Test Output:

The selected icon size, sort option, sort order, and delete option changes the desktop according to the user's preference.

Success Criteria:

This test is considered successful if the user is able to select the icon size, sort options, sort order, and delete options of preference and those preference are made and displayed on the Desktop window.

Test Procedures:

Test Case ID: TS044.002	
Test Name: User Preferences (Icon Sizes, Sorting, and Deleting)	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Desktop menu screen is displayed with the menu bar options at top of the screen.	
3. Select the menu bar option View.	
4. A pull down menu is displayed. Select the option User Preferences.	
5. The User Preferences window is popped up and displayed.	
6. Goto the Icon Size section and select among the four icon sizes (i.e. tiny, small, medium, and large).	CLS-01610
7. Then goto the Sort Options section and select among the four sort options (i.e. alphabetical, type, date, and size).	CLS-01615
8. Then goto the Sort Order section and select among the two sort order options (i.e. ascending and descending).	
9. Then goto the delete options section and select among the two delete options (i.e. delete with confirm and delete without confirm).	
10. The desired icon size, sort option, sort order, and delete option are selected and then one of the push buttons (i.e. O.K., Apply, Defaults, Save, and Cancel) is selected at the bottom of the screen.	
11. The preferences selected are made and displayed on the Desktop window.	
12. Repeat steps 6 thru 11 by selecting the various options.	

4.10.4.3 Test Case 3: Save Applications and Locations (TS044.003)

This test demonstrates the ability of the Desktop to provide a mechanism to save the screen location of all programs it is managing. The user will be able to choose from two options: 1) Save applications and locations. 2) Open favorite applications on startup. Choosing (1) will bring up all the saved applications in same location in the next session. Choosing (2) will bring up applications which have "OPENONSTARTUP" as action.

Test Configuration:

Hardware: CLHW

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Select menu bar option File, select pull-down menu option Exit, and choose one of the following options (1. Save applications and locations or 2. Open favorite applications on startup) from the pop-up confirmation dialog.

Test Output:

Depending on which option (1 or 2) is chosen from the pop-up confirmation dialog. That option is implemented in the next session.

Success Criteria:

This test is considered successful if the option chosen is implemented in the next session on startup.

Test Procedures:

Test Case ID: TS044.003	
Test Name: Save Applications and Locations	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Desktop menu screen is displayed with the menu bar options at top of the screen.	
3. Select the menu bar option File.	
4. A pull-down menu is displayed, select the option Exit.	
5. A pop-up confirmation dialog for exiting the desktop is displayed.	
6. From the dialog choose one of the following options: (1) Save applications and locations or (2) Open favorite applications on startup.	CLS-01627

7. If option (1) is chosen it will bring up all the saved applications in the same location in the next session.	
8. If option (2) is chosen it will bring up applications which have "OPENONSTARTUP" as the action.	

4.10.4.4 Test Case 4: Logins with DCE and Without DCE (TS044.004)

This test demonstrates the ability of the Desktop to provide logins by science users who do not have DCE on their workstations, as well as the operators who do have DCE.

Test Configuration:

Hardware: CLHW

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Enter userid and password, for DCE enter Role, Mode, and DCE password.

Test Output:

Depending on whether you have DCE or do not have DCE on your workstation different login windows will be displayed.

Success Criteria:

This test is considered successful if both ways of logging into the system with DCE and without DCE on the workstation are achieved.

Test Procedures:

Test Case ID: TS044.004	
Test Name: Logins with DCE and without DCE	
Test Steps:	Comments:
1. Log onto the ECS system by entering userid and password.	
2. The welcome screen is displayed.	
3. The welcome screen will look different depending on whether you are a science user who does not have DCE or an operator who does have DCE on their workstation.	CLS-10645
4. If you are a science user the screens displays general information and your Login Name.	
5. If you are an operator the screen displays general information, Login Name, and entry fields for Role, Mode, Password for DCE.	
6. At the bottom of both screens are three push buttons (OK, Cancel, and Help) select one of them.	

4.10.4.5 Test Case 5: Modify Actions/Modify Drag and Drop Information (TS044.005)

This test demonstrates the users ability to make modifications to applications and data files and also to the drag and drop information.

Test Configuration:

Hardware: CLHW

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Select menu bar option View, select either pull-down menu options: Modify Actions or Modify Drag and Drop Info, Enter the desired modifications on the screen.

Test Output:

The desired modifications are made and displayed on the desktop window.

Success Criteria:

This test is considered successful if the user is able to make the desired modifications and those modifications are made and displayed on the desktop window.

Test Procedures:

Test Case ID: TS044.005	
Test Name: Modify Actions/Modify Drag and Drop Info	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Desktop menu screen is displayed with the menu bar options at the top of the screen.	
3. Select the menu bar option View.	
4. A pull down menu is displayed. Select either the option to Modify Actions or Modify Drag and Drop Info.	
5. If Modify Actions is selected, the user will see the Modify Actions screen displayed. The user can then make the desired modifications to the applications and data files.	
6. If Modify Drag and Drop Info is selected, the user will see the Modify Drag and Drop Info screen displayed. The user can then make the desired modifications.	
7. The user after making the modifications can then click on the push buttons Add or Delete, located at the bottom of the screen.	

8. Then go back to the desktop main window and select the menu bar option View.	
9. A pull-down menu is displayed. Select the option Load Actions to update.	

4.10.4.6 Test Case 6: Copy As Link (TS044.006)

This test demonstrates the ability of the Desktop to provide a mechanism to form a link of a file in another directory.

Test Configuration:

Hardware: CLHW

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Select menu bar option Selected and then select option Copy As Link. In the Copy As Link dialog box enter the destination folder and name for copy in the fields.

Test Output:

The desktop object is copied to the destination folder (directory) and file name specified in the Copy As Link Dialog box. The desktop object is moved to the specified destination folder.

Success Criteria:

This test is considered successful if the user is able to form a symbolic link of a file to a new name.

Test Procedures:

Test Case ID: TS044.006	
Test Name: Copy As Link	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Select one of the desktop object icons from the Desktop screen.	
3. Then goto the menu bar options at the top of the screen and click on the Selected option.	
4. A pull down menu is displayed.	
5. Select the option Copy As Link.	
6. A Copy As Link dialog box pops up giving the name of the selected file, Text field for Destination directory and a Text field for Destination file. Destination directory field contains the name of the current directory.	

7. In order to form the link of the file in another directory, change the destination directory. Enter the filename.	
8. Click on the O.K. button to form a symbolic link of the file to a new name. Do a ls -1 on the Unix command line to check to see whether the link has occurred. Clicking on Cancel will result in no symbolic link.	

4.10.4.7 Test Case 7: Change Permissions (TS044.007)

This test demonstrates the ability of the Desktop to allow users to change permissions from the Change Permissions window on the Desktop.

Test Configuration:

Hardware: CLHW

Software: Motif Window Manager

Data: None

Tools: None

Test Input:

Select the permissions for Read, Write, and Execute for the Owner, Group, and Other.

Test Output:

The permissions are changed for the selected file.

Success Criteria:

This test is considered successful if the user is able to change the permissions for a particular file.

Test Procedures:

Test Case ID: TS044.007	
Test Name: Change Permissions	
Test Steps:	Comments:
1. Start the ECS Desktop.	
2. Desktop window is displayed with menu bar options at the top of the screen.	
3. Select the menu bar option Selected.	
4. A pull down menu is displayed, select the option Change Permissions.	
5. The Change Permissions window is displayed.	
6. Enter the Name, Owner Name, Group Name, and the Permissions you want to change.	
7. Click on OK push button to save the changes or the Cancel button to discard the changes.	

8. Go back to the file to make sure the permissions have changed for that particular file. And on the Unix command line do a ls -1 to see whether the permissions have changed for the file.	

4.10.5 The Advertising Service User-Interface (TS007)

The Advertising Service User-Interface thread illustrates the ability of users to conduct text strings, keyword and attribute values searches of data advertisements. The Earth Science On-line Directory (ESOD) will provide the moderators the ability to review all requests that the users submit through an e-mail notification interface. The Administration home page will provide the Administrator the ability to not only review moderation groups, but to create, update, and delete moderation groups as well as make modification to personnel whom monitor the requests. The Moderation and Administration page homes with be restricted to personnel with appropriate Distributed Computing Environment (DCE) and Access Control List (ACL) accounts.

4.10.5.1 Test Case 1: Creating Moderation Groups - Administrator (TS007.001)

This test will illustrate that the Administrator will have the ability to create a group. The tester will access the Earth Science On-line Directory (ESOD) Administration and Moderation home page via guide URL. The tester will select Administration, which allows access to the Administration home page. A new group in the Earth Science On-line Directory will be created. After the group is created, the tester will submit the request.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

The group name, description, moderator, ACL, ECS user name, and ACL password , and guide URL

Test Output:

A systems log will be generated from ESOD, documenting that a new moderation group was created.

Success Criteria:

This test is considered successful if the Administrator is able to create a group accordingly. The ESOD must accept the ACL and the password of the tester. Notification must be received stating that the group was created. An explanation must be returned to the tester in a meaningful and clear error message, if any transaction could not be performed.

Test Procedures:

Test Case ID: TS007.001	
Test Name: Creating Moderation Groups - Administrator	Comments
Test Steps:	
1. Using a network browser, enter the URL for the Earth Science On-line Directory Administration and Moderation Home page:	
2. Verify " Administration and Moderation" home page appears on the screen	
3. Select the "Administration" icon located at the bottom of the page	
4. Select "Create a Moderation Group"	
5. Verify that the Create Group home page appears	
6. Enter "**Polluted Water**"	
7. Enter "**Polluted Water is deadly**" in the Description field	
8. Enter "**Ron Campbell**" in the Moderator field	
9. Enter "**20**" in the Provider ID field	
10. Enter "**10**"and "**30**" in the Applicable service ids	
11. Enter "**Leslie Cooper**" in the ECS User name field	S-IOS-00050 S-IOS-00120
12. Do not enter a ACL password in the ECS password field	
13. Select "Submit "located at the bottom of the page	
14. Verify that an error message is returned stating that the ACL password field must be filled in	
15. Enter "**Leslie Cooper**" in the ECS User name field	S-IOS-00050 S-IOS-00120
16. Enter **ACL password** in the ECS password field	S-IOS-00050 S-IOS-00120
17. Select "Submit "located at the bottom of the page	
18. Verify the "Polluted Water for Update" Moderation Queue home page is returned	
19. Select "Display selected request" is returned	
20. Verify that "Moderate Data" home page is returned	
21. Review the comments in the Comments to moderator from contributor	

22. Select "accept request "	
23. Verify that notification is returned "stating that your request was accepted	

4.10.5.2 Test Case 2: Updating Moderation Groups - Administrator (TS007.002)

This test will illustrate that the Administrator will have the ability to update a group. The tester will access the Earth Science On-line Directory (ESOD) Administration and Moderation home page via guide URL. The tester will select Administration, which allows access to the Administration home page. The moderation groups that currently exist in the Earth Science On-line Directory will be reviewed. After reviewing the groups, the tester will update a moderation group, and submit the request. The Advertising Service User-Interface will maintain a log of all activity that has been conducted.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include the ECS user's name, and the ACL password, and guide URL

Test Output:

Outputs to this test case include notification stating that the moderation group has been deleted.

Success Criteria:

This test is considered successful if the Administrator is able to update group(s) accordingly. The ESOD must accept the login and the password of the tester. Notification must be received stating that the group was updated. An explanation must be returned to the tester in a meaningful and clear error message if any transaction could not be performed.

Test Procedures:

Test Case ID: TS007.002	
Test : Name: Updating Moderation Groups - Administrator	
Test Steps:	Comments
1. Using a network browser, enter the URL for the Earth Science On-line Directory Administration and Moderation Home page:	
2. Verify " Administration and Moderation" home page appears on the screen	
3. Select the "Moderation" icon located at the bottom of the page	
4. Verify that the "Moderation" home page is returned	
5. View the groups that currently exist	
6. Select the "Administration" icon located at the bottom of the page	
7. Select "Update Moderation Group"	
8. Verify that the Select group to update home page appears	
9. Select "Polluted Water"	
10. Verify that Update data "Polluted Water" home page is returned	
11. Change the "**30** to **40"** in the applicable service field	
12. Enter "**Leslie Cooper**" in the ECS User name field	S-IOS-00050 S-IOS-00120
13. Enter <ACL password> in the ECS password field	S-IOS-00050 S-IOS-00120
14. Select "Display requests" located at the bottom of the page	
15. Verify the Moderation Queue for "Pollution Water" home page is returned	
16. Select "Display selected request" is returned	
17. Verify that "Moderate Data" home page is returned	
18. Review the comments in the Comments to moderator from contributor	
19. Select "accept request "	
20. Verify that notification is returned "stating that your request was accepted	S-IOS-00050
21. Select "ESOD" located at the bottom of the page	

4.10.5.3 Test Case 3: Delete Moderation Groups - Administrator (TS007.003)

This test illustrates that the Administrator will have the ability to delete a moderation group. The tester will access the Earth Science On-line Directory (ESOD) Administration and Moderation home page via guide URL. The tester will select Administration, which allows access to the Administration home page. The tester will review and delete a group and submit the request. The Advertising Service User-Interface will also maintains a log that has all delete activity that has been conducted.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include the ECS user's name, and the ACL password, and the guide URL.

Test Output:

Outputs to this test case include log information stating that a moderation group has been deleted.

Success Criteria:

This test is considered successful if the Administrator is able to delete, group(s). The ESOD must accept the user name and the ACL password of the tester. Notification must be received forewarning the tester that he/she is about to delete a group. Once the group is deleted, notification must be received stating that the group was deleted. If the delete transaction can not be performed, an explanation must be returned to the tester in a meaningful and clear error message.

Test Procedures:

Test Case ID: TS007.003	
Test Name: Delete Moderation Groups - Administrator	Comments
Test Steps:	
1. Using a network browser, enter the URL for the Earth Science On-line Directory Administration and Moderation Home page:	
2. Verify " Administration and Moderation" home page appears on the screen	
3. Select the "Administration" icon located at the bottom of the page	
4. Select "Delete Moderation Group"	
5. Select "Polluted Water"	
6. Enter "**Leslie Cooper**" in the ECS User name field	S-IOS-00050 S-IOS-00120
7. Enter <ACL password> in the ECS Password file	S-IOS-00050 S-IOS-00120
8. Select "Submit" located at the bottom of the page	
9. Verify that the status page is returned stating that "Group "Polluted Water" was successfully deleted	

10. Select ESOD Administration Moderation Home located at the bottom of the page	

4.10.5.4 Test Case: 4 Moderation of Groups (TS007.004)

This test will illustrate that the Moderator will have the ability to monitor a group. The tester will access the Earth Science On-line Directory (ESOD) Administration and Moderation home page via guide URL. The tester will select Moderation, which allows access to the Moderation home page. The tester will select the group that he/she wishes to monitor and review the results.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case includes the ECS user name, ACL password, and guide URL

Test Output:

Outputs to this test case includes a listing of all the moderation in the directory

Success Criteria:

This test is considered successful if the tester is able to monitor existing groups in the ESOD accordingly. The ESOD must accept the user name and the ACL password of the tester. If the delete transaction can not be performed, an explanation must be returned to the tester in a meaningful and clear error message.

Test Procedures:

Test Case ID: TS007.004	
Test Name: Moderation of Groups	
Test Steps:	Comments
1. Using a network browser, enter the URL for the Earth Science On-line Directory Administration and Moderation Home page	
2. Verify " Administration and Moderation" home page appears on the screen	
3. Select "Moderation"	

4. Verify that the Moderation home page is returned	
5. Do not select a group	
6. Enter **Leslie Cooper** in the ECS User name field	S-IOS-00040
7. Enter <**acl password** >in the ECS Password filed	S-IOS-00040
8. Select "Display Requests" located at the bottom of the page	
9. Verify that a error message is returned stating that "No such group as specified"	
10. Select an "Air-Sea Interaction" group	
11. Enter **Leslie Cooper** in the ECS User name field	S-IOS-00040
12. Enter <**acl password**> in the ECS Password field	S-IOS-00040
13. Select "Display Requests"	
14. Verify that the Moderation Queue for Air-Sea Interaction is returned	S-IOS-00020 S-IOS-00100
15. Select ESOD Administrative Mod Home located at the bottom of the page	

4.10.5.5 Test Case: 5 Submission of Request for Administrative Services (TS007.005)

This test will illustrate that contributors will have the ability to submit requests to administrative services. The tester will access the Earth Science On-line Directory (ESOD) via guide URL. The tester will select the help icon in an attempt to find out how to submit an advertisement. Once the tester has read the "submit an advertisement help text", the tester will return to the ESOD home page, and submit a request to submit a data advertisement.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include the ftp address, provider id, applicable service ids, email address, comments to moderator, guide URL, ECS user name, and ACL password.

Test Output:

Outputs to this test case include log information, stating that the request was accepted.

Success Criteria:

This test is considered successful if the tester is able to submit request for administrative services. The ESOD must accept the ACL and the password of the tester when attempting to perform the request. If the transaction can not be performed, an explanation must be returned to the tester in a meaningful message.

Test Procedures:

Test Case ID: TS007.005	
Test Name: Submission of Request for Administrative Services	
Test Steps:	Comments
1. Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify “The Earth Science On-line Directory ” home page appears on the screen	
3. Select “General Help”	
4. Verify the Advertising Service help page is returned	
5. Select the ESOD home page is returned	
6. Select the “Contributions”	
7. Verify that the Contributions home page is returned	
8. Select “Create Directory Entry”	
9. Verify that Create Directory Entry home page is returned	
10. Select “Create Data Advertisement”	
11. Verify that Create Data Advertisement home page is returned	
12. Enter “**Clouds**” in the Title field	
13. Enter “**ftp://lcooper.hitc.com/rela/clouds.html**” in the Description file ftp location	
14. Do not enter any data in Provider ID	
15. Do not enter data in Applicable Service Ids	
16. Select "Submit"	
17. Select “ Send request to moderator “	The request will be send to the moderator e-mail interface
18. Verify that "Requests has been rejected" is returned	
19. 19.Select "Create Data Advertisement"	
20. Verify that the Create Data advertisement home page is returned	
21. Enter “**Clouds**” in the Title field	
22. Select “Atmospheric Aerosols“ for the group	
23. Select valid for “1” month	
24. Enter “**19**” in the Provider Id	
25. Enter <**applicable service id** > in the Applicable Service Ids	
26. Enter “**lcooper@eos.hitc.com** in the Email address field	
27. Enter “**Please create this advertisement**” in the comments to the moderator field	
28. Select “Preview Request”	
29. Select “ Send request to moderator “	The request will be send to the moderator e-mail interface

30. 30.Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
31. Select "Moderation"	
32. Verify that the Moderation home page is returned	
33. Select "Atmospheric Aerosols"	
34. Enter "**lcooper@eos.hitc.com**" in the ECS User name field	S-IOS-00040
35. Enter < **ACL password** > in the ECS password field	S-IOS-00040
36. Select " Display results"	
37. Verify that the Moderation Queue for " Atmospheric Aerosols" home page is returned	
38. Select "Display selected request"	
39. Verify that notification is returned stating that "Request was successfully accepted" and posted for general access	S-IOS-00880 S-IOS-00810

4.10.5.6 Test Case 6: Import and Export (TS007.006)

This test will illustrate the ability of the Advertising Service User-Interface to support data import and data export. The tester will export data from an Advertising database, utilizing the BCP.COPYOUT. The tester will then import data into the database table utilizing the BCP.COPYIN. The tester will access Sybase, and verify that the table were import into the database.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include database tables, and guide URL

Test Output:

Outputs to this test case include a database log containing all the database tables that were entered via BCP.COPYIN

Success Criteria:

This test is considered successful if the tester is allowed to export the tables from another database and import the table into the selected database.

Test Procedures:

Test Case ID: TS007.006	
Test Name: Import and Export	
Test Steps	Comments
1. Log onto <**server name**>	
2. Verify access was gained	
3. At the command line, enter <**bcp.copyout**> <**name of database**>	S-IOS-00170
4. Enter "**isql -U** {password} **-P** {password} < **drop. schema** > at the next Sybase prompt	
5. Enter "database name" at the Sybase prompt	
6. Enter "go" at the next Sybase prompt and the return key	Accessing the selected database
7. Enter "sp_help "table name	
8. Enter "go" at the next Sybase prompt and the return key	This reflects the description of the database.
9. Verify that the database is emptied	
10. Enter "exit" at the sybase prompt	
11. At command line, enter <**bcp.copyin**> <**name of database>**	S-IOS-00180
12. Enter "database name" at the Sybase prompt	
13. Enter "go" at the next Sybase prompt and the return key	Accessing the selected database
14. Enter "sp_help "table name	
15. Enter "go" at the next Sybase prompt and the return key	This reflects the description of the database. This will allow the tables that were loaded into the selected database to be viewed
16. Enter "exit" at the sybase prompt	
17. 17.Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
18. Verify that " Home page appears on the screen	
19. Select the "ESOD index"	
20. Verify the index home page appears	
21. Select the letter "**a** "	
22. Verify that the data is returned	

4.10.5.7 Test Case 7: On-line Backup and Recovery (TS007.007)

This test will illustrate that the tester will be able to perform on-line full backup and recovery activities. The tester will access the Advertising Service User-Interface via guide URL. The tester will submit a request to create an advertisement. The tester will exit properly out of the Advertising Service User-Interface. Next the tester will access the Advertising Service User-Interface as administrator. The tester will view the transaction log before conducting a online backup of the database. Once the tester brings the Advertising Service User-Interface back on

line, the transaction log reports generated after the backup must show the newly created data advertisement.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include the group name, group description, moderator, ECS user name, and ACL password and guide URL

Test Output:

Outputs to this test case include a transaction log containing the database activity before and after the on-line backup and recovery.

Success Criteria:

This test is considered successful if the tester is allowed to perform on-line full backup and restoration of the database. The tester will perform incremental backups after creating an advertisement. The tester will compare the transaction log generated before and after the online backup. The transaction log must show the newly created data advertisement.

Test Procedures:

Test Case ID: TS007.007	
Test Date Name: On-line Backup and Recovery	
Test Steps:	Comments
1. Using a network browser, enter the URL for the Earth Science On-line Directory Administration and Moderation Home page	
2. Verify " Administration and Moderation" home page appears on the screen	
3. Select the "Administration" icon located at the bottom of the page	
4. Select "Create a Moderation Group"	
5. Verify that the Create Group home page appears	
6. Enter "**Acid Rain**"	
7. Enter "**Acid Rain is deadly**" in the Description field	

8. Enter "**Ron Campbell**" in the Moderator field	
9. Enter "**20**" in the Provider ID field	
10. Enter "**10** and **30**" in the Applicable service ids	
11. Enter "**Leslie Cooper**" in the ECS User name field	
12. Enter < **acl password** > in the ECS password field	
13. Select "Submit " located at the bottom of the page	
14. Verify the "Polluted Water for Update" Moderation Queue home page is returned	
15. Select "Display selected request" is returned	
16. Verify that "Moderate Data" home page is returned	
17. Review the Comments to moderator from contributor	
18. Select "accept request "	
19. Verify that notification is returned "stating that your request was accepted	
20. Perform a backup of the database	
21. Dump the database	
22. Restore the database	
23. Verify that the database was restored	
24. Verify the transaction log contains this activity	S-IOS-00130

4.10.5.8 Test Case 8: On-line Incremental Backup and Recovery (TS007.008)

This test will illustrate that the tester will be able to perform on-line incremental backup and recovery activities. The tester will access the Advertising Service User-Interface via guide URL. The tester will submit a request to create an advertisement. The tester will exit properly out of the Advertising Service User-Interface. Next, the tester will access the Advertising Service User-Interface as an administrator. The tester will compare transaction logs generated before and after the incremental backup of the database.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case includes the group name, group description, moderator, ACL, ECS user name, and ACL password, and guide URL

Test Output:

Outputs to this test case include a transaction log containing database activity before and after the on-line incremental backup and recovery.

Success Criteria:

This test is considered successful if the tester is allowed to perform on-line incremental backup and restoration of the database. The tester will perform incremental backups after creating an advertisement. The tester will compare the transaction log generated before and after the backup. The transactions logs generated after the incremental backup must show the newly created data advertisement, and the existing data advertisements.

Test Procedures:

Test Case ID: TS007.008	
Test Name: On-line Incremental Backup and Recovery	
Test Steps:	Comments
1. Using a network browser, enter the URL for the Earth Science On-line Directory Administration and Moderation Home page	
2. Verify " Administration and Moderation" home page appears on the screen	
3. Select the "Administration" icon located at the bottom of the page	
4. Select "Create a Moderation Group"	
5. Verify that the Create Group home page appears	
6. Enter "**Acid Rain in Western Europe**"	
7. Enter "**Acid Rain is on the increase**" in the Description field	
8. Enter "**Ron Campbell**" in the Moderator field	
9. Enter "**20**" in the Provider ID field	
10. Enter "**10** and **30**" in the Applicable service ids	
11. Enter "**Leslie Cooper**" in the ECS User name field	S-IOS-00040
12. Enter < **acl password** > in the ECS password field	S-IOS-00040
13. Select "Submit "located at the bottom of the page	
14. Verify the "Polluted Water for Update" Moderation Queue home page is returned	S-IOS-00100
15. Select "Display selected request" is returned	
16. Verify that "Moderate Data" home page is returned	
17. Review the comments in the Comments to moderator from contributor	
18. Select "accept request "	
19. Verify that notification is returned "stating that your request was accepted	
20. Perform incremental backups of the database at <**time frame**> intervals	
21. Dump the database	
22. Restore the database	
23. Verify that the database was restored	
24. Verify the transaction log contains this activity	S-IOS-00130

4.10.5.9 Test Case 9: Renewing and Replacing an Existing Advertisement (TS007.009)

This test will illustrate that the tester will be able to renew an existing advertisement before it expires. The tester will access the Advertising Service User-Interface via URL, and search for an existing advertisement. The tester will renew the time stamp for validity, so that the advertisement will not expire.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0,

Test Input:

Inputs to this test case includes time frame for the advertisement, provider id and guide URL.

Test Output:

Outputs to this test case includes a change in the expiration date.

Success Criteria:

The test is considered successful when the advertisement, that was requested, is renewed and replaced with an updated version.

Test Procedures:

Test Case ID: TS007.009	
Test Name: Renewing and Replacing an Existing Advertisement	
Test Steps:	Comments
1. Using a network browser, enter the URL for the Earth Science On-line Directory Home page:	
2. Verify “Earth Science On-line Directory ” home page appears on the screen	
3. Select the “Contributions” icon located at the bottom of the page	
4. Select “Update Directory Entry”	
5. Enter “<**provider id**“> Provider Id	
6. Select “ Submit “	

7. 7.Change the valid for to “6 months”	It is understood that the time stamp originally was for 3 months and that today is the last day of the third month. The time stamp is being extending to 6 months
8. Select "Submit "located at the bottom of the page	
9. Verify that notification is returned "stating that your request was accepted	S-IOS-00250

4.10.5.10 Test Case 10: Timed Single Keyword Search (TS007.010)

This test will illustrate that the Advertising Service User-Interface will be able to conducted a keyword directory search, not exceeding 2 seconds. The tester will access the Advertising Service User-Interface via guide URL, and conduct a keyword search. The tester will enter a single keyword related to an advertisement into the search criteria entry field. Once the tester enters the keyword, the request will be submitted. The Advertising Service User-Interface must return the results within 2 seconds.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include “air” as a keyword, and “50” as the provider id, and a guide URL .

Test Output:

Outputs to this test case include advertisements which match the directory search criteria

Success Criteria:

The test is considered successful when the Advertising Service User-Interface returns advertisements that match the single keyword search not exceeding 2 seconds.

Test Procedures:

Test Case ID: TS007.010	
Test Name: Timed Single Keyword Search	
Test Steps:	Comments

1. 1.Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify the “Earth Science On-line Directory " home page appears on the screen	
3. Select “Search for Advertisements”	
4. Verify that the Text Search home page appears	
5. Enter “**Air”**	
6. Select "All"	ESOD will return all advertisements pertaining to AIR-SEA INTERACTION
7. Select "ASCII format, down loadable report"	
8. Select "**50**" in the Provider ID field	
9. Select "Search" located at the bottom of the page	
10. Verify Search Results home page is returned	S-IOS-00340
11. Select ESOD Home located at the bottom of the page	
12. Verify the returned was returned within 2 seconds	This can be verified by timing the return when the search icon is first selected.

4.10.5.11 Test Case 11: Creating a Provider (TS007.011)

This test will illustrate that the Administrator will have the ability to create a new entry for the list of providers. The tester will access the Earth Science On-line Directory (ESOD) home page via guide URL. The tester will select “create a provider”, which allows access to the Create Provider home page. A new provider in the Earth Science On-line Directory will be created. After the provider is created, the tester will submit a request to verify the new provider is added. The Advertising Service User-Interface (ESOD) will maintain a log that has all activity that has been conducted.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0,

Test Input:

Inputs to this test case includes the title name, description file ftp location, email, and comments to moderator, provider id, ECS user name, and ACL password, and guide URL

Test Output:

Outputs to this test case include notification that the request was accepted.

Success Criteria:

This test is considered successful if the Administrator is able to create a provider. Notification must be received stating that the provider was created. An explanation must be returned to the tester in a meaningful and clear error message if any transaction could not be performed.

Test Procedures:

Test Case ID: TS007.011	
Test Name: Create a provider:	
Test Case:	Comments
1. 1.Using a network browser, enter the URL for the Earth Science On-line Directory Home page:	
2. Verify Earth Science On-line Directory“ home page appears on the screen	
3. Select “Create a provider"	
4. Verify that the Create Provider home page appears	
5. Enter "**New provider**" in the Title field	
6. Select “Entered directly in the text area below” located under description	
7. Select "Air-Sea Interaction” from the group field	
8. Select "6" months	
9. Enter **lcooper@eos.hitc.com** in the Contributor’s Email Address	
10. Enter **(301) 123-4567** in the Contributor’s Phone Number	
11. Enter “**Leslie Cooper**” in the ECS User name field	
12. Enter < **ACL password** > in the ECS password field	
13. Select "Send request to moderator "located at the bottom of the page	
14. Verify that notification is returned "stating that the request was accepted	

4.10.5.12 Test Case 12: Creating Non Web Service Advertisement (TS007.012)

This test will illustrate that the tester will have the ability to create a non web service advertisement. The tester will access the Earth Science On-line Directory (ESOD) home page via guide URL. The tester will select Create Non Web Service which allows access to the Non Web Service home page. A new non web service in the Earth Science On-line Directory will be created. After the non web service is created, the tester will submit a request to verify the new non-web service is added to the Advertising Service. The Advertising Service User-Interface (ESOD) will maintain a log that has all activity that has been conducted.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include the group title, group description, file ftp location, provider id, product ids, comments, and guide URL

Test Output:

Outputs to this test case include notification that the non-web service was created

Success Criteria:

This test is considered successful if the tester is able to send a request to have a non web service created. The ESOD must accept the login and password of the tester. Notification must be received stating that the group was created. An explanation must be returned to the tester in a meaningful and clear error message, if any transaction could not be performed.

Test Procedures:

Test Case ID: TS007.012	
Test Name: Creating Non Web Service Advertisement	
Test Steps:	Comments
1. Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify “Earth Science On-line Directory " home page appears on the screen	
3. Select the “Create Non Web Service”	
4. Verify that the Create Non Web Service home page appears	
5. Enter “**Polluted Air**”	
6. Enter "**lcooper@eos.hitc.com**"in the Description file ftp field	
7. Select Biological Oceanography	This is the group that the new provider will be placed in
8. Enter "**10**" in the Provider ID field	
9. Enter "**15** " in the Applicable service ids	
10. Enter “**lcooper@eos.hitc.com"** in the Email address field	
11. Enter “**This is a new non web service**” in the comments field	

12. Select "Send request to moderator" located at the bottom of the page	
13. Verify the "Your request was successfully sent to group "Polluted Air home page is returned	

4.10.5.13 Test Case 13: Creating Web Service Advertisement (TS007.013)

This test will illustrate that the tester will have the ability to create a non web service advertisement.. The tester will access the Earth Science On-line Directory (ESOD) home page via guide URL. The tester will select Create Web Service which allows access to the Create Web Service home page. A new web service in the Earth Science On-line Directory will be created. After the web service is created, the tester will submit a request to verify the web service advertisement was created. The Advertising Service User-Interface will maintain a log of all activity that has been conducted.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include the title name, group description file, ftp location, provider id, comments, and guide URL

Test Output:

Outputs to this test case include creation of a web service advertisement and notification that the request was received.

Success Criteria:

This test is considered successful if the tester is able to send a request to have a web service created. The ESOD must accept the login and password of the tester. Notification must be received stating that the group was created. An explanation must be returned to the tester in a meaningful and clear error message, if any transaction could not be performed.

Test Procedures:

Test Case ID: TS007.013	

Test Name: Create A Non Web Service	
Test Steps:	Comments
1. 1.Using a network browser, enter the URL for the Earth Science On-line Directory Home page:	
2. Verify the “Earth Science On-line Directory " home page appears on the screen	
3. Select the “Create Web Service”	
4. Verify that the Create Web Service home page appears	
5. Enter “**Polluted Water ways**”	
6. Enter "**lcooper@eos.hitc.com**"in the Description file ftp field	
7. Select "Biological Oceanography"	This is the group that the new provider will be placed in
8. Enter "**10**" in the Provider ID field	
9. Enter "**15** " in the Applicable service ids	
10. Enter “**lcooper@eos.hitc.com"** in the Email address field	
11. Enter “**let me know if you need more information**” in the comments field	
12. Select "Send request to moderator” located at the bottom of the page	
13. Verify the "Your request was successfully sent to group "Polluted Air home page is returned	

4.10.5.14 Test Case 14: Text Search ASCII and HTML format (TS007.014)

This test will illustrate that the tester will have the ability to conduct a ASCII text and HTML format search.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include air-air interaction, provider id, and guide URL .

Test Output:

Outputs to this test case include advertisements which match the search criteria.

Success Criteria:

This test is considered successful if the tester is able to search for advertisements in ASCII and HTML formats. The ESOD must return the results in each format respectively. An explanation must be returned to the tester in a meaningful and clear error message, if any transaction could not be performed.

Test Procedures:

Test Case ID: TS007.014	
Test Name: Text Search ASCII and HTML format:	
Test Steps:	Comments
1. Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify the “Earth Science On-line Directory " home page appears on the screen	
3. Select the “Search for Advertisements”	
4. Verify that the Text Search home page appears	
5. Enter “**Air-Sea Interaction**	
6. Select "All"	ESOD will return all advertisements pertaining to AIR-SEA INTERACTION
7. Select "ASCII” format, downloadable report"	
8. Select "**100**" in the Provider ID field	This is the maximum amount of results allowed
9. Select "Search" located at the bottom of the page	
10. Verify the Search Results home page is returned	
11. Select "Text search" located at the bottom of the page located at the bottom of the page	
12. Verify that the HTML Search home page is returned	
13. Enter “**Air-Sea Interaction**	
14. Select "All"	
15. Select "HTML format, downloadable report"	
16. Select "**100**" in the Provider ID field	This is the maximum number of results allowed
17. Select "Search" located at the bottom of the page	
18. Verify Search Results home page is returned	
19. Select ESOD Home located at the bottom of the page	

4.10.5.15 Test Case 15: Creating Installable Service (TS007.015)

This test will illustrate that the tester will have the ability to create an installable service. The tester will access the Earth Science On-line Directory (ESOD) home page via guide URL. The tester will select Create Installable Service which allows access to the Create Installable Service home page. A new installable service in the Earth Science On-line Directory will be created. After the installable service is created, the tester will submit the request. The Advertising Service User-Interface (ESOD) will maintain a log of all activity.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Input to this test case include the group title, group description, file ftp location, provider id, product ids, comments, ftp URL for packaged service, size of package when untarred (in Kilobytes), email address, and guide URL

Test Output:

Output to this test case includes notification that the request was received.

Success Criteria:

This test is considered successful if the tester is able to create an installable service. The ESOD must accept the login and password of the tester. Notification must be received stating that the group was created. An explanation must be returned to the tester in a meaningful and clear error message, if any transaction could not be performed.

Test Procedures:

Test Case ID: TS007.015	
Test Name: Creating Installable Service	
Test Steps:	Comments
1. Using a network browser, enter the URL for the Earth Science On-line Directory Home page:	
2. Verify “Earth Science On-line Directory " home page appears on the screen	
3. Select the “Create Installable Service	
4. Verify that the Create Installable Service home page appears	
5. Enter “**Installable Service Test"**	
6. Enter "**lcooper@eos.hitc.com**"in the Description file ftp field	
7. Select "Biological Oceanography"	This is the group that the new provider will be placed in
8. Select "1" month	
9. Enter "**10**" in the Provider ID field	

10. Enter "**16** " in the Applicable service ids	
11. Enter "**ftp://lcooper.hitc.com"**	Place this in the URL packages service
12. Enter "**10**" in	Place this in the Size of package when untarred file
13. Enter "**ASAP**" in the comments field	
14. Enter "**lcooper@eos.hitc.com"** in the Email address field	
15. Select "Send request to moderator" located at the bottom of the page	
16. Verify the "Your request was successfully sent to group "Biological Oceanography" message appears	

4.10.5.16 Test Case 16: Manual Recovery (TS007.016)

This test will illustrate that the tester will be able to perform manual recovery of advertising service data for media and system failure. The tester will dump the Advertising Service transaction logs and database to disk. When dumping the database to disk, a media and system error occurs. A manual recovery of the Advertising Service data will be performed.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include data consistency check commands, and database name

Test Output:

Outputs to this test case include an error message initiated from the Operations Console.

Success Criteria:

This test is considered successful if the tester is allowed to perform a recovery of the data manually. The tester must be able to recover the database resulting from media and system failures.

Test Procedures:

Test Case ID: TS007.016	

Test Name: Manual Recovery	
Test Steps:	Comments
1.Using a network browser, enter the URL for the Earth Science On-line Directory on <**server name** >	
2. Verify “Earth Science On-line Directory " home page appears on the screen	
3. Using a network browser, enter the URL for the Earth Science On-line Directory on another <**server name** >	
4. Verify “Earth Science On-line Directory " home page appears on the screen	
5. Shutdown <**server name**> incorrectly	
6. Verify that the second <**server name**> automatically continued to operate	S-IOS-00160

4.10.5.17 Test Case 17: Automatic Recovery (TS007.017)

This test will illustrate that the tester will be able to perform automatic recovery of advertising service data for media and system failures. The tester will run the Earth Science On-line Directory on two servers. When one of the servers is shutdown, automatic recovery of the database will occur.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include guide URL

Test Output:

Outputs to this test case include an error message initiated from the Operations Console.

Success Criteria:

This test is considered successful if the Advertising Service database is restored automatically after the system failure.

Test Procedures:

Test Case ID: TS007.017	
Test D Name: Automatic Recovery	
Test Steps:	Comments
1. Log onto the Sybase server	
2. Enter <**data consistency check command** >at the prompt	
3. Dump <**database name**> transaction log 1	Two transaction logs will dump at specific intervals
4. Dump < **database name**> transaction log 2	
5. Dump the <**data base name** > selected disk	
6. Verify that an appropriate error message was initiated on the Operations Console.	
7. Load transaction log 1	
8. Load transaction log 2	
9. Enter <**isql**> <**database name**> at the prompt	Accessing the database
10. 10.Verify that the recovery was successful	S-IOS-00160
11. Enter <**data consistency check command** >at the prompt	
12. Dump <**database name**> transaction log 1	Two transaction logs will dump at specific intervals
13. Dump < **database name**> transaction log 2	
14. Dump the <**data base name** > selected disk	The disk which is located on another server which is down.
15. Verify that an appropriate error message was initiated on the Operations Console.	
16. Load transaction log 1	
17. Load transaction log 2	
18. Enter <**isql**> <**database name**> at the prompt	Accessing the database
19. 19.Verify that the recovery was successful	S-IOS-00150

4.10.5.18 Test Case 18: Binding Advertising (TS007.018)

This test will illustrate that the tester will be able to query the Advertising Service database, and receive information on which data server specific data is located.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case includes the guide URL and keyword “ozone layer”

Test Output:

Outputs to this test case includes the advertisement listing URL that relates to the returned data advertisement.

Success Criteria:

This test is considered successful if the Advertising Service returns an data advertisement with a URL attached stating which data server location the data is located on.

Test Procedures:

Test Case ID: TS007.018	
Test D Name: Binding Advertising	
Test Steps:	Comments
1. 1.Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify “The Earth Science On-line Directory ” home page appears on the screen	
3. Select “Index”	
4. Verify that Index home appears on the screen	
5. Enter <data type name> in the text string search field	
6. Enter “**ozone layer**” in the query filed	
7. Verify that the results home page appears with the advertisement listing the UR where stating where the data advertisement is located	i

4.10.5.19 Test Case: 19 Request for Deletion of Advertisement (TS007.019)

This test will illustrate that contributors will have the ability to submit requests to administrative services. The tester will access the Earth Science On-line Directory (ESOD) via guide URL. The tester will submit a request to delete a data advertisement. If the request can not be performed, an explanation must be returned to the tester in a meaningful and clear error message. If the request to create has been rejected notification must be returned to the tester.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case includes ftp address, provider id, applicable service ids, email address, comments to moderator, guide URL , ECS user name, and ACL password

Test Output:

Outputs to this test case includes notification of the request.

Success Criteria:

This test is considered successful if the tester is able to submit request for deletion of an advertisement. The ESOD must accept the ACL and the password of the tester when attempting to perform the request. If the transaction can not be performed, an explanation must be returned to the tester in a meaningful message.

Test Procedures:

Test Case ID: TS007.019	
Test Name: Request for Deletion of Advertisement	
Test Steps:	Comments
1. 1.Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify "The Earth Science On-line Directory " home page appears on the screen	
3. Select the "Contributions"	
4. Verify that the Contributions home page is returned	
5. Select "Delete Directory Entry"	
6. Verify that Delete Directory Entry home page is returned	
7. Enter ID into the data entry field	This is a mandatory field that must be filled in
8. Select "Submit"	
9. Verify that notification is returned stating that "Request was successfully accepted"	S-IOS-00230

4.10.5.20 Test Case: 20 Modification of Advertisements(TS007.020)

This test will illustrate that contributors will have the ability to submit changes to existing advertisements. The tester will access the Earth Science On-line Directory (ESOD) via guide URL. The tester will submit a request to update a data advertisement. If the requested transaction can not be performed, an explanation must be returned to the tester in a meaningful and clear error message. If the request to create has been rejected, notification must be returned to the tester.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case includes the provider id, applicable service ids, email address, comments to moderator, guide URL address, ECS user name, and ACL password

Test Output:

Outputs to this test case includes notification of the request

Success Criteria:

This test is considered successful if the tester is able to submit request to update an existing advertisement. The ESOD must accept the ACL and the password of the tester when attempting to perform the request. If the transaction can not be performed, an explanation must be returned to the tester in a meaningful message.

Test Procedures:

Test Case ID: TS007.020	
Test Name: Modification of Advertisements	
Test Steps:	Comments
1. Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify “The Earth Science On-line Directory ” home page appears on the screen	
3. Select the “Contributions”	
4. Verify that the Contributions home page is returned	
5. Select “Update Directory Entry”	
6. Verify that Update Directory Entry home page is returned	
7. Enter ID into the data entry field	This is a mandatory field that must be filled in.
8. Select “Submit”	
9. Verify that the Update Data “Data Ad” is returned	
10. Enter <**advertisement title >**	
11. Enter < **lcooper@eos.hitc.com >** in the description ftp location	
12. Select <**group** >	
13. Select < same **>** for valid for	
14. Enter <**provider id >**	

15. Remove <**applicable service ID**>	
16. Do not change Email address	
17. Enter <**removed a applicable service id >**	
18. Select "Send to moderator"	
19. Verify that notification is returned stating that "Request was successfully accepted"	S-IOS-00230

4.10.5.21 Test Case: 21 Science Search - I String Searches (TS007.021)

This test will illustrate that contributors can conduct science searches based on search strings.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test cases include the guide URL address, and keyword clouds, acid rain.

Test Output:

Outputs to this test case include data advertisements that relate directly to the search criteria

Success Criteria:

This test is considered successful if the tester is able to submit request for science data based on search strings. If the transaction can not be performed, an explanation must be returned to the tester in a meaningful message.

Test Procedures:

Test Case ID: TS007.021	
Test Name: Science Search I - String Searches	
Test Steps:	Comments
1. 1.Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify "The Earth Science On-line Directory " home page appears on the screen	
3. Select the "Science Search" located at the bottom of the page	

4. Verify that the Science Search home page is returned	
5. Select “All types of Entries”	
6. Enter **clouds, acid rain**	
7. Select “all”	ESOD will return all advertisements in the repository that relate to the keywords
8. Verify that ESOD returns a list(s) of advertisements that meet the search string criteria	
9. Select Science Search located at the bottom of the page	

4.10.5.22 Test Case: 22 Science Search - II Keywords and/or Attributes (TS007.022)

This test will illustrate that contributors can conduct science searches based on keywords. This science search will be based on temporal filtering, which applies to data only, keywords and attribute values.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include the “data start date”, “data expiration date”, “solid earth, rocks” & “material petrology”, “atmosphericscience”, “aerosolsextinction”, “modus”, “avhrr” and guide URL.

Test Output:

Outputs to this test case include data advertisements that relate directly to the search criteria

Success Criteria:

This test is considered successful if the tester is able to submit request for science data based on keywords, and attribute values. If the transaction can not be performed, an explanation must be returned to the tester in a meaningful message.

Test Procedures:

Test Case ID: TS007.022	
Test Name: Science Search II - Keywords and/or Attributes	
Test Steps:	Comments
1. Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify "The Earth Science On-line Directory " home page appears on the screen	
3. Select the "Science Search" located at the bottom of the page	
4. Verify that the Science Search home page is returned	
5. Enter <**01/01/92**> in the data start date field	Mandatory field, applies to data only
6. Enter <**07/19/93**> in the data expiration date	Mandatory field, applies to data only
7. Select and Review " Valid Choices for Keyword"	These are keywords that allows the user to specify a set of criterion for an entry that all must be met for the entry to be returned. The user may by-pass the search field, and enter attribute values directly related to the data
8. Enter **SolidEarth** as the first keyword	
9. Enter **Rocks&Mineral** as the second keyword	
10. 10.Enter **Petrology** as the third keyword	
11. Select "or"	Select the radio button, located to the right of Attribute Value
12. Select 10 entries per page	This restricts the entries per page to 10 or less
13. Select "Run Search & Show Results"	
14. Verify that the results home page is returned	
15. Select the Science Search home page located at the bottom of the page	
16. Enter <**01/01/92**> in the data start date field	Mandatory field, applies to data only
17. Enter <**07/19/93**> in the data expiration date	Mandatory field, applies to data only
18. Select and Review " Valid Choices for Keyword"	
19. Enter **ATMOSPHERICSCIENCE** as the first keyword	
20. Enter **Aerosols** as the second keyword	
21. Enter **AerosolExtinction"** as the third keyword	
22. Select "and"	Select the radio button, located to the right of Attribute Value
23. Select 10 entries per page	This restricts the entries per page to 10 or less
24. Select "Run Search & Show Results"	
25. Return to Science Search home page	
26. Enter <**01/01/92**> in the data start date field	Mandatory field, applies to data only
27. Enter <**07/19/93**> in the data expiration date	Mandatory field, applies to data only
28. Select and Review the Attribute Values	These are values that allows the user to specify a set of criterion for an entry that all must be met for the entry to be returned. The user may by-pass the search field, and enter keywords directly related to the data

29. Select “Instrument Name” in the Attribute Name	Select the radio button, located under Attribute Name Title. Each of the items under Attribute Name will tested in the same matter.
30. Select “Contains” in the Search Criteria	Select the radio button, located under Search Criteria Title
31. Enter “**Modus**” in the Attribute Value	Select the radio button, located under Attribute Name Title
32. Select “and”	Select the radio button, located to the right of Attribute Value
33. Select 20 entries per page	This restricts the entries per page to 20 or less
34. Select “Run Search & Show Results”	
35. Verify that the results home page is returned	
36. Return to Science Search home page	
37. Enter <**01/01/92**> in the data start date field	Mandatory field, applies to data only
38. Enter <**07/19/93**> in the data expiration date	Mandatory field, applies to data only
39. Select “ Valid Choices for Attribute Values”	
40. Enter <**SolidEarth>** in the Discipline field	
41. Enter <**Rocks&Mineral>** in the Topic field	
42. Enter <**Petrology>** in the Controlled Parameter field	
43. Select “ CollectionLongName” in the Attribute Value field	Select the radio button, located under Attribute Name Title. Each of the items under Attribute Name will tested in the same matter.
44. Select “Does not Contain”	
45. Enter “**AVHRR**” in the Attribute Value field	This keyword can be derived from the Valid Choices for Attribute Values home page
46. Select “HTML format, shown in your browser	Will return the results back in HTML format
47. Select 10 entries per page	This restricts the entries per page to 10 or less
48. Select “Run Search & Show Results”	
49. Verify that the results home page is returned	
50. Return to the Science Search home page	

4.10.5.23 Test Case: 23 Science Search - III Verbose Form (TS007.023)

This test will illustrate that contributors may conduct science searches based on search attribute values. The search transaction will be conducted using the verbose form.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include the data start date, data expiration date, instrument name, avhrr and guide URL

Test Output:

Outputs to this test case include data advertisements that relate directly to the search criteria

Success Criteria:

This test is considered successful if the tester is able to submit request for science data based on attribute values using the verbose form. If the transaction can not be performed, an explanation must be returned to the tester in a meaningful message.

Test Procedures:

Test Case ID: TS007.023	
Test Name: Science Search - III Verbose Form	
Test Steps:	Comments
1. 1.Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify "The Earth Science On-line Directory " home page appears on the screen	
3. Select the "Science Search" located at the bottom of the page	
4. Verify that the Science Search home page is returned	
5. Select "Only registered providers"	Each of the items under "Entries to look for will tested in the same matter.
6. Enter "**01/01/93**" in the Data Start Date	
7. Enter "**01/01/94**" in the Data End Date	
8. Select the "Second Browser Containing Valid Choices for Keyword".	Select the "Second Browser Containing Valid Choices for Keyword". You are now in another browser window. Due to the possibility of the list being long, it is recommend that the "find" facility located under "edit " of your browser be used. This list contains possible keywords that you may use to narrow you search
9. Enter **Instrument Name** as the Attribute Name	
10. Select "Exactly Is"	Located under the Search Criteria icon.
11. Enter "**AVHRR**" in the Attribute Value field	This keyword can be derived from the Valid Choices for the Attribute Values home page. Example: "Instrument Name" Exactly Is AVHRR"
12. Select "ASCII format, downloadable report"	
13. Select "100" entries per page	This restricts the entries per page to 100 or less
14. Select "Run Search" located at the bottom of the page	
15. Verify that the results home page is returned	

16. Return to the ESOD home page	

4.10.5.24 Test Case: 24 Science Search - VI Fine Grain (TS007.024)

This test will illustrate that contributors can conduct science searches on fine grain data. The search transaction will be conducted using the verbose from.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include the data start date, data expiration date, instrument name, avhrr and guide URL .

Test Output:

Outputs to this test case include data advertisements that relate directly to the search criteria

Success Criteria:

This test is considered successful if the tester is able to submit request for fine grain science data based on attribute values using the verbose form. If the transaction can not be performed, an explanation must be returned to the tester in a meaningful message.

Test Procedures:

Test Case ID: TS007.024	
Test Name: Science Search - VI Fine Grain	
Test Steps:	Comments
1. 1.Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify “The Earth Science On-line Directory ” home page appears on the screen	
3. Select the “Science Search” located at the bottom of the page	
4. Verify that the Science Search home page is returned	
5. Select “Only data”	Each of the items under “Entries to look for” will be tested in the same matter.

6. Enter "**09/09/89**" in the Data Start Date	
7. Enter "**10/10/90**" in the Data End Date	
8. Select the "Second Browser Containing Valid Choices for Keyword".	Select the "Second Browser Containing Valid Choices for Keyword". You are now in another browser window. Due to the possibility of the list being long, it is recommend that the "find" facility located under "edit " of your browser. This list contains possible keywords that you may use to narrow you search
9. Enter **Instrument Name** as the Attribute Name	
10. Select "Exactly Is"	Located under the Search Criteria icon.
11. Enter "**AVHRR**" in the Attribute Value field	This keyword can be derived from the Valid Choices for Attribute Values home page. Example: "Instrument Name" Exactly Is AVHRR"
12. Select "ASCII format, downloadable report"	
13. Select "100" entries per page	This restricts the entries per page to 100 or less
14. Select "Run Search" located at the bottom of the page	
15. Verify that the results home page is returned with the requested grain search	
16. Return to Science Search home page	

4.10.5.25 Test Case: 25 New Directory Entries (TS007.025)

This test will illustrate that contributors will be able to view the new directories entry(ies) that were found matching the search. The tester will download and save all results to a file.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server,

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include selection criteria

Test Output:

Output to this test case include search results related to the search criteria.

Success Criteria:

This test is considered successful if the tester is able to search for new directories entries. If the transaction can not be performed, an explanation must be returned to the tester in a meaningful message.

Test Procedures:

Test Case ID: TS007.025	
Test Name: New Directory Entries	
Test Steps:	Comments
1. 1.Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
2. Verify "The Earth Science On-line Directory " home page appears on the screen	
3. Select the "Index " located at the bottom of the page	
4. Verify that the Search Results home page is returned	
5. Select " B"	
6. Verify that the Search Results home page is returned with any new directory entries	The directory entry(ies) will have the word new highlighted in yellow
7. Select "**Berrick, Steve**" provider	
8. Verify that the results page is returned	This page may consist of the ID, Description, Moderation Group, Start Date, and Valid until information concerning the provider
9. Select " B"	
10. Select "Save entries in this page to file (downloadable report)	
11. Verify that the file was saved to a flat file	
12. Return to ESOD home page	

4.10.5.26 TestCase:26 Advertising Service Hardware and Facilities (TS007.026)

This test case will verify the hardware and facilities requirements for the subsystem.

Test Configuration:

Hardware: None

Software: None

Data: None

Tools: None

Test Input:

None

Test Output:

None

Success Criteria:

None

Test Procedures:

Test Case ID: TS007.026	
Test Name: Advertising Service Hardware and Facilities	
Test Steps:	Comments
1. Review the performance monitoring of system CPU, memory, disk, and I/O	
2. Verify the administration utility supports the performance monitoring of system CPU, memory, disk, and I/O.	S-IOS-00090
3. Review the electrical, power grounding, fire alarm, acoustical requirements	
4. Verify the electrical, power grounding, fire alarm, acoustical requirements or in accordance with the ECS Facilities Plan (DID 302/DV2)	S-IOS-60020 S-IOS-60030 S-IOS-60040 S-IOS-60050
5. Review the physical interface requirements and the footprint size and physical layout of the ADSHW	
6. Verify the physical interface requirements and the footprint size and physical layout of the ADSHW conforms to the ECS Facilities Plan (DID 302/DV2)	S-IOS-60060 S-IOS-60070
7. Review the operating system for each Unix platform	
8. Verify the Unix platform operating system for the ADSHW CI conforms to the POSIX.2 standard by inspecting the vendor supplied documentation	S-IOS-60110
9. Review the POSIX.2, POSIX.2 user Portability, the C-Language Development Software Development Utilities	
10. Verify the POSIX.2 platform has at minimum, the perl, emacs, gzip, tar, imake, prof, gprof, nm are installed, and the POSIX.2 user Portability utilities that are installed a minimum man. vi , the POSIX.2 C-Language Development Utilities are installed at a minimum of lex, yacc, and the Software Development Utilities are installed at a minimum: make.	S-IOS-60120 S-IOS-60130 S-IOS-60140 S-IOS-60150
11. Review the Unix shells that installed at a minimum	
12. Verify the C shell, Bourne shell, and the Korn shell are installed by the ADSHW CI	S-IOS-60160
13. Review the tools the ASDHW CI POSIX.2 platform has installed	
14. Verify the ADSHW CI has on-line documentation or printed documentation for each installed tool	S-IOS-60170
15. Review The ADSHW CI POSIX.2 shall installed one or more development environment supporting the following: a. C and b. FORTRAN-77	
16. Verify the ADSHW CI POSIX.2 installed one or more development environment supporting a. C and b. FORTRAN-77	S-IOS-60180
17. Review the development environment that is associated with the POSIX.2 compliant platform	
18. Verify the POSIX.2 platform has the capability to compile and link strictly conformant POSIX-compliant source code	S-IOS-60190

19. Review each development environment associated with the POSIX.2 compliant platform in the ADSHW CI .shall have an interactive source level debugger for ECS supported languages	
20. Verify each development environment is associated with the POSIX.2 compliant platform in the ADSHW CI. Each development environment must have an interactive source level debugger for ECS supported languages	S-IOS-60195

4.10.6 Release A User Registration Thread (TS017)

The Release A User Registration thread verifies the capability to allow users to log on and become known to the ECS system. Registration includes obtaining and maintaining user configuration information and user supplied or default information. Modification of a user's profile (i.e., user names, password, privileges, account information) based on pre-defined ESDIS provided information is also demonstrated in this thread. The Release A User Registration functionality's that will be tested in phase 3 include:

- Viewing and Modifying their User Profile Information
- User Validation.
- Entering valid and invalid information on the User Registration form.
- Not entering information in all the required fields on User Registration form.
- Checking to see whether information entered on the User Registration form is echoed back on the User Registration Confirmation form.
- Checking the fields on the User Registration form for character type and length.
- Changing information entered on the User Registration Conformation form.

4.10.6.1 Test Case 1: Viewing and Modifying User Profile (TS017.001)

This test demonstrates the capability for registered users to view and modify their User Profile. The registered users will have the capability to request and modify their User Profile Information

Test Configuration:

Hardware: CLHW

Software: User Registration Tool

Data: User Profile Data

Tools: XRunner Tool

Test Input:

Modify user profile information on the User Profile form.

Test Output:

Modifications are made to the user profile information and the user profile is updated.

Success Criteria:

This test is considered successful if the user is able to view and modify the user profile information on the User Profile form.

Test Procedures:

Test Case ID: TS017.001	
Test Name: Viewing and Modifying User Profile	
Test Steps:	Comments:
1. Log onto the ECS System.	
2. From Netscape and/or Mosaic browser access the User Registration Tool.	
3. If the user is a registered user, then the User Profile form will be displayed. The user can then modify the information in the User Profile form.	CLS-12510 CLS-12520
4. If the user is not registered, then the User Registration form will be displayed. The user can then fill out the on-line User Registration form and submit it for registration.	

4.10.6.2 Test Case 2: User Validation (TS017.002)

This test demonstrates the ability to provide users the capability to login. The users will be provided with initial system access procedures. To log on to ECS a user must enter a valid user name and password.

Test Configuration:

Hardware: CLHW

Software: User Registration Tool

Data: User Profile Data

Tools: XRunner Tool

Test Input:

Valid and Invalid user log on requests.

Test Output:

Information is returned from the client allowing or denying the user access based on the validation information.

Success Criteria:

This test is considered successful if each valid log on attempt results in a successful log on and each invalid log on attempt results in a failure.

Test Procedures:

Test Case ID: TS017.002	
Test Name: User Validation	
Test Steps:	Comments:
1. Try to log on to the ECS system by entering valid and invalid user names and passwords.	CLS-13120
2. If valid user name and password are entered then the user is able to successfully log on to the ECS system.	CLS-13410
3. If invalid user name and password are entered then the user is unable to log on and an error message is displayed.	CLS-13370
4. If a valid user name is entered but an invalid password is entered then the user is displayed an error message.	
5. If an invalid user name is entered but a valid password is entered then the user is display an error message.	
6. The only way to successfully log on is to have a valid user name and a valid password.	

4.10.6.3 Test Case 3: Enter Valid and Invalid Information In the Fields (TS017.003)

This test demonstrates the ability of the User Registration Tool to accept valid information and reject invalid information entered into the User Registration Form fields.

Test Configuration:

Hardware: CLHW

Software: User Registration Tool

Data: User Profile Data

Tools: XRunner Tool

Test Input:

Enter valid and invalid information on the User Registration Form.

Test Output:

When valid information is entered on the User Registration Form, the user will be allowed to become an ECS Registered User and when invalid information has been entered into the User Registration form fields an error message is displayed to the user informing them that invalid information has been entered into the fields and no processing of the User Registration Form occurs.

Success Criteria:

This test is considered successful if the user enters valid information on the User Registration form and is allowed to become an ECS Registered User. If the user enters invalid information on the User Registration form, then an error message is displayed and no processing of the User Registration Form occurs.

Test Procedures:

Test Case ID: TS017.003	
Test Name: Entering Valid and Invalid Information In The Fields.	
Test Steps:	Comments:
1. Log onto the ECS System	
2. From Netscape and/or Mosaic browser access the User Registration Tool.	
3. The User Registration Tool is accessed and the User Registration Form screen is displayed.	
4. Fill out the on-line User Registration Form by entering valid information and then repeat this step by entering invalid information into the fields.	
5. Click on the "Submit" push button at the bottom of the screen.	
6. If only valid information is entered then processing of the User Registration Form will occur.	
7. The user will be allowed to become an ECS Registered User.	
8. If invalid information is entered then no processing occurs and an error message is received on the User Registration Form informing the user that invalid information has been entered into the fields.	
9. The user will not be allowed to become an ECS Registered User, since invalid information has been entered on the User Registration Form.	

4.10.6.4 Test Case 4: All Required Fields Not Entered (TS017.004)

This test demonstrates the ability of the User Registration tool to reject a User Registration form which does not have all the required fields entered.

Test Configuration:

Hardware: CLHW

Software: User Registration Tool

Data: User Profile Data

Tools: XRunner Tool

Test Input:

Enter information in only some of the required fields on the User Registration Form.

Test Output:

Since all the required fields are not entered, an error message is displayed.

Success Criteria:

This test is considered successful if the user receives an error message because all the required fields have not been entered with information.

Test Procedures:

Test Case ID: TS017.004	
Test Name: All Required Fields Not Entered	
Test Steps:	Comments:
1. Log onto the ECS System	
2. From Netscape and/or Mosaic browser access the User Registration Tool.	
3. The User Registration Tool is accessed and the User Registration Form is displayed.	
4. Fill out the on-line User Registration Form by entering information in some of the required fields but not in all of them.	
5. Click on the "Submit" push button at the bottom of the screen.	
6. Notice that no processing occurs and an error message is received on the User Registration Confirmation Form informing the user that all required fields have not been entered.	

4.10.6.5 Test Case 5: Check Entry Fields For Length (TS017.005)

This test demonstrates the ability of the User Registration Tool to check for valid field lengths. All entry fields should allow a certain number of characters to be entered.

Test Configuration:

Hardware: CLHW

Software: User Registration Tool

Data: User Profile Data

Tools: XRunner Tool

Test Input:

Enter various lengths of information into the User Registration Form fields.

Test Output:

An error message is received for fields that have exceeded the allowable number of characters to be entered for that particular field.

Success Criteria:

This test is considered successful if the user receives an error message if the allowable number of characters is exceeded for a particular field.

Test Procedures:

Test Case ID: TS017.005	
Test Name: Check Entry Fields for Length	
Test Steps:	Comments:
1. Log onto the ECS System.	
2. From Netscape and/or Mosaic browser access the User Registration Tool.	
3. The User Registration Tool is accessed and the User Registration Form screen is displayed.	
4. Fill out the on-line User Registration Form by entering various lengths of information into the fields.	
5. Click on the "Submit" push button at the bottom of the screen.	

4.10.6.6 Test Case 6: Check for Echo of Entries on User Registration Confirmation Form (TS017.006)

This test demonstrates the ability of the User Registration Tool to echo back entries made on the User Registration Form onto the User Registration Confirmation Form. The entries made in the fields on the User Registration Form will be echoed back on the User Registration Confirmation form.

Test Configuration:

Hardware: CLHW

Software: User Registration Tool

Data: User Profile Data

Tools: XRunner

Test Input:

Enter information in the fields on the User Registration Form.

Test Output:

The information entered in the fields on the User Registration Form are echoed back on the User Registration Confirmation Form.

Success Criteria:

This test is considered successful if the information entered in the fields on the User Registration Form is correctly echoed back on the User Registration Confirmation Form.

Test Procedures:

Test Case ID: TS017.006	
Test Name: Check for Echo of Entries on the User Registration Confirmation Form	
Test Steps:	Comments:
1. Log onto the ECS System.	
2. From Netscape and/or Mosaic browser access the User Registration Tool.	
3. The User Registration Tool is accessed and the User Registration Form screen is displayed.	
4. Fill out the fields on the User Registration Form making sure all the required fields are filled out.	
5. Go to the bottom of the screen and press the "Submit" button.	
6. The User Registration Confirmation form is displayed.	
7. Check the information in the fields on the User Registration Confirmation form to make sure they conform to the information you entered on the User Registration Form.	
8. If all the information in the fields conform to the entries made on the User Registration form, press "Submit" button at the bottom of the screen to register.	

4.10.6.7 Test Case 7: Change Information on the User Registration Confirmation Form (TS017.007)

This test demonstrates the ability of the User Registration Tool to allow the user to make changes to the Information entered on the User Registration Confirmation Form.

Test Configuration:

Hardware: CLHW

Software: User Registration Tool

Data: User Profile Data

Tools: XRunner Tool

Test Input:

Make changes to the information in the fields on the User Registration Confirmation form.

Test Output:

The changes to the information in the fields are made and reflected on the User Registration Confirmation form.

Success Criteria:

This test is considered successful if the user is able to make the changes to the information entered on the User Registration Confirmation form.

Test Procedures:

Test Case ID: TS017.007	
Test Name: Change Information on the User Registration Confirmation Form	
Test Steps:	Comments:
1. Log onto the ECS System.	
2. From Netscape and/or Mosaic browser access the User Registration Tool.	
3. The User Registration Tool is accessed and the User Registration Form screen is displayed.	
4. Fill out the fields on the User Registration Form making sure all the required fields are filled out.	
5. Go to the bottom of the screen and press the "Submit" button.	
6. The User Registration Confirmation form is displayed.	
7. Check the information in the fields on the User Registration Confirmation form to make sure they conform to the information you entered on the User Registration Form.	
8. Now change the information in the fields on the User Registration Confirmation form.	
9. The information is changed and reflected on the User Registration Confirmation form.	

4.10.7 Valids Management Thread (TS020)

The Valids Management Thread demonstrates the capabilities of the Valids support system to create and maintain the Valids Support Files. The term valids is short for valid keywords. A valid keyword is a value for a particular field type. Valids are used as search criteria by the V0 Client in locating datasets within the ECS inventory database. Valids are available for display and selection for seven field types located on the V0 Client dataset granule search request screen. A search may require the combination of several valids to clearly define the search criteria needed to locate ECS data. This often requires a compatibility between the valids selected for a search. These compatible valids are called dependent valids. Valids are accepted from the data centers (DAACs) in ODL format, checked for syntax then copied and renamed to a standard source directory. From this source directory the Valids Ingest reads and creates six Bitmap files which are the Valids Support Files. The V0 Client uses these bitmap files in (1) validating valids input by the user and (2) in defining and controlling the valids and their dependencies. This Thread consist of the following test cases:

TS020.001 Valids Read and Validate ODL Files Test

TS020.002 Verify Most Current Support Files Test

TS020.003 Unauthorized Valids Access Control

TS020.004 Valids Support File Updates Test

TS020.005 Valids File Update Error Test

4.10.7.1 Test Case 1: Valids Ingest ODL Files Test (TS020.001)

This test verifies that ODL files sent by the DAACs are ingested and that the Support file are created. In this thread administrative ingest and install functions are observed and verified.

Test Configuration:

Hardware: Client Workstation, x-terminal, Permanent Storage, the SUN and SGI Workstations where the Valids Ingest reside.

Software: Valids Ingest , Valids Server, Valids Client, V0 Client

Data: DAAC valids ODL files, Master valids string file

Tools: None

Test Input:

This test requires an authorized account to access the valids ingest management functions and script files to setup environments and start the ingest processes.

Test Output:

The test produces the 6 Valids Support files and a valids activity log display of script files executions.

Success Criteria:

This test is deemed successful when the Valids Support Files are created and have been verified.

Test Procedures:

Test Case ID: TS020.001	
Test Name: Valids Ingest ODL Files Test.	
Test Steps:	Comments:
1. Log on to an ECS client workstation .	On the client station open up two x-term windows.
2. Open three x-term windows.	
3. On the First window remote log into an SGI Valids Workstation with an authorized user id with valids access privileges.	This window is for starting up script files which run the valids functions and for observing responses from the script files as they are being run on the SGI workstation.
4. On this same window set the directory for the script files **>cd ~ims/src/support_file_ingest/gaea_data**	
5. On the second window remote log into the same Valids Workstation.	This window is used to verify the existence of the various support files.
6. Set the directory to where all of the DAAC and ECS ODL files reside and list the files. **>cd ~ftp/incoming** **>ls**	A list of all of the Data Centers ODL files is displayed.
7. Verify that all of the DAAC and ECS Valids ODL files have been place in the source directory.	

8. On this window set the directory to where the valids support files reside and list the files. **> cd $gaeadata_dir** **>ls**	If this is an initial run, no valids support files are listed. Otherwise the list of support files and a master file are listed.
9. On the third window remote log into the SUN Valids Workstation.	This window is for starting up script files which run the valids functions and for observing responses from the script files as they are being run on the SUN workstation.
10. On the first x-term window startup the Valids scripts file to ingest ODL valids files on the SUN and SGI platforms. This script is to be run on SGI workstation. The call to this script file requires the parameter **OPS_xx_YYMMDD** where: **"OPS_"** = string constant = the latest revision number "YYMMDD" = the release date. **>source ops_sgi_ing_pack.s** **OPS_xx_YYMMDD** Enter date : **>yymmdd**	The release process begins when a DAAC requires a modification to an ODL file. The release process requires a four week testing and verification time period. The first two weeks are spent running in the test environment. The second two weeks are spent testing on the operations environment using the test files. On the last week the files are moved to the operations environment and finally installed on the Friday of the last week. This date is the Friday of the OPS release. Script functions: OPS Valids/Pkg Info Ingest&Pkng SGI The script prompts :**>"Enter the date for Friday of the OPS release <yymmdd>: "**
11. Run this script on the SUN workstation. **>source ops_interops_sun_ingest.s** **OPS_xx_YYMMDD**	This script is for valids ingest on the SUN workstation.
12. Run the following script on the SGI machine. **>source ops_sun_pack.s** **OPS_xx_YYMMDD** Enter date : **>yymmdd**	This script is for the SUN Platform Packaging of the Valids/Package Info for Distribution. The script prompts :**>"Enter the date for Friday of the OPS release <yymmdd>: "**
13. Run this script on the SGI workstation. **>source interop_sgi_ing_pack_inst.s** **CINTEX_yymmdd** Enter date : **>yymmdd**	This script is to ingest and package CINTEX files on the SGI workstation. The script prompts :**>"Enter the date for Friday of the OPS release <yymmdd>: "**
14. Run this script on the SUN workstation. **>source ops_interop_sun_ingest.s** **CINTEX_yymmdd**	This script is for the SUN ingest of CINTEX files.
15. This script is to be run on SGI workstation. **>source interop_sun_pack.s** Enter date : **>yymmdd**	This script is for CINTEX valids installment for testing on the SUN. The script prompts :**>"Enter the date for Friday of the OPS release <yymmdd>: "** Once the executable have completed, list the gaeadata_dir to verify that the new valids support files exist.
16. On the second window of the SGI workstation list all of the files in the valids support files directory.	A list of the new valids files is displayed.

17. On the window of the SUN workstation, list all of the files in the valids support file directory.	A list of the new valids files is displayed.
18. Log off of the SGI Valids workstation windows.	
19. Log off of the SUN valids workstation.	
20. Log off of the ECS user client workstation.	

4.10.7.2 Test Case 2: Verify Most Current Support Files Test (TS020.002)

This test demonstrates the ability of the Valids system to verify that the most current set of Valids files is being used by the V0 Client. At V0 system startup, the Valids Client checks the version number in the current operational valids header and requests newer valids from the Valids Server. The server compares the version number of the request with its current files and either returns the newer files or an indication that the client's files are up to date. This test addresses both conditions.

Test Configuration:

Hardware: Client Workstation,

Software: Valids Client ,Valids Server

Data: Operational Valids Bitmap and most current Bitmap files

Tools: Script files with test version input option. This option bypasses the need to use the V0 Client. It allows the tester to preset the version number at script run time execution.

Test Input:

This test requires an authorized account to access the valids ingest management functions and a startup of the Valids Client with a version number as an input parameter.

Test Output:

The test will either copy the newest version of the Valids Bitmap files or indicate that the client has the latest files.

Success Criteria:

This test is deemed successful when either the client is updated whit the latest valids files or the client receives an indication that it has the up to date valids.

Test Procedures:

Test Case ID: TS020.002	
Test Name: Verify Most Current Support Files Test	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Remote log into the Valids Client workstation.	

3. Startup the Valids Server. **>sf_server**	
4. On same client station startup the Valids Client **sf_client.** **>source -n auto_xfer_pe 0**	This script file enables user to pass the parameter value version number to the Valids Client of the present operational valids files. The number 0 is the version number. The 0 version number automatically forces the Valids server to send the most current Valids Files to the Valids Client. The Valids Client **sf_client** uncompresses the Valids Bitmap file and overwrites the old operational Valids Bitmap with the new file.
5. Determine the version number of the Valids files just accessed.	
6. Abort the two Valids functions. **>kill -9 sf_client**	
7. Restart the Valids Client using the script file and setting version parameter the same as the current operations valids. **>source -n auto_xfer_pe <n>**	By sending the same version number as that of the operational Valid file, the Valids Server sends a confirmation that the current valids are up-to-date.
8. Examine the sf_client.log file to verify that the server sent a confirmation rather than overwriting the current valids file. **>more sf_client.log**	The log displays the confirmation statement
9. Kill both of the functions. **>kill -9 sf_client** **>kill -9 sf_server**	
10. Log off of the remote station.	
11. Log off of the client station.	

4.10.7.3 Test Case 3: Unauthorized Valids Access Control Test (TS020.003)

This test demonstrates the ability of the valids ingest to prevent unauthorized entry into the valids support file. The tester attempts login and submits invalid information to access the valids support file and make modifications to it's contents. This will verify that appropriate, correct and clear error messages are returned. After invalid attempts are made, a valid request will be made to verify an authorized users attempts don't inhibit proper use of the valids functions.

Test Configuration:

Hardware: Client Workstation.

Software: Valids Ingest , Valids Server, V0 Client

Data: User log in and password information.

Tools: None

Test Input:

Log in information and ODL input files

Test Output:

Error message indicating improper user privilege

Success Criteria:

Unauthorized users are denied access to the valids management functions.

Test Procedures:

Test Case ID: TS020.003	
Test Name: Unauthorized Valids Access Control Test	
Test Steps:	Comments:
1. Logon to an ECS Client Workstation.	
2. Open an xterm window.	
3. Attempt a remote log in to the Valids Support system workstation using an unauthorized user id and password.	The user has a user id which has not been registered as a Valids Access authorized user. (ex. not in the same system group, lacks the privileges, etc.) The system displays appropriate error message.
4. Now attempt remote login using an authorized user id and password.	The system allows access to the Valids functions.
5. Log off of the Valids Support System.	
6. Log off of the Client Workstation.	

4.10.7.4 Test Case 4: Valids Support File Update Test (TS020.004)

This test demonstrates the ability of the Valids Support system to access the valids support file and provide management services The tester logs on to the V0 Client and performs a specific search before any modifications are made to the on-line Valids Files. The search criteria parameters and search results are recorded. The tester logs off of the system. The tester re-logs in as an authorized user and makes changes to the valids file. Changes consists of adding or modifying select valids entries. After changes to the valids file have been made and the ODL files are processed the tester checks the valids activity log to verify that changes were recorded in the log. The tester then logs off as a valids management user. The tester re-logs into the V0 Client so that it accesses the new valids file. The tester repeats the same search and examines the same search parameters list to verify that the valids have been changed.

Test Configuration:

Hardware: ECS Client Workstation

Software: V0 Client, Valids Support System (Ingest, Server & Client).

Data: ODL file which contains legitimate valids modifications

Tools: None

Test Input:

Valids files containing no erroneous data.

Test Output:

Status logs containing messages regarding what was performed on the Valids Support Files.

Success Criteria:

The Valids activity log contains an accurate log of all update activity. The user also verifies that the valids parameter list for a particular field type reflects the changes made.

Test Procedures:

Test Case ID: TS020.004	
Test Name: Valids Support File Update Test	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Start the V0 Client by entering "xgaea" on the command line. **>xgaea**	
3. Click on the **"Search Screen"** button on the bottom of the screen.	
4. Find **"Search Type"** at the top of the **"Search Screen"** and select **"Inventory"** option.	
5. On this screen select the **"List"** option on one of the field types to which a valid keyword will be added.	The valids dialog window pops up and displays all of valids for that field type. Record this list to compare it to the modified new list containing a new valids entry for later.
6. Close this window and exit the V0 Client.	
7. Prepare the Valids ODL files which add a valids entry into the selected field type to be modified.	
8. Using another xterm window, log on to the Valids Client workstation.	
9. Insert the new ODL files (See Test Case TS020.001)	
10. Log off of the Valids Client workstation.	
11. Go back to the V0 Client xterm window and re-start the V0 Client by entering "xgaea" on the command line. **>xgaea**	
12. Click on the **"Search Screen"** button on the bottom of the screen.	
13. Find **"Search Type"** at the top of the **"Search Screen"** and select **"Inventory"**	
14. On this screen select the **"List"** option on the field type to which a valid keyword was added.	The valids dialog window pops up and displays the modified list of valids for the selected field type. Compare the two lists and verify the addition of the valid keyword.
15. Close the search screen and exit the V0 Client.	

16. Close the Valids Client windows and log off of the this client.	
17. Log off of the ECS workstation.	

4.10.7.5 Test Case 5: Valids File Update Error Test (TS020.005)

This test demonstrates the ability to recognize and respond to error conditions encountered during the ingest or manipulation of valids data. Errors include (1) the attempt to insert duplicate index numbers with the same or different keyword, (2) two different index numbers with the same keyword and valid string.

Test Configuration:

Hardware: Valids Client Workstation.

Software: Valids Ingest, Script files

Data: Modified ODL files which contain duplicate entries (index)

Tools: None

Test Input:

Valids ODL files containing erroneous data.

Test Output:

Appropriately logged Error messages

Success Criteria:

The test is deemed a success when the error conditions are flagged and the modified files are not ingested.

Test Procedures:

Test Case ID: TS020.005	
Test Name: Valids File Update Error Test	
Test Steps:	Comments:
1. Log on to an ECS client workstation.	
2. Remote log on to the Valids Support workstation.	
3. Copy the modified ODL file containing the erroneous duplicate valid entries.	This file contains a duplicate index number with different keywords.
4. Startup the Valids Ingest process.	The validation process performed by the Ingest logs the appropriate error.
5. Abort the Valids Ingest process.	
6. Copy another modified ODL file containing the erroneous entries.	This file contains two different index numbers with the same keywords and string value.
7. Startup the Valids Ingest process.	
8. Examine the Valids activity log for the errors.	
9. Log off of the remote workstation.	
10. Log off of the ECS client workstation	

4.10.8 User Search Services 3 Build (BS013)

This build test demonstrates user capabilities which are accessible through the ECS Workbench. These tools consist of the User Registration, ECS Desktop, Document Data Server, Advertising Service, Release A Search and Order Tool, EOSView, and the ECS Help function. The User Search Services 3 Build test these user tools in an integrated environment.

4.10.8.1 Test Case 1: User Access Test (BS013.001)

This test demonstrates the capability of the ECS Client software to allow a registered user to access the ECS Release A software. The tester will initially log into the ECS system as a new user. The tester will then request a user account using the User Registration capabilities. This process will consist of completing all User Registration forms and completing the User Profile forms. Once the user account is approved, the tester will log into the ECS system and start the Desktop software to verify the account priorities. The tester will then attempt to access the user services to validate access to authorized user services. Services that will be accessed include the ESN Electronic Bulletin board, Advertising Service, Release A Search & Order Tool, Document Data Server and EOSView.

Test Configuration:

Hardware: CLHW, DMGHW, DDSHW

Software: Advertising Service, DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0, Release A Search & Order Tool, ECS Desktop, motif window manager, MSS User Registration Tool, V0 Gateway

Data: User registration, user profile, Advertising Service database, Document Data Server database

Tools: XRunner

Test Input:

User Registration and User Profile information

Test Output:

Account approval from the SMC with appropriate user account priorities

Success Criteria:

This test is considered successful if the tester is able to successfully login to the ECS system as a guest user, request a user account, and access the system using the approved account. The software must also demonstrate the capability to restrict user access to authorized user services as determined by the SMC.

Test Procedures:

Test Case ID: BS013.001	
Test Name: User Access Test	
Test Steps:	Comments:
1. Log into the Desktop software as a guest user.	
2. Verify the ECS validation process allows a user to log on as a guest.	IMS-0085#A, IMS-0130#A
3. Verify the ECS Desktop appears on the screen.	
4. Select the User Registration option from the Desktop pull down menu	
5. Complete the User Registration form and the User Profile form and submit the form to the SMC.	
6. Verify the SMC received and processed the User Registration request.	S-CLS-13100, IMS-0060#A
7. Verify the user is notified that the user account is approved.	
8. Log out of the ECS Desktop.	
9. Log in to the ECS Desktop using the as a registered user using a workstation running DCE.	S-CLS-10645
10. Verify the User Profile is displayed on the screen.	S-CLS-13450, S-CLS-13110, S-CLS-13130, S-CLS-12510, IMS-0050#A, IMS-0070#A, IMS-0180#A
11. Modify several entries in the User Profile.	
12. Verify the user is able to modify the User Profile.	S-CLS-12520
13. Close the User Profile window.	
14. Verify the ECS Desktop appears on the screen.	S-CLS-13440, S-CLS-13370, S-CLS-13410, S-CLS-13120, IMS-0040#A
15. Verify the Desktop includes container objects, application objects and document objects.	S-CLS-12900, S-CLS-00370, IMS-0480#A
16. Select a desktop document object.	
17. Delete the selected object.	S-CLS-00340
18. Restore the deleted object by selecting the “undo” command.	
19. Verify the deleted object is restore.	S-CLS-00345, S-CLS-00330
20. Start the following applications from the Desktop: Advertising Service, Document Data Server, EOSView and the Release A Search & Order Tool.	IMS-0130#A
21. Verify the applications are started.	S-CLS-00180, IMS-0120#A
22. Attempt to access services that are not authorized for the user.	
23. Verify an error messages is received stating the user is denied access to the service.	IMS-0130#A
24. Select the “Help” pull down menu on the Desktop.	
25. Verify the ECS Help window is displayed on the screen.	
26. Exit the “Help” window.	
27. Exit the ECS Desktop	
28. Login to the Desktop using a workstation that does not have DCE running on it.	S-CLS-10645
29. Verify the user profile is displayed.	
30. Close the user profile window.	
31. Verify the ECS Desktop is displayed.	
32. Exit the ECS Desktop	

4.10.8.2 Test Case 2: User Search Services Test (BS013.002)

This test demonstrates the ability of the ECS Client software to allow users to perform searches using the Advertising Service and Document Data Server. The Advertising Service and Document Data Server applications will be started from the ECS Desktop. Advertisements and documents will be selected by browsing through the Advertising and Document databases. The test will demonstrate simultaneous access to the Advertising Service and Document Data Server.

Test Configuration

Hardware: DDSHW, DMGHW

Software: Advertising Service, DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0, Release A Search & Order Tool, ECS Desktop, motif window manager, MSS User Registration Tool, V0 Gateway

Data: User registration, user profile, Advertising Service database, Document Data Server database

Tools: XRunner

Test Input:

Inputs to this test case consist of search criteria for the Advertising Service and the Document Data Server.

Test Output:

Output for this test case consist of Advertising Service descriptions, documents from the Document Data Server and appropriate error messages.

Success Criteria:

This test is considered successful if the client provides the requested information from the Advertising Service and Document Data Server. Appropriate error messages must also be displayed if user errors or system errors occur during the execution of this test.

Test Procedures:

Test Case ID:BS013.002	
Test Name: User Search Services Test	
Test Steps:	Comments:
1. Log into the Desktop software as a guest user.	
2. Verify the ECS validation process allows a user to log on as a guest.	
3. Verify the ECS Desktop appears on the screen.	

4. Select the communications icons found on the Desktop.	These icons provide access to the ESN. S-CLS-13310, S-CLS-13320, S-CLS-1330, S-CLS-13340, S-CLS-13350, S-CLS-01510, INS-1600#A
5. Return to the ECS Desktop	
6. Start the Advertising Service by selecting the Advertising Service icon on the ECS Desktop	
7. Verify the “Advertising Service” home page appears on the screen	
8. Select the Advertising Service "Index” hyper link	
9. Verify the “Advertising Service Index” appears on the screen	
10. Browse through the available advertisements by selecting a letter from the Advertising Service Index.	S-IOS-00060, IMS-0290#A
11. Verify a list of advertisements is displayed	S-CLS-10650, S-CLS-10660, S-CLS-10680, S-CLS-10700 S-IOS-00010, S-IOS-00590, S-CLS-10690, S-CLS-10910, S-IOS-00070, S-IOS-00080
12. Select several of the advertisements listed	
13. Verify the selected advertisements are displayed on the screen.	S-CLS-10670, S-CLS-10680, S-CLS-10690, S-CLS-10700, IMS-0085#A, EOSD5010#A, IMS-0600#A, IMS-0550#A, IMS-0030#A
14. Return to the Advertising Service home page.	
15. Select the option to submit an advertisement.	
16. Verify an Advertising Service Submission form is displayed.	
17. Complete the form and select the “Submit button.	
18. Verify the “Submission Result” page is displayed stating the advertisement was submitted.	S-CLS-11295, IMS-1500#A
19. Exit the Advertising Service.	
20. Return to the ECS Desktop and select the Document Data Server icon.	
21. Verify the Document Data Server home page appears on the screen.	
22. Select the Document Data Server search button	
23. Verify the search screen is returned	
24. Enter the search criteria for documents in the Document Data Server.	The search criteria may be by text search, or by selecting hyper links displayed on the screen. S-CLS-10840, IMS-0415#A, IMS-0510#A, IMS-0500#A, IMS-0860#A, IMS-0780#A, V0-0080#A, S-CLS-13690, S-CLS-15610, S-CLS-15630, S-CLS-10990
25. Select the Execute Search button	
26. Verify the Document Data Server Results window returns documents that meet the selected search criteria.	S-DSS-10010, S-DSS-10050, S-DSS-10250, S-CLS-10830, S-CLS-15620, S-CLS-15640, IMS-0480#A, IMS-0860#A, V0-0090#A
27. Select one of the listed documents and specify electronic transfer of the document.	
28. Verify the document is received by electronic transfer over the network.	S-CLS-10800, IMS-0590#A, IMS-0810#A
29. Select another document and specify off-line (hard copy) distribution of the document	

30. Verify a hard copy of the document is distributed.	S-CLS-10810, IMS-0590#A
31. Exit the Document Data Server and Advertising Service applications.	
32. Exit the ECS Desktop.	

4.10.8.3 Test Case 3: Science Data Search Test (BS013.003)

This test demonstrates the ability of the client to perform Directory, Guide and Inventory searches using the Release A Search & Order Tool. Searches will be performed against the ECS data server as well as the V0 IMS. The Inventory results will be checked for available browse products. The browse products will be displayed using EOSView. Finally, several granules will be ordered to demonstrate the product order capability.

Test Configuration

Hardware: DDSHW, DMGHW, DPRHW

Software: Motif Window Manager, DmGwDirectoryQuery, DmGwDirectoryResult, DmGwDataValue, DmGwDateTime, DmGwErrorResult, DmGwInvESDTReference, DmGwInvQuery, DmGwInvRequests, DmGwInvSearchRequest, DmGwODLAggregate, DmGwODLNonAggregate, DmGwODLParameter, DmGwODLTree, DmGwQuit, DmGwRSTAggregate, DmGwRSTNonAggregate, StringVec, DM`mGwSpatial, DmGwTemporal, DmGwUserInfo, DmGwV0ECSMapper, DmGwVoRequest, RequestDispatcher, main, V0 Valids Update Process, Data Management DBMS (Sybase), SDSRV Interface, Earth Science Object Class Libraries, Basic Structured Class Libraries

Tools: XRunner

Test Input:

Inputs to this test include search criteria for Directory, Guide, and Inventory Search

Test Output:

Outputs to this test case include Directory, Guide and Inventory Search results. Also, product orders will be staged for distribution.

Success Criteria:

This test is considered successful if the search tool provides the correct information from the V0 and ECS Data Servers. The search tool must provide an incremental search capability which allows users to refine and resubmit searches. The search tool must also demonstrate the capability to query geographic metadata by geographic reference, data element content, minimum bounding rectangle, point & radius, geographic name and any WRS. EOSView must display the 8/24 bit browse products in ECS-HDF format. Product orders must be properly staged for access by the requester. Appropriate error messages must also be displayed if user errors or system errors occur during the execution of this test.

Test Procedures:

Test Case ID: BS013.003	
Test Name: Science Data Search Test	
Test Steps:	Comments:
1. Log into the Desktop software as a registered user.	
2. Verify the ECS validation process allows the registered user to log on.	
3. Verify the ECS Desktop appears on the screen.	
4. Start the Release A Search and Order Tool by selecting the Search Tool icon on the Desktop.	
5. Select Directory Search as the Search type	
6. Enter Directory search criteria for ECS and non-ECS data sets.	
7. Submit the search.	IMS-0290#A
8. Verify the "Communication Status" window is displayed on the workstation. Verify the search is executing by observing the status on the "Communication Status" window	
9. When the search is completed select the "Data" button for ECS data.	
10. Verify the "Directory Results Screen" appears on the workstation screen.	S-CLS-10710, S-CLS-10720, S-CLS-03365, S-CLS-10015, S-CLS-10755, IMS-0600#A, IMS-0020#A, IMS-0030#A, IMS-0356#A, IMS-0390#A
11. Verify the directory search results match the search criteria selected.	
12. Return to the Communication Status window and select the “Data” button for a V0 DAAC.	
13. Verify the "Directory Results Screen" appears on the workstation screen.	
14. Verify the directory search results match the search criteria selected.	
15. Close the Directory Results window and the Communication Status window.	
16. Return to the Search Screen and select Inventory as the search type.	
17. Enter Inventory search criteria for ECS and non-ECS data sets.	
18. Save the Inventory search criteria using the save option on the search tool.	S-CLS-12560, S-CLS-13480, IMS-0190#A
19. Select the option to clear the search field on the Search Screen.	
20. Verify all of the search fields are cleared.	
21. Select the option to retrieve the previously saved search parameters.	
22. Select the previously saved file which contains the search parameters	
23. Verify the previously saved search parameters are restored in the appropriate fields on the search screen.	S-CLS-13490
24. Submit the search.	S-DSS-04660

25. Verify the "Communication Status" window is displayed on the workstation. Verify the search is executing by observing the status on the "Communication Status" window.	
26. When the search is completed select the “Data” button for ECS data.	
27. Verify the search results are displayed in the Inventory Results Screen.	S-CLS-10910, S-DSS-00023, S-DSS-04660, S-DSS-04670, IMS-0220#A
28. Select one of the granules displayed.	
29. Select “Detailed Information” to retrieve detailed information on the selected granule.	
30. Verify the detailed information is displayed	S-DSS-04680, S-DSS-04690, IMS-0340#A
31. Select “Coverage Map”	
32. Verify a map is displayed showing the geographical coverage of the selected data granule.	
33. Select “Integrated Browse”.	
34. Verify a browse product is displayed for the selected granule.	
35. Close the window displaying the Browse image and return to the Inventory Results Screen.	
36. Select a granule and initiate a product order.	
37. Verify the product order window appears on the screen.	
38. Complete the order form and initiate the product order.	
39. Verify a notice is sent to the user describing where the ordered product is staged for retrieval.	
40. Go to the designated directory and verify the ordered product is in the location specified in the notice.	
41. Close the Product Order window	
42. Close the Inventory Results and Communication Status windows and return to the Search Screen.	
43. Select Guide as the search type.	
44. Enter Guide search criteria.	
45. Verify a list of Guide documents which meet the search criteria are displayed.	
46. Select one of the listed Guide documents.	
47. Verify the Guide document contains information related to the guide search criteria.	S-DSS-10060, S-DSS-10220
48. Close the Release A Search and Order Tool	
49. Log out of the ECS Desktop.	

4.11 SSI&T Tests

4.11.1 SSI&T Manager (GUI) (TS045)

The SSI&T Manager is the top-level graphical user interface (GUI) that provides a common interface to the tools needed for SSI&T at the DAACs.

This thread verifies the access to the Data Visualization tools from the SSI&T Manager and SSI&T specific data visualization capability as it relates to SSI&T activities. The Interactive

Data Language (IDL) is a COTS data visualization tool used to interactively analyze and display input, output and intermediate data files. EOSView is a custom developed tool used for displaying HDF data files. The combination of these tools provide all data visualization functionality required by the SSI&T process.

4.11.1.1 Test Case 1: Display Hexadecimal, Octal, Decimal and ASCII Data Formats (TS045.001)

This test verifies the capability to display hexadecimal, octal, decimal and ASCII data formats using the SSIT data visualization tools.

Test Configuration:

Hardware: AIT workstation (SUN Sparc20)

Software: SSIT Manager GUI, SSIT Data Visualization tools (IDL, EOSView)

Data: Hexadecimal, Octal, Decimal and ASCII datasets

Tools: N/A

Test Inputs

The inputs to this test include user input to launch the data visualization tools from the SSIT manager and hexadecimal, octal, decimal and ASCII datasets.

Test Output:

Output from this test includes the ability to access the data visualization tools (IDL and EOSView) from the SSIT Manager GUI and successful display of the data formats listed as test input.

Success Criteria

This test is successful when the user can access and implement the data visualization tools from the SSIT Manager to display data in hexadecimal, octal, decimal and ASCII formats.

Test Procedures:

Test Case ID: TS045.001	
Test Name: Display Hexadecimal, Octal, Decimal and ASCII data formats	
Test Steps:	Comments:
1. Launch the SSI&T Manager GUI	
2. From the SSI&T Manager GUI, invoke the IDL data visualization tool.	
3. From the SSI&T Manager GUI, invoke the EOSView data visualization tool in another xterm window.	
4. Select a dataset in hexadecimal format	
5. Display the hexadecimal dataset from IDL.	L4 mapping: S-DPS-40700 S-DPS-21790

6. Select a dataset in Octal format	
7. Display the octal dataset from IDL.	L4 mapping: S-DPS-40700 S-DPS-21790
8. Select a dataset in Decimal format	
9. Display the decimal dataset from IDL.	L4 mapping: S-DPS-40700 S-DPS-21790
10. Select a dataset in ASCII format	
11. Display the ASCII dataset from IDL.	L4 mapping: S-DPS-40700 S-DPS-40830 S-DPS-21790
12. Write the ASCII dataset to an HDF file	L4 mapping: S-DPS-40810
13. Display the HDF file containing ASCII data from EOSView.	L4 mapping: S-DPS-40700 S-DPS-21790

4.11.1.2 Test Case 2: Display Data as Two or Three Dimensional Images (TS045.002)

This test verifies the capability to display two and three dimensional images using the SSIT data visualization tools.

Test Configuration:

Hardware: AIT workstation (SUN Sparc20)

Software: SSIT Manager GUI, SSIT Data Visualization tools (IDL, EOSView)

Data: Two Dimensional Images, Three Dimensional Images

Tools: N/A

Test Inputs

The inputs to this test include user input to launch the data visualization tools from the SSIT manager and two and three dimensional data array datasets.

Test Output:

Output from this test includes the ability to access the data visualization tools (IDL and EOSView) from the SSIT Manager GUI and successful display of the data listed as test input.

Success Criteria

This test is successful when the user can access and implement the data visualization tools from the SSIT Manager to display data as two or three dimensional data images.

Test Procedures:

Test Case ID: TS045.002	

Test Name: Display Data as Two or Three Dimensional Data Images	
Test Steps:	Comments:
1. Launch the SSI&T Manager GUI	
2. From the SSI&T Manager GUI, invoke the IDL data visualization tool.	
3. From the SSI&T Manager GUI, invoke the EOSView data visualization tool in another xterm window.	
4. Select a dataset to display as a two dimensional data image.	
5. Display the two dimensional data array from IDL as a two dimensional image.	L4 mapping: S-DPS-40710 S-DPS-21790 Reference: S-CLS-10430
6. Specify a different color table for the image display.	L4 mapping: S-DPS-40770 S-DPS-21790
7. Display the same image using the new color table specification	L4 mapping: S-DPS-40770 S-DPS-21790 Reference: S-CLS-10420, S-CLS-10430
8. Display the two dimensional data array from IDL as a two dimensional plot.	L4 mapping: S-DPS-40720 S-DPS-21790 Reference: S-CLS-10410
9. Write the two dimensional data array to an HDF file	L4 mapping: S-DPS-40810
10. From EOSView, display the HDF file containing a two dimensional data array as a two dimensional image.	L4 mapping: S-DPS-40710 S-DPS-21790 Reference: S-CLS-10430
11. Select a dataset to display as a three dimensional data array	
12. From IDL, display the three dimensional data array as a three dimensional image.	L4 mapping: S-DPS-40710 S-DPS-21790
13. Rotate the three dimensional image about an arbitrary axis.	L4 mapping: S-DPS-40760
14. From IDL, display the three dimensional data array as a three dimensional plot.	L4 mapping: S-DPS-40720 S-DPS-21790
15. Rotate the three dimensional plot about an arbitrary axis.	L4 mapping: S-DPS-40760
16. Display the three dimensional data array from IDL as a three dimensional image.	L4 mapping: S-DPS-40810 S-DPS-21790

4.11.1.3 Test Case 3: Data Differencing and Display (TS045.003)

This test verifies the capability to difference data and display the differences as two or three dimensional images or plots using the SSIT data visualization tools.

Test Configuration:

Hardware: AIT workstation (SUN Sparc20)

Software: SSIT Manager GUI, SSIT Data Visualization tools (IDL, EOSView)

Data: Two Dimensional data array, Three Dimensional Data array

Tools: N/A

Test Inputs

The inputs to this test include user input to launch the data visualization tools from the SSIT manager and two dimensional and three dimensional array datasets.

Test Output:

Output from this test includes the ability to access the data visualization tools (IDL and EOSView) from the SSIT Manager GUI and successful display of the data formats listed as test input.

Success Criteria

This test is successful when the user can access and implement the data visualization tools from the SSIT Manager to display differenced data as a two or three dimensional image or plot.

Test Procedures:

Test Case ID: TS045.003	
Test Name: Data Differencing and Display	
Test Steps:	Comments:
1. Launch the SSI&T Manager GUI	
2. From the SSI&T Manager GUI, invoke the IDL data visualization tool.	
3. From the SSI&T Manager GUI, invoke the EOSView data visualization tool in another xterm window.	
4. Select a two dimensional array dataset	
5. From IDL, display this dataset	
6. Select a another two dimensional array dataset	
7. From IDL, display this dataset in another window simultaneously with the previous dataset	L4 mapping: S-DPS-40800 S-DPS-21790
8. Difference the two datasets.	L4 mapping: S-DPS-40730
9. Write the results to a file.	L4 mapping: S-DPS-40810

10. From IDL, display the differenced two dimensional data array as an image	L4 mapping: S-DPS-40730 S-DPS-21790
11. From IDL, display the differenced dataset in another window simultaneously with the previous two datasets.	L4 mapping: S-DPS-40800
12. From IDL, display the two dimensional data array as a plot.	L4 mapping: S-DPS-40730 S-DPS-21790
13. Write the two dimensional data array of differenced data to a HDF file.	
14. From EOSView, display the two dimensional HDF image.	L4 mapping: S-DPS-40730 S-DPS-40830 S-DPS-21790
15. Select a three dimensional array dataset	
16. Select a another three dimensional array dataset	
17. Difference the two datasets.	L4 mapping: S-DPS-40730
18. From IDL, display the three dimensional data array of differenced data as an image	L4 mapping: S-DPS-40730 S-DPS-21790
19. From IDL, display the three dimensional data array as a plot.	L4 mapping: S-DPS-40730 S-DPS-21790

4.11.1.4 Test Case 4: Feature Enhancement (TS045.004)

This test verifies the capability to provide feature enhancements which include histogram equalization and edge enhancement using the SSIT data visualization tools.

Test Configuration:

Hardware: AIT workstation (SUN Sparc20)

Software: SSIT Manager GUI, SSIT Data Visualization tools (IDL, EOSView)

Data: Two dimensional data array data sets

Tools: N/A

Test Inputs

The inputs to this test include user input to launch the data visualization tools from the SSIT manager and two dimensional data array datasets.

Test Output:

Output from this test includes the ability to access the data visualization tools (IDL and EOSView) from the SSIT Manager GUI and successful feature enhancement of the data formats listed as test input.

Success Criteria

This test is successful when the user can access and implement the data visualization tools from the SSIT Manager to perform histogram equalization and edge enhancement.

Test Procedures:

Test Case ID: TS045.004	
Test Name: Feature Enhancement	
Test Steps:	Comments:
1. Launch the SSI&T Manager GUI	
2. From the SSI&T Manager GUI, invoke the IDL data visualization tool.	
3. Select a two dimensional array dataset	
4. Perform histogram equalization on the dataset	L4 mapping: S-DPS-40820
5. Write the results to a custom file format	L4 mapping: S-DPS-40810
6. Display the dataset using the custom file format	L4 mapping: S-DPS-40840 S-DPS-21790
7. Perform edge enhance on the dataset	L4 mapping: S-DPS-40820
8. Write the results to a file	L4 mapping: S-DPS-40810
9. Display the dataset as an image.	L4 mapping: S-DPS-40710 S-DPS-21790
10. Display the dataset as a plot.	L4 mapping: S-DPS-40720 S-DPS-21790
11. Specify a new axis limit for the dataset and a different parameter for each axis	L4 mapping: S-DPS-40780 S-DPS-40790 S-DPS-21790
12. Display the resulting dataset as a plot.	L4 mapping: S-DPS-21790
13. Display the resulting dataset as an image.	L4 mapping: S-DPS-21790

4.11.1.5 Test Case 5: Produce and Play "Movie Loop" of Data (TS045.005)

This test verifies the capability to display a series of visualizations as an animation or "movie loop" using the SSIT data visualization tools.

Test Configuration:

Hardware: AIT workstation (SUN Sparc20)

Software: SSIT Manager GUI, SSIT Data Visualization tools (IDL, EOSView)

Data: Visualization files

Tools: N/A

Test Inputs

The inputs to this test include user input to launch the data visualization tools from the SSIT manager and visualization files.

Test Output:

Output from this test includes the ability to access the data visualization tools (IDL and EOSView) from the SSIT Manager GUI and "movie loops" of data in two or three dimensional images or plots.

Success Criteria

This test is successful when the user can access and implement the data visualization tools from the SSIT Manager to produce and play a "movie loop" in two or three dimensional images or plots.

Test Procedures:

Test Case ID: TS045.005	
Test Name: Produce and Play "Movie Loop" of Data	
Test Steps:	Comments:
1. Launch the SSI&T Manager GUI	
2. From the SSI&T Manager GUI, invoke the EOSView data visualization tool in another xterm window.	
3. Select a series of HDF browse dataset images	
4. Link the individual images together sequentially as one	
5. Display the image as a "movie loop" or animation	L4 mapping: S-DPS-40740 S-DPS-21790
6. From the SSI&T Manager GUI, invoke the IDL data visualization tool in another xterm window.	
7. Select a series of dataset images	
8. Link the individual images together sequentially as one	
9. Display the image as a "movie loop" or animation	L4 mapping: S-DPS-40740 S-DPS-21790

4.11.1.6 Test Case 6: Read and Save of Data Formats (TS045.006)

This test verifies the capability to save hex/decimal/octal/ASCII dumps to a file and the capability to read ASCII, binary, or HDF files using the SSIT data visualization tools.

Test Configuration:

Hardware: AIT workstation (SUN Sparc20)

Software: SSIT Manager GUI, SSIT Data Visualization tools (IDL, EOSView)

Data: Hex/decimal/octal/ASCII dumps and files

Tools: N/A

Test Inputs

The inputs to this test include user input to launch the data visualization tools from the SSIT manager and binary/HDF/ASCII datasets and hex/decimal/octal/ASCII dump files.

Test Output:

Output from this test includes the ability to: access the data visualization tools (IDL and EOSView) from the SSIT Manager GUI, read the ASCII, binary, and HDF files, and save hex/decimal/octal/ASCII dumps to a file.

Success Criteria

This test is successful when the user can access and implement the data visualization tools from the SSIT Manager to save data in hex/decimal/octal/ASCII dump formats to a file and read ASCII, binary, and HDF files.

Test Procedures:

Test Case ID: TS045.006	
Test Name: Read and Save of Data Formats	
Test Steps:	Comments:
1. Launch the SSI&T Manager GUI	
2. From the SSI&T Manager GUI, invoke the IDL data visualization tool.	
3. From the SSI&T Manager GUI, invoke the EOSView data visualization tool in another xterm window.	
4. Select a hexadecimal dataset	
5. Dump the dataset	
6. From IDL, save the dataset to a file	L4 mapping: S-DPS-40810
7. Select a decimal dataset	
8. Dump the dataset	
9. From IDL, save the dataset to a file	L4 mapping: S-DPS-40810
10. Select an octal dataset	
11. Dump the dataset	
12. From IDL, save the dataset to a file	L4 mapping: S-DPS-40810
13. Select an ASCII dataset	
14. Dump the dataset	
15. From IDL, read the dataset and save it to a file	L4 mapping: S-DPS-40810 S-DPS-40830
16. Select an HDF dataset	
17. From EOSView, read the file and display	L4 mapping: S-DPS-40830 S-DPS-21790
18. Select binary dataset	
19. Dump the dataset	

20. From IDL, save the dataset to a file	
21. From IDL, read the dataset and save it to a file	L4 mapping: S-DPS-40810 S-DPS-40830

4.11.1.7 Test Case 7: Display Two-Dimensional Slice of a Three-Dimensional Image and Plot (TS045.007)

This test verifies the capability to display a two dimensional slice of a three dimensional image or plot using the SSIT data visualization tools.

Test Configuration:

Hardware: AIT workstation (SUN Sparc20)

Software: SSIT Manager GUI, SSIT Data Visualization tools (IDL, EOSView)

Data: Three dimensional array datasets

Tools: N/A

Test Inputs

The inputs to this test include user input to launch the data visualization tools from the SSIT manager and three dimensional array datasets.

Test Output:

Output from this test includes the ability to access the data visualization tools (IDL and EOSView) from the SSIT Manager GUI and successful display of a two-dimensional slice of a three-dimensional image or plot.

Success Criteria

This test is successful when the user can access and implement the data visualization tools from the SSIT Manager to display data a two-dimensional slice of a three-dimensional image or plot.

Test Procedures:

Test Case ID: TS045.007	
Test Name: Display Two-Dimensional Slice of a Three-Dimensional Image and Plot	
Test Steps:	Comments:
1. Launch the SSI&T Manager GUI	
2. From the SSI&T Manager GUI, invoke the IDL data visualization tool.	
3. From the SSI&T Manager GUI, invoke the EOSView data visualization tool in another xterm window.	
4. Select a three dimensional array dataset	
5. From IDL, choose a two-dimensional slice from the three-dimensional array dataset.	
6. Write the results to a file	
7. Write the results to a HDF file as an image	

8. Write the results to a HDF file as a plot	
9. From IDL, display the results as an image	L4 mappings: S-DPS-40750 S-DPS-40710 S-DPS-21790
10. From IDL, display the results as a plot	L4 mappings: S-DPS-40750 S-DPS-40720 S-DPS-21790
11. From EOSView, display the results in the HDF file as an image	L4 mappings: S-DPS-40750 S-DPS-40710 S-DPS-21790
12. From EOSView, display the results in the HDF file as a plot.	L4 mappings: S-DPS-40750 S-DPS-40720 S-DPS-21790

4.11.2 SSI& T Data Server Interface Thread (TS046)

The SSI&T Data Server Interface provides the capability for storage and retrieval of data products received and generated in the SSI&T process.

This thread verifies the capability to store and retrieve a Data Algorithm Package (DAP) received into the Science Data Processing Segment (SDPS) from the Science Computing Facility (SCF), its components, and data products generated as a result of the SSI&T process.

4.11.2.1 Test Case 1: Data Algorithm Package Retrieval (TS046.001)

This test case verifies the capability of the SSI & T Dataserver interface to retrieve a copy of a new Data Algorithm Package from the Dataserver.

Test Configuration:

Hardware: AIT workstation (Sun Sparc 20), APC Ops Workstation (SUN)

Software: SSI&T Manager (GUI), Update Dataserver GUI

Data: DAP tar file

Tools: N/A

Test Inputs

The inputs to this test include user input to launch the Update Dataserver GUI from the SSI&T Manager and user inputs to retrieve a Data Algorithm Package from the Dataserver into the SSI&T environment.

Test Output:

Output from this test is the ability to access the Update Dataserver GUI from the SSIT Manager GUI and successful access and retrieval of a Data Algorithm Package.

Success Criteria

This test is successful when a copy of a Data Algorithm Package is retrieved and staged in the SSI&T environment.

Test Procedures:

Test Case ID: TS046.001	
Test Name: Retrieve Copy of a Data Algorithm Package	
Test Steps:	Comments:
1. Launch the SSI&T Manager GUI	
2. From the SSI&T Manager GUI, invoke the Update DataServer GUI.	
3. Submit a request for data staging	
4. Identify the dataset id of the Data Algorithm Package to be retrieved.	
5. Initiate retrieval of the Data Algorithm Package.	L4 mapping: S-DPS-41910
6. Store the copy of Data Algorithm Package to local storage.	

4.11.2.2 Test Case 2: Data Product Retrieval (TS046.002)

This test case verifies the capability of the Dataserver to interface to retrieve a copy of a data product from the Dataserver.

Test Configuration:

Hardware: AIT workstation (Sun Sparc 20), APC Ops workstation (Sun)

Software: SSI&T Manager (GUI), Update DataServer GUI

Data: Science Data Product

Tools: N/A

Test Inputs

The input to this test includes user input to launch the Update Dataserver GUI from the SSI&T Manager and user inputs to retrieve a data product from the Dataserver into the SSI&T environment.

Test Output:

Output from this test is the ability to access the Update Dataserver GUI from the SSIT Manager GUI and successful access and retrieval of a science data product into the SSI&T environment.

Success Criteria

This test is successful when a copy of a science data product is retrieved and staged in the SSI&T environment.

Test Procedures:

Test Case ID: TS046.002	
Test Name: Data Product Retrieval	
Test Steps:	Comments:
1. Launch the SSI&T Manager GUI	
2. From the SSI&T Manager GUI, invoke the Update DataServer GUI.	
3. Submit a request for data staging	
4. Identify the dataset id of the science data product to be retrieved.	
5. Initiate retrieval of the science data product.	L4 mapping: S-DPS-41900
6. Store the copy of the science data product to local storage.	

4.11.2.3 Test Case 3: Data Algorithm Package Storage (TS046.003)

This test case verifies the capability of the SSI&T Dataserver interface to destage a copy of a data algorithm package from the local SSI&T machine to the Dataserver after completion of the SSI&T validation process.

Test Configuration:

Hardware: AIT workstation (Sun Sparc 20), APC Ops workstation (Sun)

Software: SSI&T Manager (GUI), Update DataServer GUI

Data: DAP tar file

Tools: N/A

Test Inputs

The inputs to this test include user input to launch the Update Dataserver GUI from the SSI&T Manager and user inputs to destage a Data Algorithm Package.

Test Output:

Output from this test is the ability to access the Update Dataserver GUI from the SSIT Manager GUI and successful destage and archival of a validated Data Algorithm Package.

Success Criteria

This test is successful when a copy of a validated Data Algorithm Package is successfully destaged and archived from the SSI&T environment to the Dataserver.

Test Procedures:

Test Case ID: TS046.003	
Test Name Data Algorithm Package Storage	
Test Steps:	Comments:
1. Launch the SSI&T Manager GUI	

2. From the SSI&T Manager GUI, invoke the Update DataServer GUI.	
3. Submit a request for data de-staging	
4. Identify the dataset id of the data algorithm package to be inserted into the dataserver.	
5. Initiate insert of the data algorithm package.	
6. Archive the copy of the data algorithm package in the dataserver.	L4 mapping: S-DPS-41920

4.11.3 PGE Database Update (GUI) (TS047)

The PGE Database Update (GUI) is used to register a PGE in the processing system to support the SSI&T process.

This thread verifies the capability to perform all required operations on the PGE Database that are performed during the SSI&T process.

4.11.3.1 Test Case 1: Add New PGE Database Entry (TS047.001)

This test case verifies the capability to register a new PGE by adding a new entry to the SSIT/PDPS database

Test Configuration:

Hardware: AIT workstation

Software: SSIT/PDPS Database (Sybase)

Data: New PGE entry and associated information

Tools: Web Browser

Test Inputs

The input to this test include user input commands to add a new PGE.

Test Output:

Output from this test is a new entry in the SSIT/PDPS database.

Success Criteria

This test is successful when a new PGE is successfully added to the SSIT/PDPS database and registered.

Test Procedures:

Test Case ID: TS047.001	
Test Name: PGE Database Update (GUI)	
Test Steps:	Comments:
1. Launch the PGE Database Update GUI	
2. Invoke the PGE database update command	
3. Select the option to add a new PGE database entry.	

4. Enter the PGE information and PGE profile information	L4 mapping: S-DPS-42610
5. Select the option to commit the new PGE and its associated information to the Database	L4 mapping: S-DPS-41330
6. Verify that the new PGE was added to the SSIT/PDPS database.	

4.11.3.2 Test Case 2: Modify an Existing PGE (TS047.002)

This test case verifies the capability to modify an existing PGE in the SSIT/PDPS database.

Test Configuration:

Hardware: AIT workstation

Software: SSIT/PDPS Database (Sybase)

Data: Existing PGE database entry

Tools: Web Browser

Test Inputs

The input to this test include user input commands to modify/update a new PGE.

Test Output:

Output from this test is a modified entry in the SSIT/PDPS database.

Success Criteria

This test is successful when a PGE is successfully modified in the SSIT/PDPS database.

Test Procedures:

Test Case ID: TS047.002	
Test Name: Modify an Existing PGE	
Test Steps:	Comments:
1. Launch the PGE Database Update GUI	
2. Invoke the PGE database update command	
3. Select the option to modify a PGE database entry.	
4. Display the list of available PGE's in the SSIT/PDPS database.	L4 mapping: S-DPS-41300
5. Verify that the components of the PGE are listed.	L4 mapping: S-DPS-41903
6. Check the hyperlinks to each of the components	L4 mapping: S-DPS-41903
7. Select the PGE to be modified.	L4 mapping: S-DPS-41310
8. Cut and Copy information from a similar PGE that will be used for the PGE update.	L4 mapping: S-DPS-41350
9. Enter (by pasting) the applicable updated PGE information and/or PGE profile information from the previous step.	L4 mappings: S-DPS-41350 S-DPS-42620

10. Enter the remaining update information and/or profile information.	L4 mapping: S-DPS-42610
11. Select the option to commit the updated information to the Database	L4 mapping: S-DPS-41320
12. Verify that the modifications to the PGE were added to the SSIT/PDPS database.	

4.11.3.3 Test Case 3: Delete an Existing PGE (TS047.003)

This test case verifies the capability to delete an existing PGE in the SSIT/PDPS database.

Test Configuration:

Hardware: AIT workstation

Software: SSIT/PDPS Database (Sybase)

Data: PGE Database entry

Tools: Web Browser

Test Inputs

The input to this test include user input commands to delete an existing PGE.

Test Output:

Output from this test is the extraction of an existing PGE entry in the SSIT/PDPS database.

Success Criteria

This test is successful when a PGE is successfully deleted from the SSIT/PDPS database.

Test Procedures:

Test Case ID: TS047.003	
Test Name: Delete an Existing PGE	
Test Steps:	Comments:
1. Launch the PGE Database Update GUI	
2. Invoke the PGE database update command	
3. Select the option to delete a PGE database entry.	
4. Display the list of available PGE's in the SSIT/PDPS database.	L4 mappings: S-DPS-41300 S-DPS-41901 S-DPS-41902
5. Select the PGE to be deleted.	L4 mapping: S-DPS-41310
6. Initiate the delete operation on the PGE database entry.	L4 mapping: S-DPS-41340
7. Select the option to commit the request to delete the PGE in the SSIT/PDPS Database	
8. Verify that the new PGE was deleted from the SSIT/PDPS database.	

4.11.3.4 Test Case 4: Attempt to Delete a Non-Existent PGE (TS047.004)

This test case verifies the capability of the PGE Update GUI to handle the erroneous request to delete a non-existent PGE from the SSIT/PDPS database.

Test Configuration:

Hardware: AIT workstation

Software: SSIT/PDPS Database (Sybase)

Data: PGE Database entry

Tools: N/A

Test Inputs

The input to this test include user input commands to delete a PGE.

Test Output:

Output from this test is an error message notifying the user that requested PGE does not exist in the SSIT/PDPS database.

Success Criteria

This test is successful when no attempts are made to delete the requested PGE from the SSIT/PDPS database upon verification that the PGE is not valid and a error message is issued to the user indicating that the request was invalid or the PGE does not exist.

Test Procedures:

Test Case ID: TS047.004	
Test Name: Attempt to Delete a Non-Existent PGE	
Test Steps:	Comments:
1. Launch the PGE Database Update GUI	
2. Invoke the PGE database update command	
3. Select the option to delete a PGE database entry.	
4. Manually enter the PGE to be deleted.	
5. Initiate the option to delete the specified PGE	
6. Verify that an error message is received indicating that the PGE does not exist.	
7. Verify that no PGE's were deleted from the SSIT/PDPS database.	

4.11.4 SSI & T Build (BS015)

The Science Software Integration and (SSI&T) , formerly known as Algorithm Integration and Test (AI&T) is the process by which a new Science Algorithm, received from the Science Computing Facility (SCF) is integrated at the DAAC. The SCF assumes the responsibility of developing the science software and ensuring that the generated products are scientifically correct. The DAAC assumes the responsibility of integrating the science software into the

production environment, to ensure that the software will run safely before fully promoting it into the production environment.

The SSI&T Build supports the verification of the process for receiving, testing, verifying, and validating science algorithms prior to their acceptance into the PDPS processing environment. The tests in the SSI&T build do not explicitly test each tool for all capability available, but verify the tools ability to support the validation process of a sample algorithm. Exhaustive testing of these tools is performed in the individual thread that corresponds to the COTS product used.

4.11.4.1 Test Case 1: Register a Subscription Notification for DAP (BS015.001)

This test verifies the capability of the SSI&T system to register a subscription with the Production Dataserver. This subscription will provide the capability for the DAAC operator to be notified in the event of the arrival of a Delivered Algorithm Package (DAP) into the Dataserver services.

Test Configuration:

Hardware: AIT workstation (SUN Sparc20)

Software: PIDataType,(Subscription Editor), Sybase

Data: DAP tar file data type id

Tools: N/A

Test Inputs

The input to this test is a DAP tar file datatype id entered via the Planning Subsystem Subscription editor.

Test Output:

Output from this test consist of messages from the dataserver notifying the user that the subscription was received and processed.

Success Criteria

This test is successful when an “add subscription” request entered via the Subscription Editor (PLANG) to the dataserver services is registered and acknowledgment is received.

Test Procedures:

Test Case ID: BS015.001	
Test Name: Register a Subscription Notification for DAP	
Test Steps:	Comments:
1. Log on the AIT Workstation	
2. Launch the Subscription Editor	

3. Enter the Data Product Id for the DAP tar file	Identify the Dataset Id that is associated with the DAP so that Dataserver can notify SSI&T when this datatype is ingested.
4. Enter Submit to Submit the Subscription request.	
5. Verify that a subscription exists for the Data Product ID requested by monitoring return messages from DSS.	L3 mappings: PGS-0640 L4 mappings: S-DPS-40030

4.11.4.2 Test Case 2: Receiving the Delivered Algorithm Package (DAP) into the SSI&T Environment (BS015.002)

This test case verifies the capability to receive and stage a Delivered Algorithm Package into the SSI&T environment upon a subscription notification of its arrival.

Test Configuration:

Hardware: AIT workstation (SUN Spar20)

Software: DpAtStageAlgorithmPackage.C, Dsrvr

Data: DAP tar file

Tools: N/A

Test Inputs

The input to this test is the receipt of a subscription notification for a DAP in an e-mail file.

Test Output:

Output from this test is a DAP tar file staged in the SSI&T area of the Dsrvr.

Success Criteria

This test is successful when a DAP tar file can be staged to the SSI&T environment upon receipt of a subscription notification that references that particular DAP tar file.

Test Procedures:

Test Case ID: BS015.002	
Test Name: Receiving the Delivered Algorithm Package (DAP) into the SSI&T Environment	
Test Steps:	Comments:
1. Log on AIT workstation	
2. Launch the SSIT Manager	
3. Check e-mail to verify the receipt of a subscription notification.	

4. Launch the DpAtStageAlgorithmPackage executable.	The DpAtStageAlgorithmPackage executable reads the e-mail message file and submits an "ACQUIRE" request for the DAP to the SSI&T area of the Dsrvr. The DAP should now be staged on the SSIT machine. L4mappings: S-DPS-20790
5. Verify that the DAP tar file exists in the SSI&T area of the dataserver.	L3 mappings: PGS-0610 PGS-0640 EOSD-1750 L4mappings: S-DPS-40020 S-DPS-40040 S-DPS-41920
6. Unpack the DAP tar file.	
7. Invoke ClearCase.	
8. Install DAP tar file contents in the ClearCase configured SSIT Library from the SSI&T area of the dataserver.	L4mappings: S-DPS-40020 S-DPS-41900
9. Submit a request to planning for test time in the test environment	L4mappings: S-PLS-00730
10. Verify that the tar file contents are saved as elements in the ClearCase configured SSIT Library on the local SSIT machine.	

4.11.4.3 Test Case 3: Production and Insertion of SSI&T Associated Science Metadata (BS015.003)

This test case verifies the capability to produce ESDT science metadata and PGE science metadata and insert it into the SSIT PDPS database.

Test Configuration:

Hardware: AIT workstation

Software: DpAtCreateOdlTemplate.C, DpAtPdpsDbUpdateScience.C, SSIT/PDPS Database (Sybase)

Data: ESDT Science metadata, PCF, PGE Science metadata

Tools: ClearCase, Adsrv

Test Inputs

The inputs to this test are a Process Control (PCF) delivered in the DAP (which is used to produce the PGE Science template ODL file), and Earth Science Data Type (ESDT) names from the Dataserver which are retrieved via the Advertising Service HTML pages.

Test Output:

Output from this test consist of a PGE Science metadata ODL file and an ESDT Science metadata ODL file.

Success Criteria

This test is successful when a PGE Science metadata file and a ESDT Science metadata file are produced in ODL file format and inserted into the SSIT/PDPS Database.

Test Procedures:

Test Case ID: BS015.003	
Test Name: Production and Insertion of SSI&T Associated Science Metadata	
Test Steps:	Comments:
1. Log on the AIT workstation	
2. Invoke the DpAtCreateOdlTemplate executable	
3. Enter the PCF File name associated the DAP Algorithm.	The DpAtCreateOdlTemplate executable reads the science software Process Control File (PCF) and writes its information to an Object Description Language (ODL) format file.
4. Edit the ODL template file to add PGE science metadata supplied in the DAP.	
5. Invoke ClearCase	
6. Add the PGE Science metadata ODL file to the ClearCase configured SSIT Library.	
7. Launch Advertising Service HTML page	
8. Retrieve List of ESDT names from the Dataserver	
9. Verify that incoming data in DAP contains existing ESDT's in the Dataserver.	
10. If ESDT Science metadata is provided in the DAP and additional science metadata is received from the SCF, update it by editing the ESDT Science Metadata ODL file.	ESDT Science metadata may or may not be supplied in the DAP. This is at the discretion of the SCF. If the SCF should supply additional ESDT Science metadata, it is received directly from the SCF via email.
11. Invoke ClearCase	
12. Add the ESDT Science metadata ODL file to the ClearCase configured SSIT Library.	
13. Invoke the DpAtPdpsDbUpdateScience executable to update the SSIT/PDPS database.	The DpAtPdpsDbUpdataScience executable inserts the ESDT Science and PGE Science metadata into the SSIT PDPS database. Note Updates to Science metadata are done infrequently (only when science information changes). L3 mappings: L4 mappings: S-DPS-41330

4.11.4.4 Test Case 4: SSI&T Operations on Science Code (BS015.004)

This test case verifies the capability to perform code checks, and compile and link with the SCF toolkit. Verification of the ability to execute using those binaries, and to produce output at the DAAC for comparison with the SCF provided test output is also performed.

Test Configuration:

Hardware: AIT workstation, Science Processing workstation

Software: SSI & T Manager, MSS Services

Data: Science Software Algorithm (PGE for SSI&T)

Tools: SCF Toolkit, SSI&T Tools (CaseVision, R-usage, Sun Memory Leak tools), ClearCase, Unix Tar utility

Test Inputs

The input to this test is a Science Software Algorithm to be validated.

Test Output:

Output from this test consist of a Science Software Algorithm compiled and linked with the SCF toolkit; and data outputs produced from initial executions of the algorithm run in the SSIT environment to compare against the SCF test output.

Success Criteria

This test is successful when: code checks are performed on the new science code, the science code is compiled and linked with the SCF toolkit, and outputs are generated during execution for comparison with SCF supplied test output.

Test Procedures:

Test Case ID: BS015.004		
Test Name: SSI & T Operations on Science Code		
Test Steps:	Comments:	
1. Log on the AIT workstation		
2. Invoke ClearCase		
3. Invoke the SSI&T Manager GUI		
4. Select SSI&T Tools		
5. Run code checks on the science software code.	L3 mappings: PGS-0920	L4 mapping: S-DPS-42340
6. Make the Science Algorithm executable by compiling and linking with the SCF toolkit.	L3 mappings: PGS-0920	
7. Execute the Science software.	L3 mappings: PGS-0920	L4 mapping: S-PLS-01610
8. Add the science software executables and output files to the ClearCase configured SSIT Library.		
9. Compare the science software output runs against the SCF provided test output runs.	It is discovered that minor changes are required to achieve the desired results. L3 mappings: PGS-0620 PGS-0910 PGS-0920	
10. Identify any inconsistencies and modify the necessary DAP components to produce the desired results.		

11. Provide information on problems identified to the MSS tracking tool	L4 mapping: S-DPS-41410
12. Run code checks on the modified code	
13. Remake the Science Algorithm executable incorporating the new modifications. Compile and link with the SCF toolkit.	
14. Execute the Science Software again.	
15. Add the science software executable and output files to the ClearCase configured SSIT Library as new versions of the previous element(s).	
16. Compare the new science software output run against the SCF test output runs.	The desired results are received. The science algorithm is approved for integration and test for collection of operational statistics. L3 mappings: PGS-0620 PGS-0910 PGS-0920
17. Tar up the approved science software and all its components for insertion into the SSI&T area of the Dataservr.	L3 mapping: PGS-0605

4.11.4.5 Test Case 5: Insert of Approved Science Software Tar File into SSI & T Area of the Dataserver (BS015.005)

This test case verifies the capability to insert a Science Software tar file that has been approved for testing into the SSI&T area of the Dataserver. This testing period is referred to as the "commissioning period" and provides a standalone test environment to assure that the algorithm is safe to run in the operational environment.

Test Configuration:

Hardware: AIT workstation, Science Processor workstation

Software: DpAtInserExeTarFile.C, Dsrvr

Data: Approved Science Software tar file

Tools: ClearCase

Test Inputs

The input to this test consists of an approved science software tar file.

Test Output:

Output from this test consists of the insertion of the files needed for PGE execution: into the Test Dataserver at the corresponding ESDT.

Success Criteria

This test is successful when the approved algorithm tar file, static input files, toolkit files, and dynamic input files are all inserted into the test dataserver.

Test Procedures:

Test Case ID: BS015.005	
Test Name: Insert of Approved Science Software Tar File into Test Dataserver	
Test Steps:	Comments:
1. Log on AIT workstation	
2. Invoke ClearCase	
3. Point to the SSI&T ClearCase configured library.	
4. Invoke the DpAtInsertExeTarFile executable.	The DpAtInsertExeTarFile executable copies the approved algorithm tar file, Static input, and test dynamic input files to the SSI&T area of the Dataserver L3 mappings: PGS-0960 L4 mappings: S-DPS-41910

4.11.4.6 Test Case 6: Production and Insertion of SSI&T Associated Operational Metadata (BS015.006)

This test case verifies the capability to perform commissioning period test runs by running the approved PGE in the SSIT test environment, produce PGE operational metadata, and insert it into the SSIT PDPS database via the PDPS Database Update GUI.

Test Configuration:

Hardware: AIT workstation (Sun Sparc20), Science Processing workstation (SGI)

Software: Tst Dsrvr, DpAtOpDbGu.C, SSI&T Manager, SSIT PDPS database (Sybase)

Data: Approved PGE (in the SSI&T area of the dsrvr)

Tools: N/A

Test Inputs

The input to this test include inputs to execute the approved PGE

Test Output:

Output from this test consist of: PGE product output files, intermediate files, and operational metadata such as performance statistics, and resource requirements.

Success Criteria

This test is successful when the approved PGE runs successfully in the test environment, operational metadata is collected, and written to the SSIT PDPS database.

Test Procedures:

Test Case ID: BS015.006	
Test Name: Production and Insertion of SSI&T Associated Operational Metadata	

Test Steps:	Comments:
1. Log on AIT workstation	
2. Launch the SSIT Manager	
3. Run the approved PGE stored in the test Dataserver.	L3 mappings: PGS-0270 PGS-0920 L4 mappings: S-DPS-42330 S-DPS-42630 S-PLS-00740
4. Archive all intermediate and final data products to the SSI&T area of the dataserver.	L3 mappings PGS-0600
5. Collect performance statistics.	
6. Collect resource requirements.	L4 mapping: S-DPS-42340
7. Launch the DpAtOpDbGui	
8. View all available runtime statistics	
9. View the statistics to be submitted to the SSIT PDPS database.	
10. Verify that the statistics in view are correct.	
11. Select commit to write the new operational metadata to the SSIT/PDPS database.	L4 mappings: S-DPS-41330
12. Retrieve the inserted record and verify that the operational metadata was inserted into the database correctly.	L4 mappings: S-DPS-41310
13. Modify the inserted record to correct any anomalous entries.	L4 mappings: S-DPS-41320 S-DPS-41350
14. Select commit to write the modified operational metadata to the SSIT/PDPS database	
15. Remove an existing record in the SSIT/PDPS database.	L4 mappings: S-DPS-41340

4.11.4.7 Test Case 7: Promotion of Science Algorithm to the Production Environment (BS015.007)

This test case verifies the capability to promote a science algorithm (PGE) from the SSI&T environment to the production environment at the conclusion of SSI&T operations.

Test Configuration:

Hardware: AIT workstation (SUN Sparc 20), Science Processing workstation (SGI)

Software: DpAtInsertSsap.C, ClearCase, SSIT/PDPS Database (Sybase), PDPS production Database (Sybase), Production DSrvr

Data: Science Software Algorithm Package (SSAP) tar file

Tools: N/A

Test Inputs

The input to this test is an approved SSAP tar file.

Test Output:

Output from this test is a PGE and all its supporting files in the production environment.

Success Criteria

This test is successful when: an approved SSAP tar file becomes the production ready tar file in the production (PRONG) environment, static input files are inserted from ClearCase to the production dataserver, and the SSIT/PDPS database is copied to the Production PDPS database.

Test Procedures:

Test Case ID: BS015.007	
Test Name: Promotion of Science Algorithm to the Production Environment)	
Test Steps:	Comments:
1. Log on the AIT workstation	
2. Invoke ClearCase	
3. Invoke the DpAtInserSsap executable	The DpAtInserSsap executable inserts the static input files and the SSAP tar file from the ClearCase configured library as the new production tar file into the operational dataserver. L3 mappings: PGS-0930, PGS-0960 L4 mappings: S-DPS-41910, S-DPS-41920, S-DPS-40050
4. Invoke Sybase script to copy the SSIT PDPS database to the Production PDPS database.	

4.12 Science Data Processing and Archive Tests

4.12.1 Science Products Insert Thread (TS048)

The Science Products Insert software is used to insert or transfer data from the Processing CSCI to the Science Data Server CSCI. This processing of data is also known as destaging. Valid data includes PGE scripts, algorithm executables, PGE status message files, PGE process control files, metadata, calibration data files, ancillary data products, or ECS Data Products.

These test cases will verify the software's ability to destage data using the Data Server and Processing Interface and to maintain the state of data and modifications within the Processing CSCI database.

4.12.1.1 Test Case 1: De-stage Data to Data Server Test (TS048.001)

This test case verifies that data de-staging is initiated after the completion of a PGE execution. This test case also verifies the capability of the interface between Data Procssing to transfer data to the Science Data Server for archiving of a generated data product. Data destaging is initiated when Autosys has initiated the PGE Post-processing Job.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20), Data Server workstation

Software: Data Manager, Sybase, SDPS database, Execution Management, Resource Management, AutoSys

Data: Data Processing Request Id

Tools: N/A

Test Input:

Data Processing Request Id

Test Output:

Successful de-staging from Autosys; data transferred to the science data server

Success Criteria:

This test will be considered successful if all the pre jobs submitted by the AutoSys jobbox are successful and the data de-staging process is initiated.

Test Procedures:

Test Case ID: TS048.001	
Test Name: De-stage Data Test	
Test Steps:	Comments:
1. Login to the Science Processing Workstation	
2. Initialize data in the processing database	The Dpr id must be valid within the planning database tables
3. Query PRONG database 'DATA_MAP' table and verify the record was initialized in the table	
4. Query planning tables and verify that the data granules correspond to the data granules initialized in the processing tables for the specified DPR	
5. Start-up Autosys	
6. Select the allocation job box in autosys to allocate resources for the selected DPR	
7. Verify resources were allocated successfully	
8. Select the stage job box in autosys to stage data for processing	
9. Verify data was staged successfully	
10. Select the prep job box in autosys do the pre-processing	
11. Verify prep was successful	
12. Select the exec job box in autosys to start the execution	
13. Verify that the execution was successful	
14. Select the de-stage job box in autosys	S-DPS-20850, S-DPS-20860 S-DPS-21540

15. Verify de-stage was successful	S-DPS-60020
16. Browse output data generated by the PGE	Make sure that the data has not been deleted before the status message has been received from SDSRV indicating that the output data was successfully copied to the resources
17. Verify that a Complete Notification Status message was sent after de-staging that is was successful	S-DPS-21590
18. Verify output data generated by a PGE has been deleted	S-DPS-21550
19. Select delloc to de-allocate resources that were used	

4.12.1.2 Test Case 2: Transferring data to Data Server Failure Test (TS048.002)

This test case verifies the capability of the interface between Data Procssing to transfer data to the Science Data Server for archiving of a generated data product and the error recovery actions.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20), Science Data Server workstation

Software: Data Manager, Sybase, SDPS database, Science Data Server

Data: Data Request

Tools: N/A

Test Input:

Insert command. Error-induced DPR to create an error de-staging

Test Output:

Failure status of the de-staging operations.

Success Criteria:

This test will be considered successful when an error occurs during the de-staging process and the appropriate error recovery actions are taken.

Test Procedures:

Test Case ID: TS048.002	
Test Name: Transferring data to Data Server Failure Test	
Test Steps:	Comments:
1. Login to the Data Management workstation.	Autosys has determined that a PGE Post-processing job can be initiated

2. Build a request to the Science Data Server	Requests consist of a series of commands which will be the Insert commands needed to destage all of the data required for the PGE associated with the data processing request
3. Submit request to the science data server	A notification is received back from the science data server that the request was fulfilled successfully of unsuccessfully S-DPS-20830 S-DPS-20840
4. If the return is unsuccessful, verify that an alarm is activated and update the Processing Queue Display	S-DPS-20470, S-DPS-21940, S-DPS-21950
5. Send a Complete Notification Status message to the source of the Data Processing Request	S-DPS-20870
6. Verify that the Complete Notification Status message contain error information	This is a result of the failure of data de-staging S-DPS-20880
7. Check local resources for problems which may have caused the de-staging failure	
8. Delete the input data that has been staged thus far	
9. De-allocate the remaining resources initially allocated for this run of the PGE	

4.12.1.3 Test Case 3: Termination of Data De-staging Test (TS048.003)

This test case verifies the capability to terminate the data de-staging process. Upon terminating the de-staging process, a notification shall be sent to the science data server.

Test Configuration:

Hardware: Data Manager workstation (SunSparc 20), Data Server workstation

Software: DpPrDataManager, Sybase, SDPS database, Autosys, Execution Management, Resource Management, Science Data Server

Data: Data Processing Request Id

Tools: N/A

Test Input:

Data Processing Request Id

Test Output:

Notification that the de-staging has been terminated

Success Criteria:

This test will be considered successful when data is terminated from Autosys and a notification of the termination is sent to the science data server.

Test Procedures:

Test Case ID: TS048.003	
Test Name: Termination of Data De-staging Test	
Test Steps:	Comments:
1. Login to the Science Processing	
2. Initialize data in the processing database	The Dpr id must be valid within the planning database tables
3. Set-up a resource-induced Data processing request to create an error during execution of the PGE	
4. Query PRONG database 'DATA_MAP' table and verify the record was initialized in the table	
5. Query planning tables and verify that the data granules correspond to the data granules initialized in the processing tables for the specified DPR	
6. Start-up Autosys	
7. Select the allocation job box in autosys to allocate resources for the selected DPR	
8. Verify resources were allocated successfully	
9. Select the stage job box in autosys to stage data for processing	
10. Verify data was staged successfully	
11. Select the prep job box in autosys do the pre-processing	
12. Verify prep was successful	
13. Select the exec job box in autosys to start the execution	The execution is terminated and an error message is returned -failed due to resource
14. Verify that the Processing Queue Display was updated with information after the execution error	S-DPS-21930
15. Verify that the appropriate recovery job is performed: re-initiating of PGE	This is done if the resource information is transferable
16. Select the destage job box in autosys	S-DPS-21540
17. Cancel DPR	
18. Select the terminate button in AutoSys	S-DPS-20735
19. Verify that the destage was terminated	S-DPS-22530
20. Verify that the notification was sent to the science data server of the termination	S-DPS-20745

4.12.2 Publish Plan Thread (TS049)

The Planning subsystem provides the capability to publish plans that are generated at a site. The Document Data Server is the most appropriate repository for these plans, since the plans can then be made available to WWW access. The published plans will also be stored within the WAIS database so that, using a simple HTML forms interface, a user may select the plans for a specific period. A small set of metadata will describe the plans, to allow the user to select a plan based on period, data product types which are scheduled in the plan, as well as operator comments. A number of plan formats will be stored within the Document Data Server including a simple ASCII report as well as more electronically parsable formats.

The Publish Plan thread will verify the following functionality:

- the ability to create and delete plans from the Planning Workbench application GUI
- the ability to publish plans to the Document Data Server from the Planning Workbench application GUI

4.12.2.1 Test Case 1: Create a Plan (TS049.001)

This test verifies the steps associated with creating a plan via the Planning Workbench application GUI.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlPlanningWorkbenchUI, PlPlan, PlAc classes, PlDb classes, PlRc classes, PlRm classes, PlSc classes, PlSi classes, Sybase

Data: Plan specific attributes: start date/time, stop date/time, associated PGEs

Tools: Planning Workbench GUI, chk_plans.sql (SQL script to query the database)

Test Input:

Plan start date/time, plan stop date/time, plan's associated PGE.

Test Output:

The output to this test case should be a valid plan created by the software that has attributes consistent with the inputs.

Success Criteria:

This test will be considered successful when a plan can be created by using the Planning Workbench GUI software.

Test Procedures:

Test Case ID: TS049.001	
Test Name: Create a Plan	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Start the Planning Workbench GUI.	
3. With the arrow icon, press the button to create a plan.	
4. Enter values for the plan start date/time and the plan stop date/time when prompted.	Note that you should choose start/stop dates that fit the dates for existing Production Requests within the database, i.e., it is pointless to create a plan that has no PRs associated with it.
5. Specify the Production Requests that should be associated with the plan.	
6. A pop-up message will appear giving the status for the creation of the plan.	All of the above information is assessed by the software to create the plan.

7. To verify that the plan was created, type **isql -U**<*username*> **-ichk_plans.sql**	This script will query the PLANS and PLANS_METADATA tables in the database. A subsequent visual inspection can be performed to verify creation of the plan.
8. Once the plan has been created, select the option to activate a plan.	S-PLS-00800 The software will respond with a list of plans that can be selected and activated.
9. You may exit the Planning Workbench GUI by pressing the **EXIT** button.	

4.12.2.2 Test Case 2: Delete a Plan (TS049.002)

This test verifies the steps associated with deleting a plan via the Planning Workbench application GUI.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlPlanningWorkbenchUI, PlPlan, PlAc classes, PlDb classes, PlRc classes, PlRm classes, PlSc classes, PlSi classes, Sybase

Data: Plan specific attributes: start date/time, stop date/time

Tools: Planning Workbench GUI, chk_plans.sql (SQL script to query the database)

Test Input:

The inputs to this test case include the plan start date/time and the plan stop date/time.

Test Output:

The output to this test case should be the deletion of a plan by the software.

Success Criteria:

This test will be considered successful when a plan can be deleted by using the Planning Workbench GUI software.

Test Procedures:

Test Case ID: TS049.002	
Test Name: Delete a Plan	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Start the Planning Workbench GUI.	
3. With the arrow icon, press the button to delete a plan.	
4. The software will display a window from which a plan may be selected. Select a plan to delete.	
5. A pop-up message will appear to give the status for the deletion of the plan.	

6. To verify that the plan was deleted, type **isql -U**<*username*> **-ichk_plans.sql**	This script will query the PLANS and PLANS_METADATA tables in the database. A subsequent visual inspection can be performed to verify deletion of the plan.

4.12.2.3 Test Case 3: Publish a Plan (TS049.003)

This test verifies the steps associated with publishing a plan that exists within the PDPS database to the Document Data Server.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlPlanningWorkbenchUI, PlPlan, PlAc classes, PlDb classes, PlRc classes, PlRm classes, PlSc classes, PlSi classes, Sybase, Document Data Server

Data: Plan specific attributes: start date/time, stop date/time, associated PGEs

Tools: Planning Workbench GUI

Test Input:

The inputs to this test case include the plan name selected from the list that displays all plans within the PDPS database.

Test Output:

The output to this test case is a status message from the PDPS software that the plan was sent in a pre-determined format (ASCII, binary, or metadata) to the Document Data Server.

Additional output includes a status message from the Document Data Server software stating that the plan was received and inserted into the plan repository.

Success Criteria:

This test will be considered successful when a plan can be published to the Document Data Server.

Test Procedures:

Test Case ID: TS049.003	
Test Name: Publish a Plan	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Start the Planning Workbench GUI.	
3. With the arrow icon, press the button to publish a plan to the data server.	
4. The software will provide a window to select a plan to publish. Select a plan from the list.	
5. The planning workbench software will respond with a status message pop-up stating that the plan was sent to the Document Data Server.	S-PLS-00760 fully satisfied. S-PLS-00840 fully satisfied.

6. A pop-up message window will be issued by the data server software stating that the plan was received and inserted into the repository.	The process to issue a status message from the data server may be in a different format than currently stated. At this time, the method listed is the best understanding of how the two pieces of software will talk to one another.

4.12.3 Update Active Plan Thread (TS050)

A plan refers to a collection of Production Requests that describe the generation of data products within the ECS. A daily plan is created by operations personnel to facilitate the daily creation of data products that are required by the user community. An active plan is one that has been entered into the PDPS system via the Planning Workbench and is ready for execution.

The Update Active Plan thread will verify the following functionality:

- the ability to create/query/modify/delete a plan
- the ability to review PR and DPR status information
- the ability to review Candidate and Active plans

4.12.3.1 Test Case 1: Create a Plan (TS050.001)

This test verifies the steps associated to create/query/modify/delete a plan for the production of data products.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlPlanningWorkbenchUI, PlPlan, PlAc classes, PlDb classes, PlRc classes, PlRm classes, PlSc classes, PlSi classes, Sybase

Data: Plan attributes, ground event information, and PGE information from the PDPS database

Tools: Planning Workbench GUI

Test Input:

Input to this test consists of user-supplied actions to initiate GUI responses and plan attributes such as start time, stop time, resources required, etc.

Test Output:

The outputs to this test case are the creation of the plan, a list of plans when the plan is queried, a modified plan when a plan is edited, and a status message verifying the deletion of a plan.

Success Criteria:

This test will be considered successful when a plan can be created/queried/modified/deleted via the Planning Workbench GUI.

Test Procedures:

Test Case ID: TS050.001	
Test Name: Create a Plan	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Bring up the Planning Workbench GUI application.	
3. With the arrow cursor, select the button to create a plan.	S-PLS-00670 S-PLS-01200 (item e. is satisfied)
4. Enter the plan attributes, e.g. outstanding production requests to include, their priorities and run times, their production rules, and their PGE's accessibility of shared data.	S-PLS-00440 S-PLS-00690 S-PLS-00710 (items 1.,3. & 4. are satisfied)
5. When you have completed entering the information, press the **OK** button. The GUI will display a pop-up window specifying the characteristics of the created plan.	
6. Now press the button on the GUI that allows the user to query for a specific plan.	S-PLS-01200 (item h. is satisfied)
7. Enter the plan name and press the **OK** button.	S-PLS-00475 The GUI will display a pop-up window detailing the attributes of the plan that was queried. If the plan was not found the software will issue a message to that effect.
8. Now press the button that allows the user to modify a plan. The GUI will respond by displaying a list of plans to modify. Select one.	S-PLS-00450
9. Enter new plan attributes and press the **OK** button. The GUI will respond with a pop-up message indicating that the modification(s) was accepted.	S-PLS-00680 A plan can be modified and saved as a new plan thereby creating multiple candidate plans.
10. Use the query option to query for the same plan selected in step 8 and verify that the modified values were accepted.	
11. Finally, select the button that allows the user to delete a plan. The GUI will display a list from which to choose a plan to delete.	S-PLS-00770 The plan can also be canceled instead of deleted.
12. Choose a plan and press the **OK** button. The GUI will respond with a pop-up message stating that the plan was deleted.	
13. Use the query option to query for the same plan selected in step 11 and verify that the plan no longer exists.	S-PLS-01200 (item f. and g. are satisfied)

4.12.3.2 Test Case 2: Review PR and DPR Status Information (TS050.002)

This test verifies the steps associated with reviewing Production Request and Data Processing Request status information.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlPlanningWorkbenchUI, PlPlan, PlAc classes, PlDb classes, PlRc classes, PlRm classes, PlSc classes, PlSi classes, Sybase

Data: Plan attributes, ground event information, and PGE information from the PDPS database

Tools: Planning Workbench GUI

Test Input:

Input to this test consists of Production Request and Data Processing Request attributes.

Test Output:

The outputs to this test case will consist of status information reports and logs on Production Requests and Data Processing Request.

Success Criteria:

This test will be considered successful when status information in the form of logs, reports, and graphical representations are produced.

Test Procedures:

Test Case ID: TS050.002	
Test Name: Review PR and DPR Status Information	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Bring up the Planning Workbench GUI application.	
3. Simulate the arrival of a data granule that has been subscribed to. The PRONG CI software will issue a pop-up message verifying that a DPR(s) was scheduled within AutoSys.	S-PLS-01000 For this to happen, the data granule should be the last piece of data that the DPR requires in order to execute its PGE.
4. When the DPR has completed running in AutoSys, the PRONG CI software will issue a pop-up status message indicating completion of the DPR.	S-PLS-01010 Select the option on the Planning Workbench GUI that displays the status of DPRs.
5. From the Planning Workbench GUI, select the button that allows the user to cancel DPR(s). The GUI will display a list of DPRs that can be canceled. Select one.	
6. The GUI will display a pop-up status message indicating the successful cancellation of the DPR(s).	S-PLS-01020 You can also view the AutoSys Ops Console to verify that the DPR(s) was canceled.
7. To view the active plan for DPR status information, press the button to query for a specific plan.	
8. Next select the option to view PGE Information for a DPR. A list of PGEs that are part of the plan will be displayed. Select any PGE.	S-PLS-00400 Information on the Science Software, the order of execution, processing environment, etc. will be displayed.

9. Select a plan. The GUI will display a graphical representation of the plan and its contents, i.e. its PRs and their status, its DPRs and their status, and any ground events associated with the plan.	S-PLS-01030 S-PLS-00710 (item 3. and 5. are satisfied) S-PLS-01200 (item c. satisfied)
10. When you have finished, press the **EXIT** button to exit the Planning Workbench GUI.	

4.12.4 Ground Events Scheduling Thread (TS051)

Ground events describe the allocation of a resource to a non-production task such as maintenance. In the majority of cases, these ground events will be defined well in advance of the production planning, and so a replanning of the production schedule is not part of the production scenario. If the ground event is entered within a time period that is part of the activated schedule then, in order to have that event figure within the schedule, a replan is required.

The Ground Events Scheduling thread will verify the following functionality:

- the ability to create ground events within the schedule
- the ability to view ground events against the schedule
- the ability to view conflicts between ground events and the schedule
- the ability to allocate resources to ground events

4.12.4.1 Test Case 1: Create a Ground Event (TS051.001)

This test verifies the steps associated with creating a ground event against a schedule.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: Planning Workbench classes, PlGroundEvents, Sybase

Data: Hardware resource attributes and schedule information from the database

Tools: Planning Workbench GUI

Test Input:

Input to this test consists of user-supplied ground event attributes such as priority, dependency, and estimated duration.

Test Output:

The output to this test case is the visual display of the ground event via the Planning Workbench GUI.

Success Criteria:

This test will be considered successful when a ground event is created and displayed via the Planning Workbench GUI.

Test Procedures:

Test Case ID: TS051.001	
Test Name: Create a Ground Event	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Bring up the Planning Workbench GUI.	
3. With the arrow cursor, select the button to create a ground event against the schedule.	
4. The GUI will respond by displaying a pop-up window. Enter the ground event's priority, dependencies, resources needed, and duration.	S-PLS-00300 S-PLS-00310 S-PLS-00325 S-PLS-01200 (only item j. is satisfied)
5. The GUI will respond by displaying a pop-up message window that verifies the creation of the ground event against the schedule.	
6. If a conflict exists between the ground event and a previously scheduled ground event, the GUI will issue a pop-up message indicating the reason for rejecting the ground event.	S-PLS-00307
7. Select the option to view a site resource plan to view the ground event and its required resources. Enter the time interval for the plan.	S-PLS-00305 both text and timeline display formats should be tested.

4.12.5 Execution Manager Thread (TS052)

A PGE is defined as any processing job that requires Data Processing subsystem resources. A PGE can define different types of processing: science software, quality assurance, or science pre-processing. If there are standard types of processing jobs that are performed periodically, these jobs are planned and submitted to Processing from Planning. Most PGEs will be defined as science software PGEs. PGE Execution pertains to the preparation and post-processing activities to support the execution of the PGE. These activities include the following:

- Staging the executables and binaries which define the PGE, if required.
- Creating the Process Control File (PCF) used to support the PGE. PCF contains input and output data information.
- Preparing the Production History File (PHF) to be destaged (inserted) into the Science Data Service CSCI with the science data products. The Production History File will contain information used as inputs to the PGE (the Data Processing Request information) as well as resource utilization information.
- De-allocation of resources at the completion of data destaging.

Execution manager provides execution services required to allocate processing resources and disk resources for executable files, execution of science software, and de-allocation of associated resources. Also it maintains the state of the completed PGE, the state of the Process Control File (PCF) and the state of the science software components. The PCF provides critical runtime information to the PGE, while the science software is executing.

The Toolkit Status Message Files (SMFs) in the runtime location are properly linked to SMFs in the Toolkit location. The Processing History Log file is created which contains resource usage information about a PGE after a completed run of a PGE. After post-execution for a Data Processing Request, a Production History Log is created which is a collection of runtime files and Processing History Log.

4.12.5.1 Test Case 1: Resource Allocation Test (TS052.001)

This test verifies the resource allocation of a given DprId and that computer hardware resources are available to support execution of a PGE based on the computer resource information associated with the Data Processing Request ID (DprId).

Test Configuration:

Hardware: Queuing Management Workstation (SUN Sparc 20)

Software: Execution Manager, PDPS database interface

Data: Data Processing Request ID

Tools: EMDriver (Driver to perform resource allocation, prepare execution of actual PGE, perform actual execution of PGE, de-allocate disk resources of a PGE, and retrieve the status of DprIds)

Test Input:

User inputs to execute driver

-alloc DprId machine

-status DprId

Test Output:

A row is inserted in the PGE table for the objects constructed. And two records, which contain information about the PCF and UNIX Profile, are inserted in the PCF table; message indicating that resources are allocated for the given DprId and machine

Test Success Criteria:

This test is considered successful if the resources are allocated without any errors and the records are inserted into the PGE and PCF tables. It is also successful if the objects inserted into the

PGE table are updated to the STANDBY state. Also if the runtime directory created at the location allocated by resource management exists.

Test Procedures:

Test Case ID: TS0052.001	
Test Name: Resource Allocation Test	
Test Steps:	Comments:
1. Login to the Processing workstation	
2. Invoke Execution Manager test driver by typing at command line: **cd /usr/testa/IT/tools**	Driver to allocate resources
3. **EMDriver -alloc DprId machine**	DprId and name of machine the resources are to be allocated on; DprId must exist in the planning DB tables
4. Open new window and connect to database by typing from the command line: **'isql -U[username] -P[password]'**; hit enter	
5. Verify a successful connection and a SQL command line	
6. Open PDPS database by typing from the SQL command line: **'use prong_it**;' hit enter	**prong_it** is the name of the PDPS database in the test environment
7. Type **'go'**	This should be done after every SQL command to display results on screen
8. Enter **'Select * from PGE'** at the command line to query database to retrieve PGE record from the table	Results are displayed on the screen from the PGE table
9. Verify the PGE record was inserted in the database and state updated to STANDBY	
10. Enter **'Select * from PCF'** at the command line to query database to retrieve record from the PCF table	Results are displayed on the screen from the PCF table
11. Verify the two PCF records were inserted in the database with the correct information	
12. Return to main window	
13. Verify the existence of the runtime directory created at location allocated	Partition created from disk space allo-cated S-DPS-21000 option b) is fully satisfied.
14. Enter **EMDriver -status**	Driver option to retrieve status of DprIds
15. Verify the state of the DprId is updated in the DATA_PROCESSING_REQUEST table	

4.12.5.2 Test Case 2: PGE Toolkit Interface Test (TS052.002)

This test verifies that after the creation of the Process Control, the Toolkit Status Message Files (SMFs) in the runtime location are properly linked to SMFs in the toolkit location.

Test Configuration:

Hardware: Queuing Management Workstation (SUN Sparc 20)

Software: Execution Manager, PDPS database interface, Toolkit

Data: Data Processing Request ID

Tools: EMDriver (Driver to perform resource allocation, prepare execution of actual PGE, perform actual execution of PGE, de-allocate disk resources of a PGE, and retrieve the status of DprIds)

Test Input:

User inputs to execute driver

-prep DprId

Test Output:

Status Message files are created in the runtime location

Test Success Criteria:

This test is considered successful if the Status Message Files are created and linked to the SMF's in the toolkit location.

Test Procedures:

Test Case ID: TS0052.002	
Test Name: PGE Toolkit Interface Test	
Test Steps:	Comments:
1. Login to the PGE Execution workstation	
2. Invoke Execution Manager test driver by typing at command line: **cd /usr/testa/IT/tools**	Driver to prepare PGE for execution
3. **EMDriver -prep DprId**	Note that the stage box must be invoked prior to the prep
4. Verify that the physical Process control file and the UNIX profile are in the runtime location on the production machine	
5. Confirm Toolkit Status Message Files SMF's) in the runtime directory are linked to the SMF's in the toolkit location	S-DPS-21160 S-DPS-21180
6. Verify the file that will be input into the PGE wrapper exists in the runtime directory	

4.12.5.3 Test Case 3: Initiation and Monitoring PGE Execution (TS052.003)

This test verifies the execution job and the initial processing and monitoring of the execution of a PGE. The execution is invoked by a toolkit script to run the actual PGE on the production machine.

Test Configuration:

Hardware: Queuing Management Workstation (SUN Sparc 20)

Software: Execution Manager, PDPS database interface

Data: Data Processing Request ID

Tools: DpPrRunPGE (Driver to invoke toolkit script to run a PGE)

Test Input:

PGE Input Info File

Test Output:

A prototype shell is executed on the production machine; output file written by the PGE wrapper

Test Success Criteria:

This test is considered successful if the prototype shell is executed and it invokes the actual PGE software in the runtime location. If the output files exceed the estimated size, an alarm is sent. The test is also successful when the run is complete and a file is created that contains resource usage information.

Test Procedures:

Test Case ID: TS052.003	
Test Name: Initiation and monitoring PGE Execution Test	
Test Steps:	Comments:
1. Login to the Processing workstation	
2. Invoke Execution Manager test driver by typing at command line: **cd /usr/testa/IT/tools**	Driver to perform execution of a PGE
3. **DpPrRunPGE pgeInputInfo**	
4. Verify that the execution of the PGE began and that a prototype shell invoked the PGE software in the runtime location that has been allocated	Executing shell displayed
5. During runtime of the PGE, verify output files do not exceed size, memory or CPU time requirements	If files exceeds estimated size, an alarm will be sent S-DPS-21000 (e) fully satisfied S-DPS-21210, S-DPS-21220, S-DPS-21230, S-DPS-21240
6. If a core file was created by science software, verify the core file was removed from the runtime location	
7. After the run is complete verify that the Processing History Log file was created in the runtime location	This file contains resource usage information about the PGE

4.12.5.4 Test Case 4: Post Execution of a PGE Test (TS052.004)

This test verifies the post execution of a Data Processing Request.

Test Configuration:

Hardware: Queuing Management Workstation (SUN Sparc 20)

Software: Execution Manager, PDPS Database

Data: Data Processing Request ID

Tools: EMDriver (Driver to perform resource allocation, prepare execution of actual PGE, perform actual execution of PGE, de-allocate disk resources of a PGE, and retrieve the status of DprIds)

Test Input:

User inputs to execute driver

-post DprId

Test Output:

Production History Log is created

Test Success Criteria:

This test is considered successful if the Production History Log is created after the execution of the -post option of the execution manager driver. Temporarily stored data as a result of the PGE Execution is deleted. Also the runtime files and Production History files are prepared for de-staging to the data server.

Test Procedures:

Test Case ID: TS052.004	
Test Name: Post Execution of a PGE Test	
Test Steps:	Comments:
1. Login to the Processing workstation	
2. Invoke Execution Manager test driver by typing at command line: **cd /usr/testa/IT/tools**	
3. **EMDriver -post DprId**	Driver to do post execution processing of DprId
4. Verify the existence of a Production History Log	
5. Verify the de-staging of the runtime files and Production History files to the data server	
6. Invoke Execution Manager test driver by typing at command line: **cd /usr/testa/IT/tools**	
7. **EMDriver -dealloc DprId**	Driver to de-allocate resources
8. Verify that all files were deleted	
9. Verify the state of the DprID was updated in the DATA_PROCESSING_REQUEST_TABLE	
10. Exit driver	

4.12.5.5 Test Case 5: Processing Metadata of a Data Product Test (TS052.005)

This test case verifies that execution manager can provide metadata and provide an interface to Processing-specific metadata for a generated data product.

Test Configuration:

Hardware: Queuing Management Workstation (SUN Sparc 20)

Software: Execution Manager, Toolkit

Data: Processing metatdata (ie. Orbit range)

Tools: N/A

Test Input: Data input to start the execution of a PGE

Test Output:

Processing specific metadata for a generated data product

Test Success Criteria:

This test is considered successful if after the completion of a PGE execution, metatdata is generated during the processing.

Test Procedures:

Test Case ID: TS052.005	
Test Name: Processing Metadata of a Data Product Test	
Test Steps:	Comments:
1. Login to the Processing workstation	
2. Initialize a PGE for execution	
3. During execution of the science software, a metadata file is generated in the runtime directory	The PCF maps physical ids to logical ids with regards to metadata items S-DPS-21320 S-DPS-21330
4. **cd < runtime directory >**	
5. Verify that a file with the same name as the data granule name exists in the runtime directory with the extension '.met'	

4.12.5.6 Test Case 6: PGE and Resource Failure Test (TS052.006)

This test verifies the error recovery action if a PGE or the resources needed identified in the Data Processing Request is not available for execution. This test also verifies the initiation of the PGE can be done without having to regenerate that PGE's input data.

Test Configuration:

Hardware: Site specific hardware

Software: Execution Manager, Data Manager, Autosys, PDPS database interface

Data: Data Processing Request attributes, PGE input data

Tools: N/A

Test Input:

Autosys populated job box for scheduled DprID, PGE execution interuption

Test Output:

The initial execution of a PGE fails and is initiated to restart the execution

Test Success Criteria:

This test is considered successful if the resources or PGE execution fails and can be restared without having to regenerate the PGE's input data.

Test Procedures:

Test Case ID: TS052.006	
Test Name: PGE and Resource Failure Test	
Test Steps:	Comments:
1. Login to the processing client workstation	
2. Create a DprId to submit for execution	Data has been staged
3. Allocate resources for DprId	
4. Stage the PGE from the dataserver	
5. Set up process that will cause the PGE to fail executing	
6. Verify that the execution of the PGE failed because the PGE was not available or the resources needed were not available	
7. Verify the correct action was taken due the failure of the PGE execution	S-DPS-20430
8. Verify that a Complete Notification Status message was sent to the source of the Data Processing Request at the completion of the PGE termination	S-DPS-21580
9. Restart the execution of the same PGE that was forced to fail	
10. Verify that execution was initiated without having to regenerate new input data for the PGE	S-DPS-21560

4.12.5.7 Test Case 7: Termination of PGE Execution of Canceled DPR Test (TS052.007)

This test verifies the execution of a PGE is terminated when the DPR associated with the executing PGE is canceled.

Test Configuration:

Hardware: Site specific hardware

Software: Execution Manager, Data Manager, Autosys, PDPS database interface

Data: Data Processing Request attributes, PGE input data

Tools: N/A

Test Input:

Autosys populated job box for scheduled DprID, PGE execution interuption

Test Output:

The termination of the executing PGE

Test Success Criteria:

This test is considered successful if the execution is terminated when the DPR associated with the PGE that is executing is canceled.

Test Procedures:

Test Case ID: TS052.007	
Test Name: Termination of PGE Execution of Canceled DPR Test	
Test Steps:	Comments:
1. Login to the processing client workstation	
2. Create a DprId to submit for execution	Data has been staged
3. Allocate resources for DprId	
4. Stage the DPR from the dataserver	
5. Execute PGE	
6. Verify PGE is processing	
7. Cancel DPR associated with the PGE executing	
8. Verify that the execution was terminated after the cancellation of the DPR	S-DPS-22520

4.12.6 Report Generation GUI Thread (TS071)

The Report Generation GUI is an application that allows the user to create reports on Production Requests, Data Processing Requests and ground events' status and fault information. The GUI also allows for the dissemination of the reports to the user community.

The Report Generation GUI thread will verify the following functionality:

- the ability to generate reports on status (actual vs. plan, resource usage, processing) and fault information (processing errors) for PRs, DPRs, and ground events
- the ability to archive reports to the data server for storage and subsequent distribution
- the ability to provide time reports, fault management, performance management and security management data (reports) to the MSS
- the ability to generate reports on a temporal basis

4.12.6.1 Test Case 1: Generate Status Reports for PRs and DPRs (TS071.001)

This test verifies the steps associated with generating status reports for Production Requests and Data Processing Requests.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlReportApp, PlReportSelector, PlReportFORM, PlRUR, PlOutputSelector, PlSR, Sybase

Data: PR and DPR attributes in the database

Tools: Report Generation GUI

Test Input:

Input to this test case will include the PR and DPR name selected from a list displayed by the software.

Test Output:

The output to this test case is the generation of status reports for the PR and DPR.

Success Criteria:

This test will be considered successful when status reports are generated by the software detailing processing information.

Test Procedures:

Test Case ID: TS071.001	
Test Name: Generate Status Reports for PRs and DPRs	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Start the Report Generation GUI.	
3. With the arrow icon, press the button to create status reports.	
4. The GUI will respond by displaying a Processing Status Report panel listing reports that can be generated. Select one.	S-PLS-01200 (item I. satisfied) S-PLS-01250 S-PLS-01260 S-PLS-01270 S-PLS-01280 S-PLS-01290 S-PLS-01336 S-PLS-01340 S-PLS-01341 The reports that can be generated are Processing Errors, Resource Usage, Processing Gaps, Actual vs. Plan, Ground Event Resource Use, Ground Event Resource Schedule, and Custom Report.
5. The GUI will respond by displaying a Display panel to indicate the destination of the report. You can select from Printer, Document Data Server, Output File, or default Display. Select **Display**.	The GUI will output the report to the display screen.
6. Close the report display and return to the Processing Status Report panel. Select the option to generate **Processing Errors Report**.	S-PLS-01338

7. The GUI will respond by displaying a Display panel to indicate the destination of the report. Select **Output File**.	S-PLS-01320 The GUI will output the report to the output file which can be viewed.
8. Return to the Processing Status Report panel and select the option to generate a **Ground Event Resource Usage** report.	
9. The GUI will respond by displaying a panel to indicate the destination of the report. Select **Document Data Server**.	S-PLS-01245 S-PLS-01342 S-PLS-01343 S-PLS-01344
10. A confirmation pop-up message will be displayed by the software stating that the report was sent to the Document Data Server.	
11. Another message will be received from the Data Server CSCI stating that the report was successfully inserted.	

4.12.6.2 Test Case 2: Generate Reports for MSS (TS071.002)

This test verifies the steps associated with generating reports for the MSS.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlReportApp, PlReportSelector, PlReportFORM, PlRUR, PlOutputSelector, PlSR, Sybase, MSS software

Data: Generated reports from the GUI

Tools: Report Generation GUI

Test Input:

Input to this test case includes the selection of the type of report to generate.

Test Output:

The output to this test case is the generation of the report.

Success Criteria:

This test will be considered successful when the designated report can be generated and transferred to the MSS.

Test Procedures:

Test Case ID: TS071.002	
Test Name: Generate Reports for MSS	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Start the Report Generation GUI.	
3. With the arrow icon, press the button to create reports.	

4. The GUI will respond by displaying a panel listing reports that can be generated. Select all of these and press **OK**. Note: You can also select the option to provide a time span for the reports based on activities for the past 1, 3, 7, 30, and 90 days.	S-PLS-01410 S-PLS-01430 S-PLS-01470 S-PLS-01500 S-PLS-00490 The reports to generate are: a. workload and turnaround time b. fault management data c. performance management data d. security management data S-PLS-01335 S-PLS-01337 S-PLS-01339
5. The GUI will respond by displaying a pop-up message indicating that the reports were generated.	You may select to view the reports at this point.
6. Select the option to move the reports to the MSS.	S-PLS-01300 S-PLS-01440 S-PLS-01480 S-PLS-01490
7. The GUI will respond by displaying a list of reports to move. Select the ones from step 4 and press **OK**.	
8. When the transfer has completed, the software will display a status message stating so.	
9. Exit the GUI by pressing the **EXIT** button.	

4.12.6.3 Test Case 3: View Planning Faults via GUI (TS071.003)

This test verifies the steps associated with viewing Planning software detected faults via a GUI.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlReportApp, PlReportSelector, PlReportFORM, PlRUR, PlOutputSelector, PlSR, Sybase, Planning Workbench

Data: None

Tools: Planning Workbench

Test Input:

Input to this test case includes the selection of the type of faults to view.

Test Output:

The output to this test case a GUI showing the detected fault.

Success Criteria:

This test will be considered successful when a GUI can be displayed showing the detected Planning faults.

Test Procedures:

Test Case ID: TS071.003	
Test Name: View Planning Faults via GUI	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Start the Planning Workbench GUI.	
3. With the arrow icon, press the button to view software detected faults.	S-PLS-01240
4. The software will display all detected faults within a GUI window.	
5. Searches to display specific fault categories can be made by depressing the **Query** button.	
6. Enter the fault category and press **OK**.	
7. When you are finished, exit the GUI by pressing the **EXIT** button.	

4.12.7 Resource Planning Thread (TS075)

Resource Planning enables the ECS's to provide detailed information about resources within the DAAC environment. The Resource Planning thread will verify the following functionality:

- the ability to receive MSS site configuration management information
- the ability to maintain, review, and modify a list of available site resources and resource requests
- the ability to associate activities with resources
- the ability to generate site resource reports

4.12.7.1 Test Case 1: Receive MSS Site Configuration Management Information (TS075.001)

This test verifies the steps associated with receiving site CM information from the MSS and maintaining the site resource and resource request information.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlRp classes, PlDb classes, PlRm classes, PlSi classes, Sybase, MSS server application

Data: Production resource information from the database

Tools: Planning Workbench GUI

Test Input:

Input to this test case is a site CM information file received from the MSS.

Test Output:

None.

Success Criteria:

This test will be considered successful when MSS site CM information is received and this information can be maintained by the user.

Test Procedures:

Test Case ID: TS075.001	
Test Name: Receive MSS Site Configuration Management Information	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Start the Planning Workbench GUI.	
3. With the arrow icon, press the button to build the site resource configuration.	S-PLS-00312
4. The software will invoke the MSS server application to retrieve CM information on site production resources.	
5. When the information has been received and loaded into the database, the GUI will respond by displaying a pop-up message window.	
6. You may view the site production resource information by selecting the button that lists the configuration.	S-PLS-00315
7. The software will display a GUI of a graphical representation of the production resource layout.	
8. Pick a resource with the arrow icon and associate an activity to it.	S-PLS-00320 The activity may be to reserve the resource until a specific time period.
9. You may attempt to add, modify, query, validate, or delete any of the resources listed by selecting the resource and applying the desired action.	S-PLS-00330 S-PLS-00335
10. You can also attempt to set the status of the site resource requests to one of the following values: new, validated, approved, rejected by selecting the option to **Modify the Site Resource Requests**.	S-PLS-00340
11. When you are finished, select the **Exit** button on the GUI to exit.	

4.12.7.2 Test Case 2: Generate a Site Resource Report (TS075.002)

This test verifies the steps associated with generating site resource and resource request reports.

Test Configuration:

Hardware: Planning Workstation (SUN Sparc 20/50)

Software: PlRp classes, PlDb classes, PlRm classes, PlSi classes, Sybase

Data: Production resource information from the database

Tools: Planning Workbench GUI

Test Input:

User-supplied actions to generate desired GUI responses.

Test Output:

Outputs from this test case are the site resource and resource request reports.

Success Criteria:

This test will be considered successful when site resource and resource request reports are successfully generated.

Test Procedures:

Test Case ID: TS075.002	
Test Name: Generate a Site Resource Report	
Test Steps:	Comments:
1. Login to the Planning workstation.	
2. Start the Planning Workbench GUI.	
3. With the arrow icon, press the button to generate a planned site resource report.	S-PLS-00345
4. The GUI will display a pop-up message stating the successful generation of the report and the option to display it. Select **OK**.	The report will be displayed within a GUI and should list the resource name.
5. After viewing the report select **Exit** to exit the report display window.	
6. With the arrow icon, press the button to generate a site resource request report.	S-PLS-00350
7. The GUI will display a pop-up message stating the successful generation of the report and the option to display it. Select **OK**.	The report will be displayed within a GUI and should list the resource name, any activities tied to that resource and the duration of the activity.
8. After viewing the report select **Exit** to exit the report display window.	
9. Select **Exit** to exit the Planning Workbench GUI.	

4.12.8 Science Data Processing & Archive Build (BS016)

This build will attempt to test integration level scenarios between PDPS and its external interfaces. The external interfaces for PDPS consist of: Science Data Server (Ingest subsystem), Management subsystem, Advertising Service, and the Document Data Server.

The PDPS subsystem uses the Science Data Server (SDSRV) by querying it for holdings of data required in some reprocessing. The SDSRV also provides the subscription services needed by PDPS (PLANG CI) to determine when new data are available for processing. The PLANG CI generates the subscriptions to be entered into the Data Server.

The PDPS subsystem uses the Advertising subsystem to provide advertising data that is required by the PLANG CI order to generate a subscription.

The PDPS subsystem uses the Document Data Server (DSS) to store production plans (candidate and active). The DSS then makes those plans available to the user community.

The PDPS subsystem (PLANG CI) uses the Management subsystem (MSS) by sending to it fault management data, accounting data, security data, and performance data.

The Science Data Processing & Archive build will verify the following functionality:

- the ability to communicate with the Science Data Server
- the ability to communicate with the Document Data Server
- the ability to communicate with the Advertising Service CSCI
- the ability to communicate with the Management subsystem

4.12.8.1 Test Case 1: PDPS and Data Server Interface Test (BS016.001)

This test verifies the ability of the PDPS subsystem to interface and communicate with the Data Server. Specifically, this test will attempt to:

- send subscriptions, data query requests, candidate plans, and active plans to the Data Server
- receive subscription notifications and granule information from the Data Server
- receive a L0-L4 file from the Ingest subsystem to process a PGE

Test Configuration:

Hardware: Planning and Processing workstations (SunSparc 20), Data Server workstation

Software: PDPS subsystem, PDPS database (Sybase), AutoSys Data Server subsystem, Data Server database, Resource Planning Workbench

Data: L0-L4 data from Ingest, L0-L4 data ACQUIRE command (PRONG), subscription requests, data query requests, candidate plans, and active plans generated within the PDPS subsystem

Tools: None

Test Input:

Inputs to this test case include subscriptions, plans, and query requests generated within the PDPS subsystem. Also, a request to the Ingest subsystem from the PRONG CSCI for L0-L4 data is required.

Test Output:

Outputs from this test case include a subscription notification and data granule information provided by the Data Server subsystem, a request-for-data verification message and a L0-L4 data file from the Ingest subsystem.

Success Criteria:

This test will be considered successful when the PDPS subsystem can communicate with the Data Server and data exchange can occur across the interface by allowing for the transfer of a request for a L0-L4 file, a transfer of a verification message for the request, and a transfer of the L0-L4 file.

Test Procedures:

Test Case ID: BS016.001	
Test Name: PDPS and Data Server Interface Test	
Test Steps:	Comments:
1. Login to the PDPS Planning workstation.	This will be the PDPS window.
2. Bring up the Resource Planning Workbench GUI.	
3. From the Resource Planning Workbench GUI, select the option to send plans (candidate and active) to the Data Server.	PGS-0290#A
4. The GUI will display a pop-up window listing all the plans and their status within the PDPS database. Select any number of plans and press the **OK** button.	
5. The Data Server subsystem will issue an accept or fail status message and the reason for failure if applicable in reply to the PDPS command.	
6. From another window login to the Data Server workstation and bring up the Data Server software.	This will be the Data Server window.
7. Select the option to simulate the receipt of a data granule for which a subscription exists.	This step must be simulated since the actual receipt scenario is not currently possible.
8. Enter the granule information and press the **OK** button.	
9. The Data Server will send a subscription notification and granule id information to the PDPS to signal the arrival of the data.	PGS-0512#A PGS-0520#A partially satisfied (generation of the data product does not occur here but the knowledge of single or multiple granule inputs for processing exists.) S-PLS-00875 S-PLS-61010 S-PLS-61040 S-PLS-61050
10. From the PDPS window, verify that the information from the Data Server arrived.	A pop-up message window will appear indicating the receipt of subscription and granule information.
11. Login to the Processing workstation.	This is the PRONG window.
12. From the PRONG window, bring up the AutoSys Ops Console by typing **autocons &**	Source the AutoSys configuration file by typing **source /vendor/autotree2/autouser/autosys.csh.spre4sun**

13. Within the Ops Console, select a DPR job box and press the **Force Start** button.	We want to force start a job's whose data has arrived within the system but whose start time has not arrived.
14. As the jobs within the job box are executed, watch the status of the .stage job. It should finish successfully.	PGS-0440#A PGS-0450#A The .stage job will determine that the data required to process the PGE is not locally available and will issue an ACQUIRE command to the Data Server for the L0-L4 data that is needed.
15. Verify that the L0-L4 file was received by looking for it within the Resource Manager runtime directory.	This directory's logical id is provided in the Resource Manager 2/3 thread.
16. Exit from the GUIs by pressing the **EXIT** button.	

4.12.8.2 Test Case 2: PDPS and Management Subsystem Interface Test (BS016.002)

This test verifies the ability of the PDPS subsystem to interface and communicate with the Management subsystem. Specifically, this test will attempt to:

- send system management information (fault, configuration, accounting, performance, and security) to the MSS
- view system management information in several formats on-line via a Processing Reports HTML page
- request information about health and availability of hardware resources

Test Configuration:

Hardware: Planning workstation (SunSparc 20)

Software: PDPS subsystem, Management subsystem, PDPS database (Sybase), MSS database, Resource Planning Workbench

Data: System Management Information from the PDPS database

Tools: Scripts to query the MSS database for records, network browser (Netscape, Mosaic, etc.)

Test Input:

Inputs to this test case include the system management information collected from the PDPS subsystem.

Test Output:

Outputs from this test case include receipt verifications from MSS.

Success Criteria:

This test will be considered successful when system management information can be transferred to the MSS from the PDPS and viewed on-line via a network browser (Netscape, Mosaic, etc.).

Test Procedures:

Test Case ID: BS016.002	
Test Name: PDPS and Management Subsystem Interface Test	
Test Steps:	Comments:
1. Login to the PDPS Planning workstation.	This is the Planning window.
2. Bring up the Resource Planning Workbench GUI.	
3. From the Resource Planning Workbench GUI, select the option to send system management information to the MSS.	PGS-0310#A PGS-0320#A PGS-0420#A PGS-0430#A S-PLS-60160 S-PLS-20120 S-PLS-20140 S-PLS-20230
4. The GUI will display a pop-up window listing the types of reports to generate and send. Select all that are listed and press the **OK** button.	
5. The Planning Workbench will issue a message indicating that all reports were successfully generated and sent to the MSS.	If an error occurred, a reason for failure will be provided.
6. Login to the MSS workstation.	This is the MSS window.
7. Verify that the system management information from the PDPS was received by querying the MSS database.	Run the scripts and enter the appropriate data when prompted. Entries will exist within the MSS database that correspond to the PDPS information.
8. Another method to verify this is to access the Processing Reports HTML page on-line.	
9. Bring up a network browser application such as Netscape.	
10. Enter the URL for the Processing Reports home page.	S-PLS-01345 The software will connect to the home page and display information on what reports can be accessed.
11. Connect to the desired report by clicking on the hyperlink provided.	This action will bring up the report to view on-line.
12. Exit the browser window by typing **EXIT**.	
13. From the MSS workstation enter the request to obtain hardware resource information.	S-PLS-20100
14. The MSS API will respond by displaying a GUI to make the selection more concise.	
15. Enter the desired parameters and press the **OK** button.	The information will be sent from MSS to PDPS.

4.12.8.3 Test Case 3: PDPS and Advertising Service Interface Test (BS016.003)

This test verifies the ability of the PDPS subsystem to interface and communicate with the Advertising Service. Specifically, this test will attempt to:

obtain information on what data files are available to which subscriptions can be made

Test Configuration:

Hardware: Planning workstation (SunSparc 20)

Software: PDPS subsystem, Advertising Service, PDPS database (Sybase), Advertising database, Subscription Editor CSCI

Data: Information from the Advertising database listing the data that can be subscribed to.

Tools: None

Test Input:

Inputs to this test case include a request from the PDPS to view a list from the Advertising Service on data files to which a subscription can be made.

Test Output:

Outputs from this test case include the list displayed by the Advertising Service.

Success Criteria:

This test will be considered successful when a list of data files which can be subscribed to is displayed by the Advertising Service.

Test Procedures:

Test Case ID: BS016.003	
Test Name: PDPS and Advertising Service Interface Test	
Test Steps:	Comments:
1. Login to the PDPS Planning window.	This will be the Planning Workbench window.
2. Start the Subscription Editor CSCI.	
3. Select the option to display a list of data types to which subscriptions can be made.	S-PLS-00260 fully satisfied The list contains the granules that are available and the Production Request to which it is associated.
4. The Advertising Service will respond by displaying a pop-up list of the data files that can be subscribed to.	
5. Pick a group of data files that are required to execute a PGE.	The group of data files must be determined by looking at the PDPS database's INPUT_DATA_YIELD table.
6. The Advertising Service software will respond to the action with a confirmation message stating that the data files were subscribed to.	

4.12.8.4 Test Case 4: Operations Role Management Test (BS016.004)

This test verifies the ability of the PDPS subsystem to coordinate and partition roles for the operations staff. Specifically, responsibilities for operations personnel will be tested to see whether certain roles (operations personnel) can perform certain duties.

Test Configuration:

Hardware: Planning workstation (SunSparc 20)

Software: PDPS subsystem, Production Request Editor GUI, Planning Workbench GUI, Resource Planning Workbench

Data: Operations role name and password.

Tools: None

Test Input:

Inputs to this test case include user actions to the GUI screens and the operations role name and password.

Test Output:

Outputs from this test case include confirmation messages and error messages for attempting to perform certain functions.

Success Criteria:

This test will be considered successful when a operations role can be prohibited from performing certain tasks while having access to other tasks.

Test Procedures:

Test Case ID: BS016.004	
Test Name: Operations Role Management Test	
Test Steps:	Comments:
1. Login to the PDPS Planning window.	Login as the operations role (production planner) who has access to the Planning Workbench GUI.
2. Start the Planning Workbench GUI.	
3. Attempt to perform any Planning Workbench related action.	S-PLS-01330 The GUI will allow you access to the function because it has verified that you have the appropriate privileges.
4. Exit from the Planning Workbench GUI.	
5. Start the Data Server interface GUI to access the data granules.	The software will disallow you access to this GUI since the production planner does not have the privilege to do this.

4.13 DS Resource Management Tests

4.13.1 Resource Queuing Thread (TS053)

The following tests verify managing a distribution queue. This includes queuing of electronic and media Data Requests. Operational support includes, displaying the queue, changing the Data Request queuing priority order, and canceling queued Data Requests. This thread contains the following seven test cases:

TS053.001 Distribution Queuing Order Test

TS053.002 Distribution Request Priority Change Test

TS053.003 Distribution Cancellation Request Test

TS053.004 Distribution Status Request Test

TS053.005 Distribution Transmission Error Check

TS053.006 Submit Users Distribution Request Test

TS053.007 Distribution Request Access Control Test

4.13.1.1 Test Case 1: Distribution Queuing Order Test (TS053.001)

This test demonstrates the ability to correctly place distribution requests on a queue that contains all distribution requests waiting to be processed. The distribution request is placed on the queue based on the request type and the priority level. The priority information is validated. The queue is displayed via the DSS GUI.

Test Configuration:

Hardware: Distribution Management, Working Storage, Data Repository.

Software: Data Distribution Manager CSC, SDSRV.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST Driver.

Test Input:

Inputs to this test include distribution requests of various priorities waiting to be processed. Some requests have invalid priority information.

Test Output:

Outputs to this test include displays of the distribution queue. Error messages if the request has invalid priority information.

Success Criteria:

The processing of the queue is monitored. This test is deemed successful if the queue is first in first out for all requests of the same priority level. Or when certain data requests have higher priority, monitoring of the queue will show processing of the higher priority data requests prior to processing of requests with lower priority. Those requests with invalid priority information are rejected and error messages are displayed.

Test Procedure:

Test Case ID: TS053.001	
Test Name: Distribution Queuing Order Test	
Test Steps:	Comments:
1. Log on the GSFC DAAC Workstation.	
2. Start the Science Data Server. **> rlogin <dss machine >** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv&**	
3. Invoke the Dataserver GUI.	
4. Invoke insert driver. **> ./dttest**	
5. Select '**Tracking**' icon to view all requests currently residing on the queue.	View all distribution requests. S-DSS-01100, S-DSS-01140
6. Verify that requests are ordered properly based on priority level.	Requests waiting to be processed are placed on the queue based on priority level and request type. S-DSS-00023, S-DSS-30090, S-DSS-30180
7. Submit a distribution request with 'low' priority.	S-DSS-01090
8. Select the '**Tracking**" icon and verify that the distribution request is successfully placed near the bottom of the list.	S-DSS-00030, S-DSS-00040, S-DSS-00050, S-DSS-00120, S-DSS-01130
9. Add a distribution request with 'high' priority.	
10. Select the '**Tracking**" icon and verify that the distribution request is successfully placed near the top of the list.	
11. Add a distribution request with an invalid priority.	
12. Verify that an error message is displayed stating invalid priority information.	
13. Verify messages are sent to appropriate logs.	
14. Terminate all software processes.	
15. Logoff workstation.	
16. Log off system.	

4.13.1.2 Test Case 2: Distribution Request Priority Change Test (TS053.002)

This test demonstrates the ability for authorized accounts to change priority information of distribution requests on a queue that contains all distribution requests waiting to be processed. An operational command to change priority is submitted and validated. The queue is displayed before and after priority change is entered. Error testing includes: unauthorized operational commands, and changing priority of a non-existent request.

Test Configuration

Hardware: Distribution Management, Working Storage, Data Repository.

Software: Data Distribution Manager CSC, SDSRV.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST Driver.

Test Input:

Inputs to this test include many distribution requests of various priorities waiting to be processed.

Test Output:

Outputs to this test include displays of the distribution queue. Operational commands to change request priority.

Success Criteria:

The processing of the queue is monitored. This test is deemed successful if valid operational commands are accepted and commands from unauthorized sources are rejected. By displaying the queue and monitoring ongoing reports, it is determined that the priority of the request is accurately changed.

Test Procedure:

Test Case ID: TS053.002	
Test Name: Distribution Request Priority Change Test	
Test Steps:	Comments:
1. Log on the GSFC DAAC Workstation.	
2. Start the Science Data Server. **> rlogin <dss machine >** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv&**	
3. Invoke the Dataserver GUI.	
4. Invoke insert driver. **> ./dttest**	
5. Select 'Storage Requests' icon.	

6. Select a Storage Management Request.	Highlight entire line.
7. Select 'Priority' button until desired priority appears.	
8. Select 'Apply' button.	
9. Refresh screen.	
10. View Request and verify that priority has changed.	S-DSS-00050, S-DSS-00051, S-DSS-30100
11. Return to starting priority.	
12. Refresh screen and verify priority information has returned to its original value.	
13. Repeat process until all possible priority information has been changed.	Possibilities include changing the priority for the following and returning priority to original state: low to medium, low to high, medium to low, medium to high, high to medium, high to low.
14. Repeat procedures and attempt to change priority of another Requester's request.	Receive error message.
15. Attempt to change the priority of a non-existent request.	
16. Verify messages are sent to appropriate logs.	
17. Terminate all software processes.	
18. Logoff workstation.	

4.13.1.3 Test Case 3: Distribution Cancellation Request Test (TS053.003)

This test demonstrates the ability for authorized accounts to cancel distribution requests on a queue that contains all distribution requests waiting to be processed. The cancel distribution request is submitted and validated. The queue is displayed before and after request cancellation. Cancellation notices are sent to the Distribution Request provider via email. Cancellations are logged in the appropriate log files.

Test Configuration

Hardware: Distribution Management, Working Storage, Data Repository.

Software: Data Distribution Manager CSC.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST Driver.

Test Input:

Inputs to this test include distribution and distribution cancellation requests. Some requests are unauthorized.

Test Output:

Outputs to this test include displays of the distribution queue. Error messages if the request is from an unauthorized source. Log entries for cancellations.

Success Criteria:

The processing of the queue is monitored. This test is deemed successful if the indicated requests are canceled. Those requests from unauthorized sources are rejected and error messages are displayed. All successful and unsuccessful cancellations are logged.

Test Procedure:

Test Case ID: TS053.003	
Test Name: Distribution Cancellation Request Test	
Test Steps:	Comments:
1. Log on the GSFC DAAC Workstation.	
2. Start the Science Data Server. **> rlogin <dss machine >** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv&**	
3. Invoke the Dataserver GUI.	
4. Invoke insert driver. **> ./dttest**	
5. Select '**Tracking**' icon to view all requests currently residing on the queue.	All requests on queue waiting to be processed will be listed.
6. Select request to cancel.	S-DSS-00023, S-DSS-00190, S-DSS-00220, S-DSS-01780
7. Select '**Abort**' button.	S-DSS-00950, S-DSS-00960
8. Select '**Tracking**' icon to verify that request has been successfully canceled.	Request will not appear in the tracking window anymore. S-DSS-30140, S-DSS-30150
9. Verify that cancellation action has successfully been logged.	S-DSS-20010, S-DSS-30046, S-DSS-30160
10. Verify that e-mail messages has been received by the Distribution Request provider.	S-DSS-00191, S-DSS-30045, S-DSS-30046, S-DSS-30163
11. Select '**Tracking**' icon.	
12. Select request to be canceled that has not begun processing.	S-DSS-30130
13. Verify that cancellation action has successfully been logged.	
14. Cancel several requests at different stages of the distribution process.	S-DSS-30140
15. Verify that cancellation action has successfully been logged.	
16. Verify that message are received specifically stating whether a request was actually canceled and the reason request can not be cancel, or that cancel command was successful.	There may be instances when request will not be canceled, such as, an ftp which is almost complete. S-DSS-00216
17. Select '**Tracking**' icon.	
18. Select request to be canceled.	Insure that cancellation request is invalid.
19. Select '**Abort**' button.	
20. Verify that error message is received stating that request cannot be canceled.	
21. Verify messages are sent to appropriate logs.	S-DSS-30165, S-DSS-30167
22. Terminate all software processes.	
23. Logoff workstation.	

4.13.1.4 Test Case 4: Distribution Status Request Test (TS053.004)

This test demonstrates the ability for authorized requesters to view the status of Distribution Requests. A series of requests are submitted. Before processing completes, status requests are submitted to view Distribution Request processing status. Views are requested and displayed according to the following parameters: a specified ongoing request by request identifier, all ongoing requests by user identifier, and all ongoing requests. Possible states include: pending, active, staging, or not found. This test includes verifying the ability to deny unauthorized requests. Unauthorized attempts result in an error status message displayed on the console and recorded in the Error Log.

Test Configuration

Hardware: Distribution Management, Working Storage, Data Repository, Data server, Data Storage media and devices .

Software: Data Distribution Manager, Data Distribution Administration Application.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST Driver.

Test Input:

A series of Data Requests are submitted. A series of status requests are entered. Several requests are made to include viewing of status according to all possible selectable parameters. Attempts to submit status requests are made by unauthorized requesters.

Test Output:

Distribution processing status views are displayed according to selected parameters.

Success Criteria:

All status requests submitted are received. For requests submitted by authorized requesters, views are displayed to screen. The views are examined to verify all information requested is properly displayed according to the parameters given in the request. For requests submitted by unauthorized requesters, an error message is displayed on the console and the error is recorded in the Error Log.

Test Procedure:

Test Case ID: TS053.004	
Test Name: Distribution Status Request Test	
Test Steps:	Comments:
1. Log on the GSFC DAAC Workstation.	

2. Start the Science Data Server. > rlogin <dss machine > > source dbrc.csh > source dssrc.csh > ./sdsrv&	
3. Invoke the Dataserver GUI.	
4. Invoke insert driver. > ./dttest	
5. Select '**Tracking**' icon to view all requests currently residing on the queue.	S-DSS-00110, S-DSS-01090, S-DSS-01100, S-DSS-01140
6. Submit several requests.	S-DSS-01210, S-DSS-20060
7. Select '**Tracking**' icon.	View requests to identify Request IDs of requests submitted.
8. Select '**Filter**' button.	This screen allows the user to customize requests and to view requests in a particular state.
9. Highlight entire line containing a particular '**Request ID**' and then Select '**OK**'.	User can view all requests by Request ID.
10. Verify that requests are listed by Request ID.	
11. Select '**Tracking**' icon. Repeat the process, filtering all possible states.	In addition to RequestID and Requester, states include Pending, Active, Staging, Waiting for Shipment and Shipped. S-DSS-00023, S-DSS-00120, S-DSS-00130, S-DSS-00140, S-DSS-20065, S-DSS-30170, S-DSS-30171, S-DSS-30431
12. Repeat the process filtering all Media Types.	Media types include: CD-ROM, 9-Track Tape, 8mm Tape, 4mm Tape, Electronic Push and Electronic Pull.
13. Verify messages are sent to appropriate logs.	S-DSS-20065, S-DSS-20070
14. Terminate all software processes.	
15. Logoff workstation.	

4.13.1.5 Test Case 5: Distribution Transmission Error Check (TS053.005)

This test demonstrates the capability to detect and log all electronic transmission problems encountered during electronic data distribution. Data distribution problems are entered into a log and notification is displayed on screen. The problems entered into a log are displayed according to the type of distribution requested, the time period, request identification or data type. The log is sorted by electronic distribution type (push/pull) and physical media type (tape). Distribution activity reports are generated. If the distribution is an electronic "push" distribution, an operator defined number of attempts is made before aborting the transmission. These additional attempts are logged. Notification of failure to distribute is sent to the data requester.

Test Configuration

Hardware: Distribution Management, Working Storage, Data Repository, Data server, Data Storage media and devices.

Software: Data Distribution Manager, Media Handling software, Data Distribution Administration Application.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative..

Tools: DDIST Driver.

Test Input:

Media and electronic distribution requests.

Test Output:

Outputs to this test include status messages and log entries.

Success Criteria:

Data distribution errors are displayed and recorded in a log. Notification of failure is sent to the data requester. The log is displayed according to selected parameters. Data distribution reports are generated.

Test Procedure:

Test Case ID: TS053.005	
Test Name: Distribution Transmission Error Check	
Test Steps:	Comments:
1. Log on the GSFC DAAC Workstation.	
2. Start the Science Data Server. > rlogin <dss machine > > source dbrc.csh > source dssrc.csh > ./sdsrv&	
3. Invoke the Dataserver GUI.	
4. Invoke insert driver. **> ./dttest**	
5. Select 'Tracking' icon to view all requests currently residing on the queue.	
6. Submit a request for distribution via ftp push.	Insure the target directory is non-existent to force a transmission error. View queue to verify request for distribution via ftp push has been submitted. S-DSS-00023
7. View log for any messages.	Message stating that request failed and an explanation.
8. Submit an invalid request for distribution via ftp pull.	Insure the target directory is non-existent to force a transmission error. View queue to verify request for distribution via ftp pull has been submitted.
9. View log for any messages.	Message stating that request failed and an explanation.
10. Submit an invalid request for distribution via 8mm tape.	View queue to verify request for distribution via 8mm tape has been submitted.
11. Verify messages are sent to appropriate logs.	

12. Terminate all software processes.	
13. Logoff workstation.	

4.13.1.6 Test Case 6: Submit Users Distribution Request Test (TS053.006)

This test demonstrates the ability for authorized accounts to submit distribution requests using a User Identification. The distribution request is submitted and validated. The request is processed.

Test Configuration

Hardware: Distribution Management, Working Storage, Data Repository.

Software: Data Distribution Manager CSC.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST Driver.

Test Input:

Inputs to this test include distribution requests submitted by authorized sources using User Identification. Some requests are unauthorized.

Test Output:

Outputs to this test include processing of the request. Error messages are returned if the request is from an unauthorized source.

Success Criteria:

This test is deemed successful if the authorized submitted requests are accepted and processed. Those requests from unauthorized sources are rejected and error messages are displayed.

Test Procedure:

Test Case ID: TS053.006	
Test Name: Submit Users Distribution Request Test	
Test Steps:	Comments:
1. Log on the GSFC DAAC Workstation.	
2. Start the Science Data Server. > rlogin <dss machine > > source dbrc.csh > source dssrc.csh > ./sdsrv&	
3. Invoke the Dataserver GUI.	
4. Invoke insert driver. > ./dttest	
5. Select 'Tracking' icon to view all requests currently residing on the queue.	View all distribution requests.

6. Verify that requests are ordered properly.	Requests waiting to be processed are placed on the queue based on priority level and request type.
7. Submit a distribution request.	S-DSS-00023
8. Verify that request has been properly placed on the queue by an authorized user by selecting the '**Tracking**' icon.	S-DSS-30180
9. Verify that the request has been properly processed.	S-DSS-00050, S-DSS-00055, S-DSS-30180
10. Submit an invalid distribution request. Use an invalid user name.	
11. Verify that message is displayed stating an unauthorized user.	
12. Verify messages are sent to appropriate logs.	
13. Terminate all software processes.	
14. Logoff workstation.	

4.13.1.7 Test Case 7: Distribution Request Access Control Test (TS053.007)

This test demonstrates the ability for authorized accounts to define access controls for distribution requests. Data Access privileges are defined by User Identifier and Data Type. Access privileges include: read, write, update, delete, and any combination thereof. An authorized account defines the access control for an account. Distribution Requests are submitted from the account. Some of the requests conform to the access privileges, some go against the defined privileges for the account. The valid requests are processed. The invalid requests are not. Status and error messages are returned.

Test Configuration

Hardware: Distribution Management, Working Storage, Data Repository.

Software: Data Distribution Manager CSC.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST Driver.

Test Input:

Inputs to this test include access control commands and distribution requests. Valid and invalid requests are submitted.

Test Output:

Outputs to this test include status and error messages.

Success Criteria

This test is deemed successful if distribution request processing reflects the access controls defined for the account. Invalid requests from are rejected and error messages are displayed.

Test Procedure:

Test Case ID: TS053.007	
Test Name: Distribution Request Access Control Test	
Test Steps:	Comments:
1. Log on the GSFC DAAC Workstation.	
2. Start the Science Data Server. > rlogin <dss machine > > source dbrc.csh > source dssrc.csh > ./sdsrv&	
3. Invoke the Dataserver GUI.	
4. Invoke insert driver. > ./dttest	
5. Submit a valid distribution request with an authorized account..	S-DSS-00023, S-DSS-00850, S-DSS-00880
6. Request is processed.	
7. Change the access privileges on the account so that distribution request will be rejected.	S-DSS-00860, S-DSS-00870
8. Submit this invalid distribution request.	
9. Verify that the invalid request is rejected and that an error messages is displayed.	S-DSS-00640
10. Verify messages are sent to appropriate logs.	
11. Terminate all software processes.	
12. Logoff workstation.	

4.13.2 Staging Disk Management Thread (TS054)

The following tests verify staging disk management activities. Staging disk management includes: system startup, storage device allocation, and system threshold setting. Operational support includes: displaying a Data Request list for electronic and media distribution and distribution and pull space utilization test, viewing the Distribution Activity Log, and generating distribution activity reports. This thread contains the following test cases:

TS054.001 Distribution List Display Test

TS054.002 Distribution Report Generation Test

TS054.003 Distribution Threshold Error Test

TS054.004 Storage Startup and Storage Device Allocation Test

TS054.005 Distribution "Pull" Space Utilization Test

4.13.2.1 Test Case 1: Distribution List Display Test (TS054.001)

This test demonstrates the ability for authorized accounts to submit a request to display a list containing electronic and media Distribution Requests. The list can be displayed in the DSS GUI by type (electronic or media), request identifier, or state.

Test Configuration:

Hardware: Distribution Management, Working Storage, Data Repository.

Software: Data Distribution Manager CSC, SDSRV, STMGT, DSS GUI.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST driver.

Test Input:

Inputs to this test include distribution requests. Operational commands are submitted to display/view the list by type, request identifier, and status.

Test Output:

Outputs to this test include displays of the distribution list.

Success Criteria:

This test is deemed successful if operational commands are accepted and the Distribution List is displayed. The display reflects the operational command to view the list by type, request identifier, or status. The lists are complete and readable.

Test Procedure:

Test Case ID: TS054.001	
Test Name: Distribution List Display Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Select '**Tracking**' icon.	
6. Select '**Filter**' button.	Number of entries to search can be reduced by filtering requests.

7. In area titled "**Media Type**", click '**All**' button.	This produces a list containing all electronic and media distribution requests. S-DSS-01090
8. Select '**Filter**' button.	
9. Repeat for each individual media type.	Media Types include: CD-ROM, 9-Track, 8mm, 4mm, Electronic Push and Electronic Pull. S-DSS-30110, S-DSS-30120, S-DSS-30305
10. Select '**Filter**' button.	
11. Select '**Request ID**' button.	View all requests with a specific request ID. S-DSS-30115
12. Select '**Filter**' button.	
13. Select '**Requester**' button.	View all requests for a specific requester.
14. Select '**Filter**' button.	
15. In area titled "**State**", select '**Pending**' button.	This produces a list containing a requests that are pending.
16. Select '**Filter**' button.	
17. Repeat for each individual state.	States include: Pending, Active, Staging, Waiting for Shipment and Transferring. S-DSS-01100, S-DSS-30115
18. Verify messages are sent to the appropriate logs.	
19. Terminate all software processes.	
20. Logoff Workstation.	

4.13.2.2 Test Case 2: Distribution Report Generation Test (TS054.002)

This test demonstrates the capability to generate distribution activity reports. Reports are generated by submitting an operational command from an authorized account. Reports are based on a time period, or a report is generated to show distribution backlog.

Test Configuration:

Hardware: Distribution Management, Working Storage, Data Repository, Data server, Data Storage media and devices .

Software: Data Distribution Manager, Media Handling software, Data Distribution Administration Application, DSS GUI.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative..

Tools: DDIST driver.

Test Input:

Operational commands for report generation. Commands are submitted for reports based on time periods.

Test Output:

Outputs to this test include reports based on operational input.

Success Criteria:

Reports are successfully generated. All reports are accurate, complete and readable. Reports reflect the operational parameters submitted during the requested time period.

Test Procedure:

Test Case ID: TS054.002	
Test Name: Distribution Report Generation Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Select '**Tracking**' icon.	From the '**Tracking**' icon, the user can view all Data Distribution activity.
6. Select '**Reports**' button.	
7. Generate a report for each log file.	Log files include: Inventory Update Log Intermediate Activity Log Distribution Activity Log Archive Activity Log Data Access Log MSS Event Logger
8. Generate reports based on type of distribution.	Types of distribution include: ftppush, ftppull, 4mm tape, 8mm tape, 6250 tape, and CD-ROM.
9. Generate a report based upon submitter.	
10. Generate a report based upon a specified period of time.	S-DSS-30350
11. Verify all reports contain the requested data.	S-DSS-30355
12. Verify messages are sent to the appropriate logs.	
13. Terminate all software processes.	
14. Logoff Workstation.	

4.13.2.3 Test Case 3: Distribution Threshold Error Test (TS054.003)

This test demonstrates the ability to set the threshold levels which dictate the number and volume of distribution requests to be processed concurrently. An account is established to allow access for manipulation of system parameters, including adjusting the threshold level for distribution requests. The current threshold value is displayed and noted. Attempts are made to process more distribution requests than indicated by the threshold level. The threshold level is changed. Again

attempts are made to process more distribution requests than indicted by the threshold level. This test includes verifying the ability to deny unauthorized attempts to set threshold levels. Unauthorized attempts to set threshold levels result in an error status message displayed on the console and recorded in the Error Log.

Test Configuration:

Hardware: Workstation, Client Host, Working Storage.

Software: Data Distribution Manager, Media Handling software, Data Distribution Administration Application, DSS GUI.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST driver.

Test Inputs:

A series of distribution requests. The number of distribution requests exceeds the threshold level. This test is repeated for several threshold levels.

Test Output:

Status messages are displayed to the screen indicating threshold levels have been exceeded. Unauthorized attempts are made to alter threshold levels.

Success Criteria:

The threshold level is displayed. The number of requests submitted for distribution is correctly determined to be above the threshold level. An error message is displayed at the console. The error message is correct and explains the reason for distribution failure. The threshold level is successfully changed to a new threshold level. New attempts to process distribution requests over the threshold level result in error messages displayed to the console. Again each message explains the reason for distribution failure. Unauthorized attempts to alter the threshold level result in error messages displayed to screen. The Error log is displayed to verify unauthorized attempts to change these parameters are logged .

Test Procedure:

Test Case ID: TS054.003	
Test Name: Distribution Threshold Error Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	

2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Select '**Usage**' icon.	Threshold information specific to the Staging Disk and the Pull Area is displayed, including File Statistics and Utilization percentages.
6. Verify Pull Area Administration menu is displayed.	Default should be Pull Area - Storage Management - Pull Administration screen.
7. Select tab labeled '**Staging Disk**.'	Threshold information specific to the Staging Disk is displayed, including File Statistics and Utilization percentages.
8. Select '**Change Threshold**' button.	Staging Disk Threshold limits are displayed. Staging Disk thresholds include, High Water Mark, Low Water Mark, and Alarm Thresholds.
9. Select '**Help**' button, verify that help information is available, and then exit the help screen.	
10. At the Threshold screen, select down arrow to lower Alarm Threshold and then select '**Cancel**'.	
11. Verify that default alarm value has returned to its original value.	
12. Select down arrow to lower Alarm Threshold and then select '**Apply**'.	There are two options on this screen that will save the changes made, OK and Apply. Apply will change the threshold and leave this screen up, OK will change the threshold and close the screen, taking you back to the previous screen. S-DSS-00100
13. Submit several requests.	Submit sufficient requests to register an Alarm.
14. Verify that error message is displayed along with an explanation of distribution error.	Alarm dialog will be brought up by an interrupt from the GUI. In this case, the dialog will state that the staging area threshold limit is exceeded.
15. Select '**Change Threshold'** button.	
16. Return Alarm Threshold in the Staging Area to original setting.	
17. Repeat the process of changing the threshold for the Pull Area.	
18. Verify messages are sent to the appropriate logs.	
19. Terminate all software processes.	
20. Logoff Workstation.	

4.13.2.4 Test Case 4: Storage Startup and Storage Device Allocation Test (TS054.004)

This test demonstrates the ability to startup the storage system and allocate storage devices to data servers. Using a system account with appropriate privileges, commands are entered to startup the storage system. Storage device allocation is displayed, viewed and printed. Commands are entered to change the allocation (deallocation) storage devices to data servers. Again, the allocation of storage devices is displayed, viewed and printed.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: Data Server Interface, File Management Server CSC, Volume Server CSC, Database Server CSC, Storage Management Administration CSC, DSS GUI.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST driver.

Test Input:

A series of commands are entered for startup, and to change allocation of storage devices to data servers. Requests are made to display, view and print the storage allocation information.

Test Output:

Storage allocation displays, views and printed copy.

Success Criteria:

The system commands are accepted and successful startup and allocation of storage devices is confirmed by examining displays, views and printed copies.

Test Procedure:

Test Case ID: TS054.004	
Test Name: Storage Startup and Storage Device Allocation Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	

3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Select '**Storage Resource'** icon.	Resource and device information is displayed.
6. Select '**Control Device** ' button.	Mount/Dismount Volume screen is displayed.
7. Insert a device name by clicking on the down arrow and choosing desired device.	
8. In box marked '**Operational Status**', click the '**online**' button and then the '**Apply**' button.	The chosen Device is now online. S-DSS-21110
9. Repeat process of putting device online with all available devices.	
10. From the '**Storage Resource**' screen, view Resource Information.	This screen will show Resource, Device Name, Device Status, Operational Status, Current Status, Current Operation and Current Volume. Insure that device states show that all available devices are online but not allocated.
11. Generate a report that contains all Resource Information.	
12. Verify that report has been generated by displaying, viewing and printing the report. From '**File**' pull-down menu, choose print.	
13. From the '**Storage Resource**' screen, pick '**Control Device**'.	
14. Input volume and device information into the dialog box and select '**mount**' to mount the volume in the device.	It is assumed that device is not already allocated.
15. From the '**Storage Resource**' screen, view Resource Information.	Verify that the device specified in step 9 has been allocated.
16. Generate a report that contains all Resource Information.	
17. Verify that report has been generated by displaying, viewing and printing the report. From '**File**' pull-down menu, choose print.	
18. Input volume and device information into the dialog box and select '**Dismount**' to dismount the volume in the device.	Insure that this is the same device that was specified in step 9. S-DSS-21035, S-DSS-21120
19. Generate a report that contains all Resource Information.	
20. Verify that report has been generated by displaying, viewing and printing the report. From '**File**' pull-down menu, choose print.	
21. Verify messages are sent to the appropriate logs.	
22. Terminate all software processes.	
23. Logoff Workstation.	

4.13.2.5 Test Case 5: Distribution "Pull" Space Utilization Test (TS054.005)

This test demonstrates the ability to submit operational commands to monitor, and view/display the user pull area. A series of distribution requests are entered. Enough requests are entered to exceed user pull area threshold limits. Notification that the user pull area threshold limit is

exceeded is returned. Operational commands are submitted to change the user "pull" area threshold. Again distribution requests are made to exceed the new threshold.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: Data Server Interface, File Management Server CSC, Volume Server CSC, Database Server CSC, Storage Management Administration CSC, DSS GUI.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST driver.

Test Input:

A series of commands are entered for distribution requests, to exceed threshold limits. Operational commands are entered to monitor the user "pull" area. Operational commands are submitted to change the user "pull" threshold.

Test Output:

User "pull" area displays/views.

Success Criteria:

The user "pull" area is successfully displayed/viewed. Notification is sent to the screen, indicating threshold limits are exceeded. Commands which are entered to change the threshold are successfully implemented.

Test Procedure:

Test Case ID: TS054.005	
Test Name: Distribution "Pull" Space Utilization Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke insert driver on fourth xterm. **> ./dttest**	

6. Select '**Usage**' icon.	Pull Administration, including Threshold information specific to the Pull Area is displayed, including File Statistics and Utilization percentages. S-DSS-21100
7. Select tab labeled '**Pull Area**.'	Threshold information specific to the Pull Area is displayed.
8. Select '**Change Threshold**' button.	Pull Disk Threshold limits are displayed. S-DSS-30550
9. Select down arrow to lower Thresholds.	Pull Disk thresholds include, High Water Mark, Low Water Mark, and Alarm Thresholds. These thresholds must be changed to attempt to utilize the pull area 100%. S-DSS-30750
10. Submit enough requests to cause utilization to reach 100%.	Will register an Alarm. S-DSS-30540
11. Verify that error message is displayed along with an explanation of distribution error.	Alarm dialog will be brought up by an interrupt from the GUI. In this case, the dialog will state that the user pull area threshold limit is exceeded.
12. Verify that operations staff is notified if the percent utilization in the user pull area exceeds specified threshold.	S-DSS-30560
13. View utilization menu to verify that Current Utilization = 100.0 by clicking on '**Pull Area**' tab.	
14. Select '**Change Threshold**' button.	
15. Return Alarm Threshold in the Pull Area to original setting.	
16. Verify messages are sent to the appropriate logs.	
17. Terminate all software processes.	
18. Logoff Workstation.	

4.13.3 Media Distribution Thread (TS055)

This thread demonstrates the ability to distribute data products and associated metadata on various types of physical media. This thread contains the following test cases:

TS055.001 Physical Media Distribution Test

TS055.002 Distribution Device State Test

TS055.003 8mm Media Distribution Test

TS055.004 CD-ROM Media Distribution Test

TS055.005 4mm Media Distribution Test

TS055.006 6250 Tape Media Distribution Test

TS055.007 Manual Entry of Media Status Test

4.13.3.1 Test Case 1: Physical Media Distribution Test (TS055.001)

This test demonstrates the ability to verify distribution requests for physical media. This includes the checking of all request fields, including: originator, physical media class, shipping destination, data list. If invalid, a distribution failure message is displayed. A notice is sent to the data requester indicating media distribution failure. Invalid fields are denoted as null fields. Only distribution requests via 8mm tape are verified in this test case.

Test Configuration:

Hardware: Distribution Management, Working Storage, Data Repository, FMS CSC (AMASS), Storage Management, Media Distribution Volume, 8mm tape device.

Software: Media Handling Software CSC, DDIST

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST driver.

Test Input:

Inputs to this test include physical media distribution requests. Some of these requests will be valid and some will be invalid.

Test Output:

Outputs to this test include status messages written to the screen.

Success Criteria:

This test is deemed successful if requests to distribute data on 8mm tape are validated and correct status messages are displayed. Status messages appropriately indicate distribution requests as valid or invalid. A message is sent to the requester indicating distribution as invalid, indicating the reason why. If the data distribution request is deemed valid, the data is distributed successfully.

Test Procedure:

Test Case ID: TS055.001	
Test Name: Physical Media Distribution Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **>rlogin <machine_name>** **>source dbrc.csh** **>source dssrc.csh** **> ./sdsrv &**	

3. Source the database on a second xterm. **>rlogin <db_machine_name>** **>source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke insert driver on fourth xterm. **>./dttest**	
6. Create a valid 8mm media distribution request and send.	S-DSS-00702, S-DSS-04037
7. User requests distribution of data on 8mm tape, specifying valid information in all fields of the request.	S-DSS-00023, S-DSS-00025, S-DSS-20050, S-DSS-30010, S-DSS-30020
8. Data is retrieved from archive and placed on the Data Server Working Storage.	S-DSS-00694, S-DSS-04120, S-DSS-04140, S-DSS-04160, S-DSS-04200, S-DSS-04240, S-DSS-04260, S-DSS-04300
9. Data is transferred to the Physical Media Distribution Volume.	
10. User is notified that data is successfully copied to 8mm tape.	
11. User requests distribution of data on 8mm tape specifying invalid information in the Data Identifier field.	S-DSS-00015
12. System notifies user that the distribution request is invalid.	S-DSS-30060
13. Verify error message is displayed.	A message is displayed verifying an invalid distribution request. S-DSS-30070
14. Verify that data requester receives notification of media distribution request validation failure.	S-DSS-30080
15. Repeat request several times specifying a different invalid field in each media distribution request, until all fields have been verified.	Other fields to check are: Request Priority and Data Identifier. S-DSS-00015
16. Verify messages are sent to the appropriate logs.	S-DSS-30260, S-DSS-30320, S-DSS-30400
17. Terminate all software processes.	
18. Logoff Workstation.	

4.13.3.2 Test Case 2: Distribution Device State Test (TS055.002)

This test demonstrates the ability to change the state of a peripheral device (on-line vs off-line) used in media distribution. The state of the peripheral device is displayed. Commands are then entered to change the device state. The state of the device is displayed again and are attempts to access the device are made to verify the state change. This capability is provided by a GUI. A failure message is returned if a distribution request is sent and resources are already allocated. The following error conditions will be tested: take a device off-line that is already off-line; put device on-line that is already on-line; allocate a device that is off-line; take a device off-line while it is in use.

Test Configuration:

Hardware: Distribution Management, Working Storage, Data Repository, Sun Workstation.

Software: STMGT, SDSRV, DDIST, Data Distribution Manager, Media Handling software.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST driver.

Test Input:

Inputs to this test include commands to change the state of a distribution peripheral device. Requests are made to display the device states. Media distribution requests are made to verify the device states.

Test Output:

Outputs to this test include menu displays which verify device state changes.

Success Criteria:

This test is deemed successful if commands to change device states are successfully implemented, and device state displays are updated accordingly.

Test Procedure:

Test Case ID: TS055.002	
Test Name: Distribution Device State Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Select '**Usage**' icon.	This icon displays the Storage Management - Resource and Device Information screen. S-DSS-01190
6. Select '**Control Device**' button.	This button displays the Device Control - Mount/Dismount Volume screen. S-DSS-30650
7. Select down arrow next to Device Name to get a list of resources and choose one to mount by clicking on '**Mount**' button.	Default state for devices is “not allocated”
8. Put chosen device online by clicking '**Online**' and then '**Apply**' buttons.	S-DSS-30640
9. Verify that chosen device is online from the main '**Storage Resource**' menu.	S-DSS-21160, S-DSS-21170, S-DSS-20095

10. Repeat process for each resource available.	Resources include: 8mm tape, 4mm tape, 6250 tape and CD-ROM.
11. Attempt to put a device on-line that is already online.	Message displayed stating that device is not available.
12. Verify that message is displayed.	
13. Select '**Control Device**' button from main Storage Resource icon.	
14. Select down arrow next to Device Name to get a list of resources and choose one to dismount by clicking on '**Dismount**' button.	
15. Dismount chosen device by clicking '**Apply**' button.	
16. Verify that chosen device is off-line from the main '**Storage Resource**' menu.	
17. Repeat process for each resource available.	Resources include: 8mm tape, 4mm tape, 6250 tape and CD-ROM.
18. Attempt to take a device off-line that is already off-line.	Message displayed stating that device is already off-line.
19. Verify that message is displayed.	
20. Put an 8mm tape device online.	
21. Send a valid distribution request.	S-DSS-04230, S-DSS-10210, S-DSS-10290, S-DSS-10292**,**
22. Attempt to take same device off-line	Error message should be displayed stating that device is in use.
23. Verify messages are sent to the appropriate logs.	
24. Terminate all software processes.	
25. Logoff Workstation.	

4.13.3.3 Test Case 3: 8mm Media Distribution Test (TS055.003)

This test demonstrates the ability to transfer data to physical media (8mm). The data requested is transferred to media. A valid search is performed for a specific data product. The following information is written to the screen: type of physical media created, number of physical media created, media destination, and data items distributed. The 8mm tape that is created will be tested on a Sun Workstation and an SGI.

Test Configuration

Hardware: Distribution Management, Working Storage, Data Repository, Printer, 8mm Tape.

Software: Data Distribution Manager, Media Handling software, Data Distribution Administration Application.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST driver.

Test Input:

Inputs to this test include physical media distribution requests

Test Output:

Outputs to this test include status messages and data distributed on 8mm tape.

Success Criteria:

This test is deemed successful if the correct status messages are displayed and the data is successfully transferred to media. The screen messages are examined to verify the following information: type of physical media created, number of physical media created, media destination, and data items distributed, user identifier, media identifier, media specification, and distribution size.

Test Procedure:

Test Case ID: TS055.003	
Test Name: 8mm Media Distribution Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke insert driver on fourth xterm. **> ./dttest**	
6. Submit a valid request for 8mm distribution of data.	S-DSS-00696, S-DSS-03150, S-DSS-03160, S-DSS-03310, S-DSS-03320, S-DSS-04035, S-DSS-04090, S-DSS-04100, S-DSS-04150, S-DSS-04230, S-DSS-04270, S-DSS-04310, S-DSS-10210, S-DSS-10290, S-DSS-10292, S-DSS-20040, S-DSS-20045, S-DSS-21370, S-DSS-30515, S-DSS-30797
7. On Data Server GUI verify distribution request by clicking on '**Storage Requests**' icon.	S-DSS-20095
8. Verify that data is retrieved from archive and placed on the Data Server Working Storage and a packing list is generated.	If data spans two tapes, the packing list will be on the first tape. S-DSS-00692, S-DSS-30705
9. Verify that data is transferred to the Physical Media Distribution Volume.	Storage Management generates the physical media volume requested by the user. S-DSS-03520, S-DSS-03680, S-DSS-30440
10. Verify screen message stating completion of media generation.	
11. Verify receipt of e-mail message after media has been shipped.	S-DSS-30370
12. Verify that a packing list was generated listing the data on the media.	S-DSS-30705
13. Select '**Tracking**' icon and click '**Mark Shipped**' button to manually change the state of the distribution request.	The state shipped must be entered manually.

14. Verify that state has changed to '**shipped**' by clicking on '**Tracking**' icon.	
15. Repeat steps 6-13 several times with different data listed in the Inventory.	S-DSS-30710
16. User requests same 8mm distribution of data.	
17. Verify that message is sent stating that the requested data was already distributed.	
18. User requests 8mm distribution of non-existent data.	Message received stating invalid request.
19. User requests 8mm distribution of data.	Message received stating valid request. This step verifies that a valid request is successful after an invalid request.
20. Submit a request to an 8mm tape drive that is off-line.	
21. Verify that a new peice of media is is automatically requested from operations staff and is successfully loaded.	S-DSS-30490, S-DSS-30740
22. Verify that operations staff can manually load new 8mm media into the peripheral device.	S-DSS-30730
23. Submit a request to an 8mm tape drive that has defective 8mm tape.	
24. Verify that a message is displayed stating that request should be restarted with another piece of media.	S-DSS-30660
25. View data from Sun Workstation.	Display list of the contents
26. User establishes a client session on an SGI workstation.	
27. View data from SGI.	
28. On Sun, user requests 8mm distribution of data that spans two tapes.	
29. Verify receipt of e-mail message after media has been shipped.	Verify that data is successfully distributed on two 8mm tapes and that packing list is on first media. S-DSS-30370
30. User establishes a client session on an SGI workstation.	
31. View data from SGI.	
32.. Verify messages are sent to the appropriate logs.	S-DSS-30270, S-DSS-30380
33. Terminate all software processes.	
34. Logoff Workstation.	

4.13.3.4 Test Case 4: CD-ROM Media Distribution Test (TS055.004)

This test demonstrates the ability to transfer data to physical media (CD-ROM). The receipt of distribution requests are logged in a distribution activity log. The data requested is transferred to media and a shipping label, contents list, and media label is generated. A distribution list is displayed, showing all active distribution requests. The following information is recorded in a log: type of physical media created, number of physical media created, media destination, data items distributed, and media cost. Status of the physical media distribution is logged as pending, active, waiting for shipment or shipped. Error testing includes restart of distribution when media failures occur. In the event of a media failure, distribution automatically restarts on a new piece of media.

Test Configuration

Hardware: Distribution Management, Working Storage, Data Repository, Printer, programmable CD-ROM, Diskette.

Software: Data Distribution Manager, Media Handling software, Data Distribution Administration Application.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST driver.

Test Input:

Inputs to this test include physical media distribution requests and Distribution Log entries. Requests are made to display the distribution request list.

Test Output:

Outputs to this test include status messages, log entries and data distributed to physical media. Shipping labels, the contents list, and media labels are generated.

Success Criteria:

This test is deemed successful if the correct status messages are displayed and the data is successfully transferred to media. A distribution list is displayed. Shipping labels, the contents list, and media labels are correct. The distribution log is examined to verify the following information: type of physical media created, number of physical media created, media destination, and data items distributed, user identifier, media identifier, media specification, and distribution size. Error testing for media failure, successfully completes the data transfer to a new piece of media.

Test Procedure:

Test Case ID: TS055.004	
Test Name: CD-ROM Media Distribution Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh0** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	

5. Invoke insert driver on fourth xterm. **> ./dttest**	
6. Submit a valid requests for CD-ROM distribution of data.	S-DSS-00696, S-DSS-04040, S-DSS-04110, S-DSS-04230, S-DSS-04310, S-DSS-04640, S-DSS-10210, S-DSS-10290, S-DSS-10292, S-DSS-20623, S-DSS-30175, S-DSS-30470, S-DSS-30515, S-DSS-30797
7. On Data Server GUI verify distribution request by clicking on '**Storage Requests**' icon.	
8. Verify that data is retrieved from archive and placed on the Data Server Working Storage and a packing list is generated.	If data spans two CD's, the packing list will be with the first. S-DSS-00692, S-DSS-03580
9. Verify that data is transferred to the Physical Media Distribution Volume.	Storage Management generates the physical media volume requested by the user.
10. Verify screen message stating completion of media generation.	S-DSS-04210
11. Verify receipt of e-mail message after media has been shipped.	
12. Verify that a packing list was generated listing the data on the media.	S-DSS-30705
13. Select '**Tracking**' icon and click '**Mark Shipped**' button to manually change the state of the distribution request.	The state shipped must be entered manually.
14. Verify that state has changed to '**shipped**' by clicking on '**Tracking**' icon.	
15. Repeat steps 6-13 several times with different data listed in the Inventory.	S-DSS-30710
16. User requests same CD-ROM distribution of data.	
17. Verify that message is sent stating that the requested data was already distributed.	S-DSS-30380
18. User requests CD-ROM distribution of non-existent data.	Message received stating invalid request.
19. User requests CD-ROM distribution of data.	Message received stating valid request. This step verifies that a valid request is successful after an invalid request.
20. Submit a request for a CD-ROM drive that is off-line.	
21. Verify that a new peice of media is is automatically requested from operations staff and is successfully loaded.	S-DSS-30490, S-DSS-30740
22. Verify that operations staff can manually load new CD-ROM media into the peripheral device.	S-DSS-30730
23. Submit a request for a CD-ROM drive that has defective CD.	
24. Verify that a message is displayed stating that request should be restarted with another piece of media.	S-DSS-30660
25. View data from Sun Workstation.	Display list of contents
26. User establishes a client session on an SGI workstation.	
27. View data from SGI.	
28. On Sun, user requests CD-ROM distribution of data that spans two CD's.	

29. Verify receipt of e-mail message after media has been shipped.	Verify that data is successfully distributed on two CD's and that packing list is on first media.
30. User establishes a client session on an SGI workstation.	
31. View data from SGI.	
32. Verify messages are sent to the appropriate logs.	S-DSS-30270, S-DSS-30370, S-DSS-30380
33. Terminate all software processes.	
34. Logoff Workstation.	

4.13.3.5 Test Case 5: 4mm Media Distribution Test (TS055.005)

This test demonstrates the ability to transfer data to physical media (4mm). The receipt of distribution requests are logged in a distribution activity log. The data requested is transferred to media and a shipping label, the contents list, and the media label is generated. A distribution list is displayed, showing all active distribution requests. The following information is recorded in a log: type of physical media created, number of physical media created, media destination, data items distributed, and media cost. Status of the physical media distribution is logged as pending, active, waiting for shipment or shipped. Error testing includes restart of distribution when media failures occur. In the event of a media failure, distribution automatically restarts on a new piece of media.

Test Configuration

Hardware: Distribution Management, Working Storage, Data Repository, Printer. 4mm Tapes.

Software: Data Distribution Manager, Media Handling software, Data Distribution Administration Application.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST driver.

Test Input:

Inputs to this test include physical media distribution requests and Distribution Log entries. Requests are made to display a distribution request list.

Test Outputs:

Outputs to this test include status messages, log entries and data distributed to physical media. Shipping labels, the contents list, and media labels are generated.

Success Criteria:

This test is deemed successful if the correct status messages are displayed and the data is successfully transferred to media. A distribution list is displayed. Shipping labels, the contents list, and media labels are correct. The distribution log is examined to verify the following information: type of physical media created, number of physical media created, media destination, and data items distributed, user identifier, media identifier, media specification, and distribution size. Error testing for media failure, successfully completes the data transfer to a new piece of media.

Test Procedure:

Test Case ID: TS055.005	
Test Name: 4mm Media Distribution Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke insert driver on fourth xterm. **> ./dttest**	S-DSS-01060
6. Submit a valid requests for 4mm distribution of data.	S-DSS-00696, S-DSS-04037, S-DSS-04050, S-DSS-04150, S-DSS-04230, S-DSS-04250, S-DSS-10210, S-DSS-10290, S-DSS-10292, S-DSS-20740, S-DSS-30450, S-DSS-30515, S-DSS-30797
7. On Data Server GUI verify distribution request by clicking on '**Storage Requests**' icon.	S-DSS-20095
8. Verify that data is retrieved from archive and placed on the Data Server Working Storage and a packing list is generated.	If data spans two tapes, the packing list will be on the first tape. S-DSS-00692, S-DSS-30705
9. Verify that data is transferred to the Physical Media Distribution Volume.	Storage Management generates the physical media volume requested by the user. S-DSS-03250, S-DSS-03260, S-DSS-03620
10. Verify screen message stating completion of media generation.	
11. Verify receipt of e-mail message after media has been shipped.	
12. Select '**Tracking**' icon and click '**Mark Shipped**' button to manually change the state of the distribution request.	The state 'shipped' must be entered manually.

13. Verify that state has changed to '**shipped**' by clicking on '**Tracking**' icon.	S-DSS-30450
14. Repeat steps 6-13 several times with different data listed in the Inventory.	S-DSS-30710
15. User requests same 4mm distribution of data.	
16. Verify that message is sent stating that that data already distributed.	
17. User requests 4mm distribution of non-existent data.	Message received stating invalid request.
18. User requests 4mm distribution of data.	Message received stating valid request. This step verifies that a valid request is successful after an invalid request.
19. Submit a request to a 4mm tape drive that is off-line.	
20. Verify that a new peice of media is is automatically requested from operations staff and is successfully loaded.	S-DSS-30740, S-DSS-30490
21. Verify that operations staff can manually load new 4mm media into the peripheral device.	S-DSS-30730
22. Submit a request to an 4mm tape drive that has defective 4mm tape.	
23. Verify that a message is displayed stating that request should be restarted with another piece of media.	S-DSS-30660
24. View data from Sun Workstation.	Display list of contents
25. User establishes a client session on an SGI workstation.	
26. View data from SGI.	
27. On Sun, user requests 4mm distribution of data that spans two tapes.	
28. Verify receipt of e-mail message after media has been shipped.	Verify that data is successfully distributed on two 4mm tapes and that packing list is on first media. S-DSS-30370, S-DSS-30380
29. User establishes a client session on an SGI workstation.	
30. View data from SGI.	
31. Verify messages are sent to the appropriate logs.	S-DSS-30270
32. Terminate all software processes.	
33. Logoff Workstation.	

4.13.3.6 Test Case 6: 6250 Tape Media Distribution Test (TS055.006)

This test demonstrates the ability to transfer data to physical media (6250 tape). The receipt of distribution requests are logged in a distribution activity log. The data requested is transferred to media and a shipping label, the contents list, and the media label is generated. A distribution list is displayed, showing all active distribution requests. The following information is recorded in a log: type of physical media created, number of physical media created, media destination, data items distributed, and media cost. Status of the physical media distribution is logged as pending, active, waiting for shipment or shipped. Error testing includes restart of distribution when media failures occur. In the event of a media failure, distribution automatically restarts on a new piece of media.

Test Configuration:

Hardware: Distribution Management, Working Storage, Data Repository, Printer. 6250 Tapes.

Software: Data Distribution Manager, Media Handling software, Data Distribution Administration Application.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST driver.

Test Input:

Inputs to this test include physical media distribution requests and Distribution Log entries. Requests are made to display the a distribution request list.

Test Outputs:

Outputs to this test include status messages, log entries and data distributed to physical media. Shipping labels, the contents list, and media labels are generated.

Success Criteria:

This test is deemed successful if the correct status messages are displayed and the data is successfully transferred to media. A distribution list is displayed. Shipping labels, the contents list, and media labels are correct. The distribution log is examined to verify the following information: type of physical media created, number of physical media created, media destination, and data items distributed, user identifier, media identifier, media specification, and distribution size. Error testing for media failure, successfully completes the data transfer to a new piece of media.

Test Procedure:

Test Case ID: TS055.006	
Test Name: 6250 Tape Media Distribution Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	

5. Invoke insert driver on fourth xterm. **> ./dttest**	
6. Submit request for 6250 Tape distribution of data.	S-DSS-00696, S-DSS-03430, S-DSS-04060, S-DSS-04070, S-DSS-04210, S-DSS-04230, S-DSS-04270, S-DSS-10210, S-DSS-10290, S-DSS-10292, S-DSS-21500, S-DSS-30480, S-DSS-30515, S-DSS-30797
7. On Data Server GUI verify distribution request by clicking on '**Storage Requests**' icon.	S-DSS-20095
8. Verify that data is retrieved from archive and placed on the Data Server Working Storage and a packing list is generated.	If data spans two tapes, the packing list will be on the first tape. S-DSS-00692, S-DSS-30705
9. Verify that data is transferred to the Physical Media Distribution Volume.	Storage Management generates the physical media volume requested by the user. S-DSS-03420, S-DSS-03640
10. Verify screen message stating completion of media generation.	
11. Verify receipt of e-mail message after media has been shipped.	S-DSS-03270, S-DSS-03280
12. Select '**Tracking**' icon and click '**Mark Shipped**' button to manually change the state of the distribution request.	The state shipped must be entered manually.
13. Verify that state has changed to '**shipped**' by clicking on '**Tracking**' icon.	
14. Repeat steps 6-13 several times with different data listed in the Inventory.	S-DSS-30710
15. User requests same 6250 Tape distribution of data.	
16. Verify that message is sent stating that that data already distributed.	
17. User requests 6250 Tape distribution of non-existent data.	Message received stating invalid request.
18. Submit a request to a 6250 Tape drive that is off-line.	
19. Verify that a new peice of media is is automatically requested from operations staff and is successfully loaded.	S-DSS-30490, S-DSS-30740
20. Verify that operations staff can manually load new 8mm media into the peripheral device.	S-DSS-30730
21. Submit a request to a 6250 tape drive that has defective 6250 tape.	
22. Verify that a message is displayed stating that request should be restarted with another piece of media.	S-DSS-30660
23. User requests 6250 Tape distribution of data.	Message received stating valid request. This step verifies that a valid request is successful after an invalid request.
24. View data from Sun Workstation.	Display list of contents
25. User establishes a client session on an SGI workstation.	
26. View data from SGI.	
27. On Sun, user requests 6250 Tape distribution of data that spans two tapes.	
28. Verify receipt of e-mail message after media has been shipped.	Verify that data is successfully distributed on two 6250 tapes and that packing list is on first media.

29. User establishes a client session on an SGI workstation.	
30. View data from SGI.	
31. Verify messages are sent to the appropriate logs.	S-DSS-30380, S-DSS-30370, S-DSS-30270
32. Terminate all software processes.	
33. Logoff Workstation.	

4.13.3.7 Test Case 7: Manual Entry of Media Status Test (TS055.007)

This test demonstrates the ability to submit operational commands to enter the status of a physical media shipment. Status is updated from "waiting for shipment" to "shipped".

Test Configuration

Hardware: Distribution Management, Working Storage, Data Repository, Printer 8mm Tapes, CD-ROM, 4mm Tapes, 6250 Tapes.

Software Data Distribution Manager, Media Handling software, Data Distribution Administration Application.

Data: CERES, VIRS, TMI, PR, GV, NESDIS,V0, Calibration, Inventory Characteristic, Instrument Characterization, Instrument Calibration, Instrument Historical, Production History, Production Plan, QA Statistics, Scientific Calibration, and Correlative.

Tools: DDIST driver.

Test Input:

Inputs to this test include operational commands for media shipment status.

Test Output:

Outputs to this test include display of the media status.

Success Criteria:

This test is deemed successful if operational commands are accepted and the media status display shows that media status is updated to reflect the commands.

Test Procedure:

Test Case ID: TS055.007	
Test Name: Manual Entry of Media Status Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	

3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke insert driver on fourth xterm. **> ./dttest**	
6. Request distribution to all media types.	Media types include: 8mm Tapes, CD-ROM, 4mm Tapes, 6250 Tapes
7. Access Data Server GUI and select '**Tracking**' icon.	
8. Verify that each request (listed in step 6) is in the '**waiting to be shipped**' state.	View column titled 'State' on Data Distribution - Track Activity screen.
9. Highlight one of the requests (listed in step 6) and select the '**Mark Shipped**' button.	Selection is made via the Data Distribution - Track Activity screen under the Tracking icon. S-DSS-30430
10. Verify that the display changes the state of the selected request to '**shipped**'.	View via the Data Distribution - Track Activity screen under the Tracking icon.
11. Repeat steps 9 and 10 for each request.	Requests include: 8mm Tapes, CD-ROM, 4mm Tapes, 6250 Tapes
12. Highlight a request that is in another state, such as pending, staging or active.	Access from Data Distribution - Track Activity screen under the Tracking icon.
13. Attempt to mark that request as shipped.	
14. Verify an error message is received stating that the request can not be marked shipped, and the request processing continues.	
15. Repeat steps 13 and 14 for each state other than 'waiting to be shipped'.	
16. Verify messages.	
17. Verify messages are sent to the appropriate logs.	
18. Terminate all software processes.	
19. Logoff Workstation.	

4.13.4 Data Storage Management Thread (TS021)

This thread demonstrates that the operations staff has the capability to perform administrative functions on the data server configuration. Capabilities include the monitoring of storage devices and the ability to change storage device configuration. Administration utilities include full on-line and incremental backup of data server data, automatic and manual data recovery, and data import and export services. This thread contains the following test cases:

TS021.001 Metadata Update Storage Test

TS021.002 Storage Recovery Test

TS021.003 Database Interruption Test

TS021.004 Database Backup and Restore Test

TS021.005 Automatic Media Access Test

TS021.006 Manual Media Access Test

TS021.007 Backup Archive Media Test

TS021.008 Uncorrectable Write Error Test

TS021.009 Uncorrectable Read Error Test

TS021.010 Storage Device and File Directory Test

TS021.011 Storage with Degraded Mode Test

TS021.012 Archive Log Processing

4.13.4.1 Test Case 1: Metadata Update Storage Test (TS021.001)

This test demonstrates the ability to add, delete, or modify metadata parameters that have been previously stored in the Inventory. This includes preventing unauthorized access to archived metadata. Requests are submitted to update or modify metadata. These requests are validated. If validation is successful, the metadata is modified, deleted or inserted into the inventory. If validation fails, the request is rejected. Upon insertion into the Inventory, the Inventory Update Log is updated to record the following information: time/date of update, unique data identifier, archive media name, source of data, storage device name, and requester. The Inventory Update Log is displayed/viewed/printed for selected time periods. Error conditions include attempts to add a new metadata entry, delete an existing metadata entry, and attempts to add or delete metadata entries from an unauthorized account. Sybase commands will be used to verify the correct parameters were updated in the database.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive.

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 and document data.

Tools: DSS Request Driver, Metadata update driver, search driver.

Test Input:

Valid and Invalid Metadata Update Requests are submitted.

Test Output:

Outputs to this test include insertion of new metadata parameters into the inventory for requests submitted using authorized accounts. The inventory log is updated. Error messages are returned.

Success Criteria:

This test is deemed successful if all metadata requests are validated correctly. For valid requests metadata is modified to reflect the request (add, delete, update). The inventory log is examined

(displayed/viewed/printed) by time period to verify all entries are recorded. Metadata is examined to verify correct updated contents. For invalid update requests, data in the inventory is not updated and error messages are returned.

Test Procedure:

Test Case ID: TS021.001	
Test Name: Metadata Update Storage Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <client_machine>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <server_machine>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke insert driver on fourth xterm. **> ./dttest**	
6. Create a valid search and send.	
7. Verify that search was successful.	Select '**Storage Requests**' button on DSS GUI.
8. Submit a request to modify metadata parameters previously stored in the Inventory.	
9. Verify that a message is displayed stating that the metadata parameters were modified.	
10. Update metadata parameters in the Inventory.	Select '**Update**' button on DSS GUI. S-DSS-00160, S-DSS-04610, S-DSS-04596, S-DSS-04600
11. Verify that a message is displayed stating that the metadata was updated in the inventory.	S-DSS-00970, S-DSS-00165
12. Add metadata parameters to previously stored metadata parameters in the Inventory.	S-DSS-04570
13. Verify that a message is displayed stating that metadata parameters were added to the inventory.	
14. Submit a request to add new metadata entries.	User has no privileges to manipulate metadata entries. S-DSS-04590
15. Verify that a message is displayed stating that metadata entry could not be modified and the reason for rejection.	S-DSS-00820
16. Delete metadata parameters to previously stored metadata in the Inventory.	S-DSS-04580
17. Verify that a message is displayed stating that metadata entry could not be deleted and the reason for rejection.	
18. Verify messages are sent to the appropriate logs.	Verify that the Inventory Update Log is updated with the following information: time/date of update, unique data identifier, archive media name, source of data, storage device name, and requester.

19. Display, view and print the Inventory Update Log using UNIX commands. **> vi <Inventory Update Log>** **> lpr <Inventory Update Log>**	S-DSS-20090
20. Terminate all software processes.	
21. Logoff Workstation.	

4.13.4.2 Test Case 2: Storage Recovery Test (TS021.002)

This test demonstrates the ability to recover data when hardware or media failure occurs during archive and retrieval storage operations. When a simulated hardware or archive media failure occurs, a notification of device failures is displayed and noted in the Archive Activity Log. Errors occurring during retrieval are set to the Distribution Activity Log. Failure notifications include failed device name, failure code or reason and time of failure. Data loss is detected, and recovery operations are initiated. Backup media is used for data recovery. Information about archive storage devices is displayed. This information includes: current status, current operation, number of operations completed, number of errors reported, date and time of last error. The DSS GUI is used to monitor DSS and to respond to errors.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 an document data.

Tools: DSS Request Driver and Insert Driver.

Test Input:

Inputs to this test include an insert request. A failure is then forced. Recovery operations are initiated.

Test Output:

Outputs to this test include failure notification and data recovery using backup media. Storage device information is displayed.

Success Criteria:

This test is deemed successful if error notification is received and data recovery operations successfully recover data lost due to hardware failures during storage operations. Device failure notification and storage device information successfully displays for correct content.

Test Procedure:

Test Case ID: TS021.002	
Test Name: Storage Recovery Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke DSS Request driver on fourth xterm. **> ./dttest**	
6. Create and send several distribution requests.	
7. While requests are processing simulate device failure.	
8. Verify that an error message is displayed stating that distribution failed and user is prompted to use backup media or to resubmit request.	Failure notification includes failed device name, failure code or reason and time of failure. S-DSS-21380, S-DSS-30660, S-DSS-20390, S-DSS-20400
9. Verify the operator is prompted to select new media into the driver after the error condition fixed.	
10. Create and send several retrieval requests.	
11. While requests are processing simulate device failure.	
12. Verify that an error message is displayed stating that retrieval failed and user is prompted to use backup media or to resubmit request.	Failure notification includes failed device name, failure code or reason and time of failure. S-DSS-21380, S-DSS-30660, S-DSS-20390, S-DSS-20400
13. Verify the operator is prompted to insert backup media into the device after the error condition fixed.	
14. Verify that retrieval request continues to process and completes successfully.	
15. Verify messages are sent to the appropriate logs.	
16. Terminate all software processes.	
17. Logoff Workstation.	

4.13.4.3 Test Case 3: Database Interruption Test (TS021.003)

This test demonstrates the ability to restart the database and continue operations after an unexpected interruption, without loss of database information. A database baseline is established. A database failure is simulated during archival and retrieval operations. Restart operations are initiated. The database is returned to an operational state. Another database baseline is established and is compared to the original baseline. The comparison shows no differences between the database before restart and after restart concluding restart without loss of information. A database failure is simulated by terminating the Sybase server. Support from

HTSC is required for this test. Additional insert, retrieval and metadata update requests will be made after the restart to verify the database interruption did not affect subsequent database operations.

Test Configuration:

Hardware: Workstation(s), Working Storage, Data Repository, Permanent Archive.

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 and document data.

Tools: DSS Request Driver and Insert Driver.

Test Inputs:

Archival and retrieval commands are entered for database status monitoring. Database failures are simulated. Restart commands are entered.

Test Output:

Successful restart of the database is seen after the

Success Criteria:

Database status is successfully displayed before and after simulated failures. Restart commands are successfully entered and database activity resumes. The state of the database after restart shows no information was lost due to the failure.

Test Procedure:

Test Case ID: TS021.003	
Test Name: Database Interruption Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke insert driver on fourth xterm. **> ./dttest**	
6. Create a database baseline.	
7. Create several valid distribution and insertion requests.	This will insure that the database is in use.
8. Interrupt the database operations by terminating the Sybase server on the database machine.	

9. Initiate restart operations.	Database should initiate startup automatically.
10. Verify that the database is returned to operational state.	S-DSS-00901
11. Create another database baseline.	
12. Compare the database baseline before and after restart.	
13. Start another insert/distribution request.	
14. Terminate all software processes.	
15. Logoff Workstation.	

4.13.4.4 Test Case 4: Database Backup and Restore Test (TS021.004)

This test demonstrates the ability to backup database information and restore the information which is backed up. Database backup is performed by Sybase. Once a backup is made, DSS configuration is updated to start backup db and data is retrieved and examined to verify data integrity. Backups are used to restore data when an unexpected loss occurs. Special account privileges will be required for this test. HTSC support may be required for this test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 and document data.

Tools: DSS Request Driver and Insert Driver.

Test Input:

Inputs to this test include administrative commands to switch to the backup database and insert and retrieval commands for database backup and data restore from the backup.

Test Output:

Outputs to this test include status messages, and database backup is generated. Data is restored for examination. System storage operations are displayed and viewed. Data archival and retrieval operations are successfully performed on the backup database.

Success Criteria:

The accounts that are granted access to enter backup commands are successfully able to enter commands to perform database backup and restore operations. Complete and correct status messages are displayed to the console for successful backups. Examination of the data from the backup confirms database integrity. Subsequent database operations perform as expected.

Test Procedure:

Test Case ID: TS021.004	

Test Name: Database Backup and Restore Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <client_machine>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <server_machine>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke insert driver on fourth xterm. **> ./dttest**	
6. Generate several inserts and send.	
7. Enter commands to backup database.	
8. Verify Sybase has backed up the database.	
9. Verify that a message is displayed stating that database was backed up.	
10. Enter commands to restore data from backup database.	
11. Verify the message is displayed stating that database was restored.	
12. Verify data integrity by comparing restored database with existing database.	S-DSS-00901, S-DSS-21190, S-DSS-21220
13. Verify that all inserts done in step 6 are found in the restored database.	
14. Generate several insert requests and send.	
15. Verify inserts are in restored database.	
16. Generate several retrieval requests and send.	
17. Verify retrievals are in restored database.	
18. Update metadata parameters that exist in the restored database.	
19. Verify that metadata parameters were updated in the restored database.	
20. Terminate all software processes.	
21. Logoff Workstation.	

4.13.4.5 Test Case 5: Automatic Media Access Test (TS021.005)

This test demonstrates the ability to automatically request media operations to be performed for the following:

- request that new archive media be loaded to store data, if no media exists with sufficient space for the data
- automatic dismount of archive media when different media is needed to store data
- automatic dismount of archive media when different media is needed to retrieve data

A mechanism is provided to remove archive media from storage devices to allow insertion of new or different archive media in the storage device. Attempts are made to store data to exceed

the existing available storage space. Requests are made to retrieve data from storage media which is not available (mounted). Media operations in this test are performed in the EMASS (tape robotics) hardware.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 and document data.

Tools: DSS Request Driver and Insert Driver.

Test Input:

Attempts are made to store data to exceed the existing available storage space. Requests are made to retrieve data from storage media which is not available (mounted).

Test Output:

Outputs to this test include automatic requests to load and dismount EMASS media.

Success Criteria:

Requests are made to load media when no media exists with sufficient space for new data. Automatic dismount is performed when different media is needed to store/retrieve data. Media is successfully removed and new media is successfully loaded. The operations are successfully completed.

Test Procedure:

Test Case ID: TS021.005	
Test Name: Automatic Media Access Test	
Test Steps:	Comments:
1. Log on to GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <client_machine>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <server_machine>** **> source .dbrc**	shrink this xterm
4. Invoke the DSS GUI on a third xterm.	
5. Invoke DSS Request driver on fourth xterm. **> ./dttest**	
6. Verify there are no cartridges in the EMASS hardware.	
7. Generate an insert request.	
8. Verify the operator is prompted by AMASS software to insert a new archive media into the hardware.	
9. Add another tape cartridge.	

10. Verify request completes successfully.	
11. Attempt to retrieve this data from the archive.	
12. Verify that a cartridge exists in the EMASS hardware that does not have enough space for the new insert request.	
13. Generate an insert request.	
14. Verify the operator is prompted by AMASS software to insert a new archive media into the hardware due to insufficient space on existing cartridge.	
15. Add another tape cartridge.	
16. Verify request completes successfully.	
17. Attempt to retrieve this data from the archive.	
18. Send distribution request.	
19. Verify that a message is displayed stating that selected device is full and displays the name of new device.	
20. Verify that chosen device was Dismounted.	**S-DSS-20190**
21. Verify that a new device was chosen and mounted.	**S-DSS-20180**
22. If no media exists with sufficient space to hold data, verify that a message is displayed prompting an operator to load new media.	
23. Check logs to verify that appropriate messages are recorded.	
24. Terminate Data Server GUI.	
25. Log off GSFC DAAC workstation.	

4.13.4.6 Test Case 6: Manual Media Access Test (TS021.006)

This test demonstrates the ability to manually access archive media resident in the storage devices. This includes the functionality to mount/dismount and insert/remove media from storage devices. Storage operations are displayed/viewed. Archive media resident storage device information is displayed before and after media access. This information includes: archive volume name, creation time/date, and archive volume status. This test will be executed from the SGI accessing AMASS.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 and document data.

Tools: DSS Request Driver and Insert Driver.

Test Input:

Inputs to this test include commands to mount/dismount and insert and remove media from storage devices. Commands are also submitted to change the allocation of storage devices to data servers. Storage device information is requested. All input is performed on an SGI workstation in order to access AMASS.

Test Output:

Storage device information is displayed.

Success Criteria:

Archive media and storage device configuration is correctly altered according to access requests submitted. Storage operations are displayed/viewed. Storage device information is displayed and correctly shows the status of the media and devices according to the access requests submitted. The storage device displays include the following information: archive volume name, creation time/date, and archive volume status.

Test Procedure:

Test Case ID: TS021.006	
Test Name: Manual Media Access Test	
Test Steps:	Comments:
1. Log on to GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke DSS Request driver on fourth xterm. **> ./dttest**	
6. Create a valid insert request and send.	
7. At SGI console to AMASS, view the tape containing request.	S-DSS-20100, S-DSS-20110, S-DSS-20120, S-DSS-20130, S-DSS-20140, S-DSS-20200
8. Verify tape contains correct information.	Tape contains the following information: time/date of update, unique data identifier, archive media name, source of data, storage device name, and requester.
9. View Resource Information via AMASS.	Insure that device selected is mounted and on-line. S-DSS-21220
10. Create a valid insert request and send it to a full archive media.	S-DSS-20240
11. Verify that the user is notified of the archive media failure.	S-DSS-21050, S-DSS-20170
12. Check logs to verify that appropriate messages are recorded.	
13. Exit Data Server GUI.	
14. Log off GSFC DAAC workstation.	

4.13.4.7 Test Case 7: Backup Archive Media Test (TS021.007)

This test demonstrates the ability to backup archive media. Capabilities include automatic and manual mount/dismount of backup media. Backup includes storage system unique files,

including all logs, system files, and storage allocation devices information. This includes preventing unauthorized access to archived data. Once a backup is made, data is retrieved and examined to verify data integrity. Media backup operations are displayed and viewed. Backup commands are issued from AMASS SGI console. Special privileges may be needed for this test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 and document data.

Tools: DSS Request Driver and Insert Driver.

Test Input:

Inputs to this test include administrative commands for media backup and data retrieval from the backup media. Commands are entered from an account without sufficient privilege to access the media, and from valid accounts which are granted access to media.

Test Output:

Outputs to this test include, status messages, Backup Archive Log entries and backup media is generated. Data is retrieved from the media for examination. System storage operations are displayed and viewed.

Success Criteria:

The accounts that are granted access to enter backup commands are successfully able to enter commands to perform archive backup and retrieve data from backup media. The accounts with insufficient privilege for media access are not allowed to perform archive backup and data retrieval. Complete and correct status messages are displayed to the console for successful and unsuccessful backups. The Backup Archive Log records all archive backup activity. Examination of the data from the backup media verifies media integrity.

Test Procedure:

Test Case ID: TS021.007	
Test Name: Backup Archive Media Test	
Test Steps:	Comments:
1. Log on to GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	

4. Invoke the DSS GUI on a third xterm.	
5. Invoke DSS Request driver on fourth xterm. **> ./dttest**	
6. Enter AMASS commands to perform archive media backup.	
7. Send distribution request to retrieve data from backup media.	
8. Verify media distribution.	
9. Using an account without archive privileges, attempt to access backup files.	
10. Verify that error message is displayed stating no user privileges.	S-DSS-21330
11. Verify that operator has the capability to mount/dismount tapes for backup.	S-DSS-20150, S-DSS-20160, S-DSS-20420, S-DSS-20430, S-DSS-20440
12. Verify messages are sent to the appropriate logs.	
13. Terminate all software processes.	
14. Logoff Workstation.	

4.13.4.8 Test Case 8: Uncorrectable Write Error Test (TS021.008)

This test demonstrates the ability to detect and take corrective action when an uncorrectable error occurs during archive operations. When an uncorrectable error is detected during archive operations. A notification of the error is displayed and a different piece of media is automatically selected and the operation is completed. The media with the uncorrectable error is re-created using new media. A notification to discard the original media containing the error is displayed. HTSC support is required for this test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 and document data.

Tools: DSS Request Driver and Insert Driver.

Test Input:

Archive operations are initiated.

Test Output:

Outputs to this test include displays to screen indicating detection of uncorrectable errors. New media is automatically selected to complete archive and retrieval operations. The media containing the uncorrectable error is recreated on new media.

Success Criteria:

All uncorrectable errors are detected during archive and retrieval operations. The contents of the media containing uncorrectable errors is successfully recreated on new media. Correct notification is displayed to screen, indicating uncorrectable errors encountered.

Test Procedure:

Test Case ID: TS021.008	
Test Name: Uncorrectable Write Error Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the Science Data Server GUI on a third xterm.	
5. Invoke DSS Request driver on fourth xterm. **> ./dttest**	
6. Send an insert request.	
7. Force an uncorrectable write error.	
8. Verify that a message is displayed stating an error occurred.	
9. Verify that another piece of media is chosen.	**S-DSS-20220**
10. Verify that a message is displayed stating that distribution was completed on another piece of media, specifying the name of the new media device.	
11. Verify that source archive media was discarded after its contents were recreated on new media.	**S-DSS-20230**
12. Verify that message is displayed stating that distribution failed - no write privileges to tape.	
13. Using 'Storage Resource' screen, verify that another piece of media is chosen to complete the request.	
14. Verify that a message is displayed stating that distribution was completed on another piece of media, specifying the name of the new media device.	
15. Verify messages are sent to the appropriate logs.	
16. Terminate all software processes.	
17. Logoff Workstation.	

4.13.4.9 Test Case 9: Uncorrectable Read Error Test (TS021.009)

This test demonstrates the ability to detect and take corrective action when an uncorrectable error occurs during retrieval operations. A notification of the error is displayed and the operation is terminated. HTSC support is required for this test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 and document data.

Tools: DSS Request Driver and Insert Driver.

Test Input:

Retrieval operations are initiated for media containing uncorrectable errors.

Test Output:

Outputs to this test include message displays to the screen indicating detection of uncorrectable errors.

Success Criteria:

All uncorrectable read errors are detected during retrieval operations. Correct notification is displayed to screen, indicating uncorrectable errors encountered. The operation is successfully terminated.

Test Procedure:

Test Case ID: TS021.009	
Test Name: Uncorrectable Read Error Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the DSS GUI on a third xterm.	
5. Invoke insert driver on fourth xterm. **> ./dttest**	
6. Send a valid retrieval request.	
7. Force an uncorrectable read error.	S-DSS-20250, S-DSS-20255, S-DSS-30490
8. Verify that a message is displayed stating an error occurred.	
9. On DSS GUI, select '**Tracking**' icon.	
10. Verify that message is displayed stating that retrieval failed.	
11. Verify messages are sent to the appropriate logs.	
12. Terminate all software processes.	
13. Logoff Workstation.	

4.13.4.10 Test Case 10: Storage Device and File Directory Test (TS021.010)

This test demonstrates the ability to use a hierarchy of disk and/or tape storage devices and storage media to store/retrieve data. This includes maintaining all archive data files. Maintenance includes the ability to do the following activities: create files, open files, read files, write to files, close files, append files, display files, update files, delete files, backup files, and recover files listed in the file directory. Information concerning files on staging devices is displayed. This information includes: file name, size, type, organization, creation date, protections, owner, last access time and id of last access. File directory information is viewed, displayed and printed. This test case is tested using an SGI and the AMASS software.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 and document data.

Tools: DSS Request Driver and Insert Driver.

Test Input:

Inputs to this test include commands to manipulate and display the file directory. It is assumed that data has previously been inserted into the archive.

Test Output:

Outputs to this test include status messages and file manipulation results. The file directory is viewed, displayed and printed.

Success Criteria:

All commands entered to manipulate or view the file directory are successfully completed. Appropriate status messages are displayed. File information is displayed and examined for correct content.

Test Procedure:

Test Case ID: TS021.010	
Test Name: Storage Device and File Directory Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Invoke the Science Data Server GUI on a third xterm.	

4. Display the directory containing the Archive Log Files. > **ls -al**	S-DSS-20300, S-DSS-20540, S-DSS-21390, S-DSS-21400, S-DSS-21450, S-DSS-21510
5. Display the Archive Directory. **> ls**	S-DSS-20350, S-DSS-20360, S-DSS-20370, S-DSS-20480, S-DSS-21420, S-DSS-21460, S-DSS-21480, S-DSS-21490
6. Verify that a file in the Archive Directory can be opened , read and written to and closed. **> cd <Archive Directory>** **> vi <Archive File Name>** **> <add new line of data>** **> :wq**	
7. Verify that a file can be created and stored in the Archive Directory. **> vi <New File Name>** **> :wq** **> ls** (to verify new file added)	
8. Verify that a file can be created and stored in the same directory as Archive Files. **> cd <Archive Directory>** **> vi <New File Name>** **> :wq** **> ls** (to verify new file added)	
9. Verify that data can be appended to an existing file in the Archive Directory.	**S-DSS-21410**
10. Print the file information by selecting '**File**' and them '**Print**' from the menu bar.	**S-DSS-20530, S-DSS-21470**
11. Verify messages sent to appropriate logs.	**S-DSS-30490**
12. Terminate all software processes.	
13. Logoff Workstation.	

4.13.4.11 Test Case 11: Storage with Degraded Mode Test (TS021.011)

This test demonstrates the ability to continue storage operations under degraded conditions when hardware failures occur. Storage hardware configuration is displayed. A hardware failure is simulated for failures of individual archive storage devices, operator consoles, and for archive media. Storage operations are initiated. The storage operations complete under a degraded system configuration. HTSC support will be required for this test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 and document data.

Tools: DSS Request Driver and Insert Driver.

Test Inputs:

Commands are entered for system status monitoring. System hardware failures are simulated. Storage requests for archive and retrieval operations are submitted.

Test Output:

System monitoring to confirm the state of the system.

Success Criteria:

System status is successfully displayed before and after simulated hardware failures. The system correctly detects and displays system failures. The system successfully performs storage operations, in a degraded mode, after hardware failures are detected.

Test Procedure:

Test Case ID: TS021.011	
Test Name: Storage with Degraded Mode Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the DSS GUI on a third xterm.	
5. Send several valid distribution requests including two 8mm tape distributions.	
6. When Resource Information Screen states that 8mm tape distribution in progress, disconnect the two allocated 8mm drives.	Supported by HTSC. **S-DSS-20380, S-DSS-30490**
7. Verify that messages are displayed that media failed and that request was transferred to another media or that request must be submitted again.	
8. Send a valid distribution request to a 8mm drive that is off-line.	**S-DSS-20380, S-DSS-30490**
9. Verify that a message is received stating that media is not available.	
10. Send a valid distribution request when operator console is not available.	
11. Verify that a message is received stating that distribution not processed.	
12. Verify messages are sent to all appropriate logs.	
13. Terminate all software processes.	
14. Logoff Workstation.	

4.13.4.12 Test Case 12: Archive Log Processing Test (TS021.012)

This test demonstrates the ability to view, display, and print the Archive Activity Log and the Intermediate Activity Log. This includes the ability to sort, extract, and select Archive Activity Log and Intermediate Activity Log entries for display.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive

Software: SDSRV, STMGT, DDIST, Ingest

Data: Various TRMM Data, including: CERES,TSDIS, NESDIS, V0 and document data.

Tools: DSS Request Driver and Insert Driver.

Test Input:

Inputs to this test include commands to view, display and print the Archive Activity Log and the Intermediate Archive Activity Log. This includes commands to extract data, sort data and select data for viewing, displaying and printing.

Test Output:

Outputs to this test include Archive Activity Log and the Intermediate Archive Activity Log displays, views and print outs. This test assumes that processes that populate the log files have already been performed.

Success Criteria:

Commands are successfully entered, resulting in appropriate views, displays and print outs.

Test Procedure:

Test Case ID: TS021.012	
Test Name: Archive Log Processing Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	shrink this xterm
4. Invoke the DSS GUI on a third xterm.	
5. From '**System Requests**' icon on DSS GUI select the '**Filter'** button.	
6. From System Management Filter Requests screen, select '**Archive Activity Log'** and click '**Apply**' button.	Archive Activity Log is displayed.

7. Sort the Archive Activity Log.	
8. From the '**System Requests'** screen, select an entry from the Archive Activity Log to display by highlighting the entry and selecting the '**Apply**' button.	
9. View the Archive Activity Log using UNIX commands: > vi <Archive Activity Log>	
10. Sort the Archive Activity Log by date. > sort -fd <Archive Activity Log> > aal.out	Sort the Archive Activity Log alphabetically and store it in file aal.out
11. View the sorted Archive Activity Log. > vi aal.out	
12. Print the sorted Archive Activity Log > lpr aal.out	
13. Extract data out of the Archive Activity Log. >	Extract specified data and store in xaal.out Log files contain following information: time/date of update, unique data identifier, archive media name, source of data, storage device name, and requester.
14. View the data extracted from Archive Activity Log using UNIX commands: > vi <xaal.out>	
15. View the Intermediate Activity Log using UNIX commands: > vi <Intermediate Activity Log>	
16. Sort the Intermediate Activity Log by date. > sort -fd < Intermediate Activity Log> > ial.out	Sort the Intermediate Activity Log alphabetically and store it in file ial.out
17. View the sorted Intermediate Activity Log. > vi ial.out	
18. Print the sorted Intermediate Activity Log > lpr ial.out	
19. Extract data out of the Intermediate Activity Log. >	Extract specified data and store in xial.out Log files contain following information: time/date of update, unique data identifier, archive media name, source of data, storage device name, and requester.
20. View the data extracted from Intermediate Activity Log using UNIX commands: > vi <xial.out>	
21. View all appropriate logs to verify that data is as expected.	
22. Logoff Workstation.	

4.13.5 Schema Generation Thread (TS022)

This thread demonstrates the ability to define all the data types and data services managed by the Data Server. Each data type is defined in a schema. The data base administrator modifies, deletes, displays and saves specific data server schema and configurations via a GUI and SQL commands. This thread contains the following test cases:

TS022.001 View Schema Test

TS022.002 Adding New Schema Data Type Information Test

TS022.003 Updating Schema Information Test

TS022.004 Deleting Schema Information Test

TS022.005 Unauthorized Schema Access Test

4.13.5.1 Test Case 1: View Schema Test (TS022.001)

This test demonstrates the capability to view all data types and services in a data schema. Accounts are established, allowing access to view the schema. Schema representations for all data server data objects are displayed. Differing views of the schema are displayed. Schema information includes: data type structure, data type service, and data type attribute data values.

Test Configuration:

Hardware: Workstation, file servers, DBMS based repository

Software: Schema Generation CSC, DS GUI.

Data: None.

Tools: None.

Test Input:

Commands are entered for viewing any or all of the schema.

Test Output:

The schema is displayed. Each data type is represented in the schema.

Success Criteria:

The schema is displayed according to the view requested . The schema is inspected for representation of all data types. Schema information includes data type structure, data type service, and data type attribute data values.

Test Procedure:

Test Case ID: TS022.001	
Test Name: View Schema Test	
Test Steps:	Comments:
1. Log on to GSFC DAAC workstation.	
2. On Data Server GUI screen, select '**Data Types'** icon.	S-DSS-00450, S-DSS-00460, S-DSS-03820, S-DSS-03830
3. Highlight line containing data type **CER00.**	Descriptor information for data type CER00 is displayed including data objects.
4. Select '**Close**' button.	

5. Repeat steps 2 - 4 to observe several data types.	Include at least one TSDIS, browse, upper level, DAO, NESDIS data type. S-DSS-00550, S-DSS-03750, S-DSS-03760, S-DSS-03770
6. Select '**Find**' button and fill in appropriate information to find a specific data type.	
7. Verify that the specified data type is found.	
8. Access database to observe the data schema. Bring up xterm containing db machine. **> isql -Uphase2_role -P<password>** **> select * from DsMdGranules where dbID = " <GranuleID>"**	
9. Observe several other values in this database table.	
10. Verify messages are sent to appropriate logs.	
11. Terminate all software processes.	
12. Logoff workstation.	

4.13.5.2 Test Case 2: Adding New Schema Data Type Information Test (TS022.002)

This test demonstrates the ability of the data server to provide new schema information to the data management subsystem when a new data type is added. The tester modifies data server schema information by adding a new data type. This information is provided to the data management subsystem. Advertisements are created to identify new schema information including identification of the new data type, it's attributes and valid values, service descriptions and service interfaces. Error testing include attempting to insert a data type that is already in the database.

Test Configuration

Hardware: Workstation, Advertising DBMS Server, Data Dictionary DBMS Server

Software: SDSRV, DS GUI, ADSRV

Data: Schema information

Tools: N/A

Test Input:

Schema information is entered to create a new data type. A descriptor file and a DLL file are also input to this test.

Test Output:

The schema is updated to include the new data type. The schema information is provided to the data management subsystem.

Success Criteria:

This test is considered successful if the operator is able to successfully enter new data type information into the schema. Schema information is successfully provided to the data management subsystem. Correct and appropriate advertisements are created to reflect he new data type, including attributes and valid values, services and service interface.

Test Procedure:

Test Case ID: TS022.002	
Test Name: Adding New Schema Data Type Information Test	
Test Steps:	Comments:
1. Log on to GSFC DAAC Workstation.	Insure that workstation has access to the database.
2. Invoke Data Server GUI.	
3. On the GUI select the '**Data Types'** icon.	
4. Select the **Add** button.	
5. Fill in required data on '**Add Data Types**' pop-up screen and submit '**OK'** button.	Information to be added includes: Datatype ID, Name, Version, Descriptor Filename, and DLL Filename. S-DSS-00560
6. Select '**Data Types'** icon again, and verify that data type was added.	View schema
7. Access database to observe the data schema. Bring up xterm containing db machine. **> isql -Uphase2_role -P<password>** **> select * from DsMdGranules where dbID = " <GranuleID>"**	
8. Observe several other values in this database table.	S-DSS-03780
9. Verify that a screen message states that data type has been successfully added.	
10. Highlight added datatype and select '**View'** button.	The Descriptor file will be displayed in ODL format.
11. Check with ADSRV to verify that the new ESDT has been advertised.	
12. Attempt to add a datatype that already exists.	
13. Verify that a message is displayed stating that datatype already exists.	
14. Verify messages are sent to the appropriate logs.	
15. Terminate all software processes.	
16. Logoff workstation.	

4.13.5.3 Test Case 3: Updating Schema Information Test (TS022.003)

This test demonstrates the ability of the data server to provide updated schema information to the data management subsystem. The requester modifies data server schema information by updating schema information for an existing data type. Update information is provided to the data management subsystem. Advertisements are created to identify updated schema information including updated service descriptions and service interfaces. Attributes to change include a data type, longname, service, etc.

Test Configuration

Hardware: Workstation, Advertising DBMS Server.

Software: SDSRV, DSS GUI, ADSRV.

Data: Schema information

Tools: none

Test Input:

Schema information is entered to update an existing data type. Schema information includes updating data type attributes and valid values, services and service interfaces. A view schema request is input to verify the update took place. An advertising request is used to verify advertising was notified of this update.

Test Output:

The schema is updated to include the new data type information. The schema information is provided to the data management subsystem.

Success Criteria:

This test is considered successful if the requester is able to successfully enter new data type information into the schema. Schema information is successfully provided to the data management subsystem. Correct and appropriate advertisements are created to reflect the updated data type, it's services and service interface.

Test Procedure:

Test Case ID: TS022.003	
Test Name: Updating Schema Information Test	
Test Steps:	Comments:
1. Log on to GSFC DAAC Workstation.	Insure that workstation has access to database.
2. Invoke the Data Server GUI..	
3. On the GUI, select **Data Types** icon.	
4. Select LIS4L data type and select **Update** button.	
5. Update appropriate fields and click **OK** button.	Fields to update are ID, Name , Version, Description
6. Access database to observe updated information. **> rlogin <db machine>** **> <password>** **> isql -Uphase2_role -P<password>** **> select * from DsMdGranules where <field edited> = " <value edited in Data Server GUI>"**	
7. Check several fields to verify updates.	S-DSS-00570
8. Verify messages are sent to the appropriate logs.	
9. Terminate all software processes.	
10. Logoff workstation.	

4.13.5.4 Test Case 4: Deleting Schema Information Test (TS022.004)

This test demonstrates the ability of the data server to provide schema deletion information to the data management subsystem. The tester modifies data server schema information by deleting schema information of an existing data type. Deletion information is provided to the data management subsystem. Advertisements are modified to identify deleted schema information.

Test Configuration

Hardware: Workstation, Advertising DBMS Server, Data Dictionary DBMS Server

Software: SDSRV, GUI, ADSRV

Data: Schema information

Tools: None.

Test Input

Existing data type schema information is deleted. Schema information includes data type attributes and valid values, services and service interfaces.

Test Output:

The schema is updated to reflect the deletion of schema information. The data server successfully sends deletion information to the data management subsystem and the data management subsystem successfully receives the information. Advertisements are updated to reflect the change in the schema.

Success Criteria

This test is considered successful if the tester is able to successfully delete data type schema information. Deletion of schema information is successfully provided to the data management subsystem. Correct and appropriate advertisements are created to reflect the missing data type.

Test Procedure:

Test Case ID: TS022.004	
Test Name: Deleting Schema Information Test	
Test Steps:	Comments:
1. Log on to GSFC DAAC Workstation.	Insure that workstation has access to database.
2. Invoke Data Server GUI.	
3. Select **Data Types** icon.	
4. Select **Delete** Button.	
5. Edit data in the Delete pop-up screen and select **OK** button. Select <LIS15> and select **OK**.	S-DSS-03810

6. Access database to observe updated information. **> rlogin <db machine>** **> <password>** **> isql -Uphase2_role -P<password>** **> select * from DsMdGranules where <field edited> = " <value edited in Data Server GUI>"**	
7. Check several fields to verify updates.	
8. Select 'View' schema and verify the ESDT is not there.	
9. Add in the datatype that was deleted in the previous steps.	
10. Verify that the datatype can be added back in.	S-DSS-00610
11. Verify messages are sent to the appropriate logs.	
12. Terminate all software processes.	
13. Logoff workstation.	

4.13.5.5 Test Case 5: Unauthorized Schema Access Test (TS022.005)

This test demonstrates the ability of the data server to prevent unauthorized entry into the data server schema. The requester attempts to submit invalid information to access the schema and make modifications to it's contents. Appropriate, correct and clear error messages are returned.

Test Configuration

Hardware: Workstation, Advertising DBMS Server, Data Dictionary DBMS Server

Software: SDSRV, ADSRV, DSS GUI.

Data: Schema information

Tools: None.

Test Input:

Attempts are made to enter invalid access and schema modification information

Test Output:

Invalid information is not processed and is not accepted into the schema. Error messages are returned.

Success Criteria:

This test is considered successful if the requester is unable to successfully access or modify schema information. Appropriate, correct and clear error messages are returned for each unsuccessful attempt.

Test Procedure:

Test Case ID: TS022.005	
Test Name: Unauthorized Schema Access Test	
Test Steps:	Comments:
1. Log on to GSFC DAAC Workstation.	Insure that workstation has access to database.

2. Start the Science Data Server.	
3. Invoke Data Server GUI on a second xterm.	
4. Select **Data Types** icon.	
5. Highlight line containing LIS00 data type and select **Update** button.	Assuming there will be an update button on the GUI, and assuming that the user has no data base privileges.
6. Update appropriate fields and click **OK** button.	S-DSS-00870, 00950
7. Verify that error message is returned stating that update not allowed.	S-DSS-00850
8. Verify messages are sent to the appropriate logs.	
9. Terminate all software processes.	
10. Logoff workstation.	

4.13.6 Distribution Boundary Conditions Thread (TS074)

This thread demonstrates a set of Data Server requirements related to system startup, normal operations, and shutdown, specifically the way the applications and the local operating systems perform around and across various boundaries. Testing will include boundaries such as the end of the year during a non-leap year, the end of February during a non-leap year, the end of the year during a leap year, the end of February during a leap year, and across the century change. These test cases will involve changing the system time to the specific times noted in the test cases, on both the client and server machines. When future dates are used, there may be a need to put other jobs/processes in the system on hold until the test has been executed and the time changed back to the current date and time. Using future dates may also cause password problems if there is a limit on how often a password must be changed on any particular system. Attempts will be made to perform DSS functions at five different points in relation to the boundary being tested:

- Total processing before the boundary crossing
- Total processing after the boundary crossing
- Processing stops at the boundary
- Processing starts at the boundary
- Processing occurs across the boundary

Performing the various DSS functions, such as Preprocessing, GUI monitoring and calls to Data Server for validation and insertion, right at the boundary can be difficult. The test may have to be run several times in order to obtain the desired results. This can make the test very time consuming. Entering the same time on all host machines (client and server and others that may be necssary) at precisely the same moment, provided many machines are used for the test, also can be very difficult. This would however, only result in the time being entered more than once, since the time is changed before the application software is initialized.

When specified in the test, the time is changed to approximately 20 minutes before the boundary being tested. This is to allow enough time for the operator to initiate the various application

processes and any necessary drivers, perform some functions before the boundary, and to perform some functions across the boundary. The operator can specify more or less time before the boundary crossing, as is necessary.

Care must be taken when performing these tests because chances are other subsystems will be running or communicating with Data Server at the same time, and we would like to minimize the impact on others as much as possible. It is also very important that the batch queue (if any) is checked after the completion of each test, or when the clock is changed back to current time to verify that any other jobs/processes in the queue are again set to go off as expected (current day, not some day in the past or the future). Any jobs previously halted must again be started, when applicable. Special privileges may be required for this test. Support from HTSC may be required for this test. It may also be a good idea after the test is complete to purge any files pertinent to the test, such as log, data, error files that may have been generated during the test, after they have been printed/analyzed, to reduce the number of files residing on the system.

This thread contains the following test cases:

TS074.001 Distribution End of Year/Non-Leap Year Test

TS074.002 Distribution End of February/Non-Leap Year Test

TS074.003 Distribution End of Year/Leap Year Test

TS074.004 Distribution End of February/ Leap Year Test

TS074.005 Distribution Century Crossing Test

4.13.6.1 Test Case 1: End of Year/Non-Leap Year Test (TS074.001)

This test demonstrates the ability for Data Server to perform correctly around the end of the year. This test case covers a normal year end (vs. a leap year end). Various requests to distribute data will be made before, during and after the year change, and it will be verified that no problems are encountered which are specifically related to the year end. It will also be verified that the appropriate messages were displayed and sent to the appropriate log files. The logs will be examined to verify all times listed are correct according to the system time for the test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: SDSRV, STMGT, DDIST, DSS GUI

Data: A sampling of Release A data types, including CERES, TSDIS, NESDIS, V0.

Tools: DSS Request Driver, Subscription Driver, Client Driver.

Test Input:

From a valid admin account, use the appropriate command to change the system time to the end of the year on all appropriate machines. Any year can be used, as long as it is not a leap year, and the time should be changed to approximately 20 minutes before the end of the year (actually the date/time will be changed to 12/31 23:40). After the applications are initiated, several distribution requests will be started, some that will finish before the year end, some that will be in progress during the year change, and some that will start/end after the year change.

Test Output:

Outputs to this test include extraction of the data from the archive and placed in the appropriate area (depending on whether a push, pull or media distribution was requested). The appropriate logs are created and updated accordingly.

Success Criteria:

This test is deemed successful if data for all Data Server requests are processed, and the appropriate logs are updated accordingly. It will also be deemed successful if the date correctly reflects December 31 during a non-leap year, and then successfully changes to January 1.

Test Procedure:

Test Case ID: TS074.001	
Test Name: End of Year/Non-Leap Year Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server and the Subscription Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &** **> ./sbserver &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	Shrink this xterm
4. Invoke the DSS GUI on a third xterm.	
5. Invoke the client driver on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm.	
7. At the DSS request driver, start various requests - one insert, one electronic distribution, one media distribution, one search.	The requests are processed, as seen on the appropriate DSS GUI screen.
8. At the subscription driver, submit some subscriptions that will fire when the data type requested to be inserted previously, is archived.	Subscriptions should be submitted that span the year end, expire at the year end, one-time, on-going, and standing order. All subscriptions are accepted.
9. At the client driver, submit a metadata update request.	The request is accepted and processed.
10. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.

11. Shortly before the turn of the year, submit several more requests, as stated in steps 7 - 9 above.	The requests are processed as expected.
12. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
13. 13. Shortly after the turn of the year, submit several more requests, as stated in steps 7 - 9 above.	The requests are accepted and processed.
14. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
15. When all requests are complete, view the appropriate DSS GUI screen.	The requests are listed as completed, and dates and times in the reflect those actually performed. The year change is displayed appropriately.
16. View the DSS GUI screens, including the stored subscriptions.	All dates and times listed on the GUI screens reflect the new year.
17. Analyze all DSS log files.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the year end.
18. Terminate all Ingest and Data Server processes and GUIs.	All processes and GUIs are terminated correctly.
19. Look at the DSS MSS Event Log.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the year end.
20. Logoff Workstation.	

4.13.6.2 Test Case 2: End of February/Non-Leap Year Test (TS074.002)

This test demonstrates the ability for Data Server to perform correctly around the end of February during a non-leap year. Various requests to distribute data will be made before, during and after the month change, and it will be verified that no problems are encountered which are specifically related to the month end. It will also be verified that the appropriate messages were displayed and sent to the appropriate log files. The logs will be examined to verify all times listed are correct according to the system time for the test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: SDSRV, STMGT, DDIST, DSS GUI

Data: A sampling of Release A data types, including CERES, TSDIS, NESDIS, V0.

Tools: DDIST Driver.

Test Input:

From a valid admin account, use the appropriate command to change the system time to the end of the month on all appropriate machines. Any year can be used, as long as it is not a leap year,

and the time should be changed to approximately 20 minutes before the end of February (actually the date/time will be changed to 2/28 23:40). After the applications are initiated, several distribution requests will be started, some that will finish before the month end, some that will be in progress during the month change, and some that will start/end after the month change.

Test Output:

Outputs to this test include extraction of the data from the archive and placed in the appropriate area (depending on whether a push, pull or media distribution was requested). The appropriate logs are created and updated accordingly.

Success Criteria:

This test is deemed successful if data for all distribution requests is distributed, and the appropriate logs are updated accordingly. It will also be deemed successful if the date correctly changes to March 1.

Test Procedure:

Test Case ID: TS074.002	
Test Name: End of February/Non-Leap Year Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server and the Subscription Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &** **> ./sbserver &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	Shrink this xterm
4. Invoke the DSS GUI on a third xterm.	
5. Invoke the client driver on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm.	
7. At the DSS request driver, start various requests - one insert, one electronic distribution, one media distribution, one search.	The requests are processed, as seen on the appropriate DSS GUI screen.
8. At the subscription driver, submit some subscriptions that will fire when the data type requested to be inserted previously, is archived.	Subscriptions should be submitted that span the year end, expire at the month end, one-time, on-going, and standing order. All subscriptions are accepted.
9. At the client driver, submit a metadata update request.	The request is accepted and processed.
10. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
11. Shortly before the turn of the month, submit several more requests, as stated in steps 7 - 9 above.	The requests are processed as expected.
12. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
13. Shortly after the turn of the month, submit several more requests, as stated in steps 7 - 9 above.	The requests are accepted and processed.

14. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
15. When all requests are complete, view the appropriate DSS GUI screen.	The requests are listed as completed, and dates and times in the reflect those actually performed. The month change is displayed appropriately.
16. View the DSS GUI screens, including the stored subscriptions.	All dates and times listed on the GUI screens reflect the new year.
17. Analyze all DSS log files.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the month end.
18. Terminate all Ingest and Data Server processes and GUIs.	All processes and GUIs are terminated correctly.
19. Look at the DSS MSS Event Log.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the month end.
20. Logoff Workstation.	

4.13.6.3 Test Case 3: End of Year/ Leap Year Test (TS074.003)

This test demonstrates the ability for Data Server to perform correctly around the end of the year. This test case covers a leap year end (vs. a non-leap year end). Various requests to distribute data will be made before, during and after the year change, and it will be verified that no problems are encountered which are specifically related to the year end. It will also be verified that the appropriate messages were displayed and sent to the appropriate log files. The logs will be examined to verify all times listed are correct according to the system time for the test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: SDSRV, STMGT, DDIST, DSS GUI

Data: A sampling of Release A data types, including CERES, TSDIS, NESDIS, V0.

Tools: DDIST Driver.

Test Input:

From a valid admin account, use the appropriate command to change the system time to the end of the year on all appropriate machines. Any year can be used, as long as it is a leap year, and the time should be changed to approximately 20 minutes before the end of the year (actually the date/time will be changed to 12/31 23:40). After the applications are initiated, several distribution requests will be started, some that will finish before the year end, some that will be in progress during the year change, and some that will start/end after the year change.

Test Output:

Outputs to this test include extraction of the data from the archive and placed in the appropriate area (depending on whether a push, pull or media distribution was requested). The appropriate logs are created and updated accordingly.

Success Criteria:

This test is deemed successful if data for all distribution requests is distributed, and the appropriate logs are updated accordingly. It will also be deemed successful if the date correctly reflects December 31 during a leap year, and then successfully changes to January 1.

Test Procedure:

Test Case ID: TS074.003	
Test Name: End of Year/Leap Year Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server and the Subscription Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &** **> ./sbserver &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	Shrink this xterm
4. Invoke the DSS GUI on a third xterm.	
5. Invoke the client driver on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm.	
7. At the DSS request driver, start various requests - one insert, one electronic distribution, one media distribution, one search.	The requests are processed, as seen on the appropriate DSS GUI screen.
8. At the subscription driver, submit some subscriptions that will fire when the data type requested to be inserted previously, is archived.	Subscriptions should be submitted that span the year end, expire at the year end, one-time, on-going, and standing order. All subscriptions are accepted.
9. At the client driver, submit a metadata update request.	The request is accepted and processed.
10. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
11. Shortly before the turn of the year, submit several more requests, as stated in steps 7 - 9 above.	The requests are processed as expected.
12. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
13. 13.Shortly after the turn of the year, submit several more requests, as stated in steps 7 - 9 above.	The requests are accepted and processed.
14. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
15. When all requests are complete, view the appropriate DSS GUI screen.	The requests are listed as completed, and dates and times in the reflect those actually performed. The year change is displayed appropriately.

16. View the DSS GUI screens, including the stored subscriptions.	All dates and times listed on the GUI screens reflect the new year.
17. Analyze all DSS log files.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the year end.
18. Terminate all Ingest and Data Server processes and GUIs.	All processes and GUIs are terminated correctly.
19. Look at the DSS MSS Event Log.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the year end.
20. Logoff Workstation.	

4.13.6.4 Test Case 4: End of February/ Leap Year Test (TS074.004)

This test demonstrates the ability for Data Server to perform correctly around the end of February during a leap year. Various requests to distribute data will be made before, during and after the yesr change, and it will be verified that no problems are encountered which are specifically related to the month end. It will also be verified that the appropriate messages were displayed and sent to the appropriate log files. The logs will be examined to verify all times listed are correct according to the system time for the test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: SDSRV, STMGT, DDIST, DSS GUI

Data: A sampling of Release A data types, including CERES, TSDIS, NESDIS, V0.

Tools: DDIST Driver.

Test Input:

From a valid admin account, use the appropriate command to change the system time to the end of the month on all appropriate machines. Any year can be used, as long as it is a leap year, and the time should be changed to approximately 20 minutes before the end of February (actually the date/time will be changed to 2/28 23:40). After the applications are initiated, several distribution requests will be started, some that will finish before the month end, some that will be in progress during the month change, and some that will start/end after the month change.

Test Output:

Outputs to this test include extraction of the data from the archive and placed in the appropriate area (depending on whether a push, pull or media distribution was requested). The appropriate logs are created and updated accordingly.

Success Criteria:

This test is deemed successful if data for all distribution requests is distributed, and the appropriate logs are updated accordingly. It will also be deemed successful if the date successfully changes to February 29.

Test Procedure:

Test Case ID: TS074.004	
Test Name: End of February/Leap Year Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server and the Subscription Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &** **> ./sbserver &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	Shrink this xterm
4. Invoke the DSS GUI on a third xterm.	
5. Invoke the client driver on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm.	
7. At the DSS request driver, start various requests - one insert, one electronic distribution, one media distribution, one search.	The requests are processed, as seen on the appropriate DSS GUI screen.
8. At the subscription driver, submit some subscriptions that will fire when the data type requested to be inserted previously, is archived.	Subscriptions should be submitted that span the year end, expire at the month end, one-time, on-going, and standing order. All subscriptions are accepted.
9. At the client driver, submit a metadata update request.	The request is accepted and processed.
10. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
11. Shortly before the turn of the month, submit several more requests, as stated in steps 7 - 9 above.	The requests are processed as expected.
12. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
13. Shortly after the turn of the month, submit several more requests, as stated in steps 7 - 9 above.	The requests are accepted and processed.
14. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
15. When all requests are complete, view the appropriate DSS GUI screen.	The requests are listed as completed, and dates and times in the reflect those actually performed. The month change is displayed appropriately.
16. View the DSS GUI screens, including the stored subscriptions.	All dates and times listed on the GUI screens reflect the new year.

17. Analyze all DSS log files.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the month end.
18. Terminate all Ingest and Data Server processes and GUIs.	All processes and GUIs are terminated correctly.
19. Look at the DSS MSS Event Log.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the month end.
20. Logoff Workstation.	

4.13.6.5 Test Case 5: Century Crossing Test (TS074.005)

This test demonstrates the ability for Data Server to perform correctly around the century change. Various requests to distribute data will be made before, during and after the century change, and it will be verified that no problems are encountered which are specifically related to the century change. It will also be verified that the appropriate messages were displayed and sent to the appropriate log files. The logs will be examined to verify all times listed are correct according to the system time for the test.

Test Configuration:

Hardware: Workstation, Working Storage, Data Repository, Permanent Archive, Media and media devices.

Software: SDSRV, STMGT, DDIST, DSS GUI

Data: A sampling of Release A data types, including CERES, TSDIS, NESDIS, V0.

Tools: DDIST Driver.

Test Input:

From a valid admin account, use the appropriate command to change the system time to the end of the year on all appropriate machines. The year 1999 must be used, and the time should be changed to approximately 20 minutes before the end of the year (actually the date/time will be changed to 12/31 23:40). After the applications are initiated, several distribution requests will be started, some that will finish before the century change, some that will be in progress during the century change, and some that will start/end after the century change.

Test Output:

Outputs to this test include extraction of the data from the archive and placed in the appropriate area (depending on whether a push, pull or media distribution was requested). The appropriate logs are created and updated accordingly.

Success Criteria:

This test is deemed successful if data for all distribution requests is distributed, and the appropriate logs are updated accordingly. It will also be deemed successful if the date successfully changes to January 1, 2000, and any two-digit year references are correctly reported.

Test Procedure:

Test Case ID: TS074.005	
Test Name: Century Change Test	
Test Steps:	Comments:
1. Log on to a GSFC DAAC Workstation.	
2. Start the Science Data Server and the Subscription Server **> rlogin <machine_name>** **> source dbrc.csh** **> source dssrc.csh** **> ./sdsrv &** **> ./sbserver &**	
3. Source the database on a second xterm. **> rlogin <db_machine_name>** **> source .dbrc**	Shrink this xterm
4. Invoke the DSS GUI on a third xterm.	
5. Invoke the client driver on a fourth xterm.	
6. Invoke the DSS request driver on a fifth xterm.	
7. At the DSS request driver, start various requests - one insert, one electronic distribution, one media distribution, one search.	The requests are processed, as seen on the appropriate DSS GUI screen.
8. At the subscription driver, submit some subscriptions that will fire when the data type requested to be inserted previously, is archived.	Subscriptions should be submitted that span the year end, expire at the year end, one-time, on-going, and standing order. All subscriptions are accepted.
9. At the client driver, submit a metadata update request.	The request is accepted and processed.
10. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
11. Shortly before the turn of the year, submit several more requests, as stated in steps 7 - 9 above.	The requests are processed as expected.
12. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
13. Shortly after the turn of the year, submit several more requests, as stated in steps 7 - 9 above.	The requests are accepted and processed.
14. View the DSS GUI to verify all requests are in the system.	The appropriate requests are listed as in progress.
15. When all requests are complete, view the appropriate DSS GUI screen.	The requests are listed as completed, and dates and times in the reflect those actually performed. The century change is displayed appropriately.
16. View the DSS GUI screens, including the stored subscriptions.	All dates and times listed on the GUI screens reflect the new century.

17. Analyze all DSS log files.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the century change.
18. Terminate all Ingest and Data Server processes and GUIs.	All processes and GUIs are terminated correctly.
19. Look at the DSS MSS Event Log.	All messages pertaining to Data Server initiation, requests, and termination can be followed correctly, with the appropritate dates reflected before, during and after the century change.
20. Logoff Workstation.	

4.13.7 DSS Resource Management Build (BS017)

This build demonstrates the storage and processing capabilities of the Science Data Server. Storage tests verify the data was correctly transferred to working storage, to the archive, and to the final distribution destination. Processing tests verify electronic and media distribution, as well as subscriptions, metadata update requests and schema updates. This build also demonstrates Data Server fault management, hardware sizing, hardware facilities conformance, UNIX POSIX.2 conformance and User Desktop notification of an operator canceled request, as well as Data Server performance and Growth. Tests include:

BS017.001 Archive Fault SMC Interface Test

BS017.002 Distribution Fault SMC Interface Test

BS017.003 Data Server Hardware Sizing Test

BS017.004 Data Server Hardware Facilities Test

BS017.005 Data Server UNIX POSIX.2 Conformance Test

BS017.006 Desktop Notification Of Operator Distribution Request Cancellation Test

BS017.007 SMC Receipt of Distribution Activity Log Entries Test

BS017.008 Data Availability Performance Test

BS017.009 Data Distribution Rate Test

BS017.010 Data Distribution Rate Growth Test

BS017.011 Data Request Rate per Hour Performance Test

BS017.012 Data Server and Processing Interface Performance Test

BS017.013 Media Data Product Availability Performance Test

BS017.014 Archive Capacity Performance Test

BS017.015 Data Server Hardware Availability Performance Test

BS017.016 Bit Error Rate Performance Test

BS017.017 Data Ingest to STMGT Test

BS017.018 Data Distribution to STMGT Test

BS017.019 Read ESDT Schema Test

BS017.020 Add New ESDT Information Test

BS017.021 Update ESDT Information Test

BS017.022 Delete ESDT Information Test

BS017.023 Electronic Distribution Test

BS017.024 Media Distribution Test

BS017.025 AMASS Interface Test

BS017.026 Metadata Update Test

BS017.027 Subscriptions Test

BS017.028 DSS Startup/Shutdown/Recovery Test

4.13.7.1 Test Case 1: Archive Fault SMC Interface Test (BS017.001)

This test demonstrates the ability to report fault conditions to the SMC when a data server encounters a fault during an archive operation. System faults are introduced to the system while an archive operation is in progress. The fault is detected, logged, and reported. A notification is sent to the operation terminal. The Data Server collects the information in a Archive Activity Log and the information is sent to the SMC. The SMC sends directives to the appropriate systems and subsystem.

Test Configuration:

Hardware: Science Data Server, MSS Server, Working Storage, Archive Storage

Software: SDSRV CI, STGMT CI, HP OpenView

Data: CERES L0 data

Tools: Data Insert Request driver

Test Input:

Inputs to this test include submission of a data insert request to the Science Data Server and simulation of a fault on the Science Data Server.

Test Output:

Outputs to this test include HP OpenView operator terminal screen displays and display of the log file.

Success Criteria:

This test is deemed successful if the fault is detected and logged by HP OpenView and a fault notice is displayed to the operators screen.

Test Procedures:

Test Case ID: BS017.001	
Test Name: Archive Fault SMC Interface Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open three xterms.	Assumption: all Science Data Server processes are active.
2. On the first xterm login to the MSS Server workstation.	
3. On the first xterm start up HP OpenView.	
4. On the second xterm start up the Data Insert Request driver.	
5. On the second xterm send an insert request to the Science Data Server.	
6. On the third xterm simulate a fault while the data insert process is in progress.	
7. Use HP OpenView to isolate the fault.	Verify that a fault notification is displayed on the screen and that the fault can be isolated. S-DSS-00630
8. View the HP OpenView log file.	Verify that there is an entry pertaining to the simulated fault. S-DSS-00821, S-DSS-00828, S-DSS-00832(p), S-DSS-00833(p), S-DSS-00834(p)
9. Shutdown HP OpenView.	
10. On the second xterm shutdown the Data Insert driver.	
11. Exit from all three xterms.	
12. Logout of the Science Data Server workstation.	DADS0901#A, DADS1300#A, DADS1310#A, DADS1320#A, IMS1620#A

4.13.7.2 Test Case 2: Distribution Fault SMC Interface Test (BS017.002)

This test demonstrates the ability to report a fault condition to the SMC when a data server encounters a fault during a distribution operation. A system fault is introduced into the system while a distribution operation is in progress. The fault is detected, logged, and reported. A notification is sent to the operation terminal.

Test Configuration:

Hardware: Science Data Server, MSS Server, Working Storage, Archive Storage

Software: SDSRV CI, STGMT CI, DDIST CI, HP OpenView

Data: CERES L0 data

Tools: Data Distribution Request driver

Test Input:

Inputs to this test include submission of a distribution request to the Science Data Server and simulation of a fault on the Science Data Server.

Test Output:

Outputs to this test include HP OpenView operator terminal screen displays and display of the log file.

Success Criteria:

This test is deemed successful if the fault is detected and logged by HP OpenView and a fault notice is displayed to the operators screen.

Test Procedures:

Test Case ID: BS017.002	
Test Name: Distribution Fault SMC Interface Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open three xterms.	Assumption: all Science Data Server processes are active.
2. On the first xterm login to the MSS Server workstation.	
3. On the first xterm start up HP OpenView.	
4. On the second xterm start up the Data Distribution Request driver.	
5. On the second xterm send an distribution request to the Science Data Server.	
6. On the third xterm simulate a fault while the data distribution process is in progress.	
7. Use HP OpenView to isolate the fault.	Verify that a fault notification is displayed on the screen and that the fault can be isolated. D-DSS-00630
8. View the HP OpenView log file.	Verify that there is an entry pertaining to the simulated fault. S-DSS-00821, S-DSS-00828, S-DSS-00831(p), S-DSS-00832(p), S-DSS-00834(p), S-DSS-00841
9. Shutdown HP OpenView.	
10. On the second xterm shutdown the Data Insert driver.	
11. Exit from all three xterms.	
12. Logout of the Science Data Server workstation.	DADS0901#A, DADS1300#A, DADS1310#A, DADS1320#A, IMS1620#A

4.13.7.3 Test Case 3: Data Server Hardware Sizing Test (BS017.003)

This test demonstrates Hardware (DIPHW, ACMHW, WKSHW) sizing performance for the following:

- the DIPHW is sized to temporary store the total number of bytes of distribution data derived from Section E.1 of Appendix E.
- the DIPHW/(DRPHW) is sized to support a sustained I/O rate of 1x the production volume for media (electronic) distribution, where 1x production volume is derived from Section E.1 of Appendix E.
- the ACMHW CI shall be sized to support the bytes/second rates derived from Appendix E on the electronic data distribution interfaces. (Supports user push/pull electronic distribution)
- the ACMHW/WKSHW CI shall be sized to support the number of operations/second derived from Appendix E.
- the DRPHW CI shall be sized to permanently store and maintain the total number of bytes of record based/product data derived from Appendix E (Section E.1)
- the WKSHW CI shall be sized to temporarily store the number of bytes of data derived from Section E.1 of Appendix E
- the WKSHW CI shall be sized to support a sustained I/O rate derived from Section E.1 of Appendix E in bytes/second of data

Test Configuration:

N/A

Test Input:

Inputs to this test include inspection of the DAAC Facility Hardware documents.

Test Output:

Outputs to this test include specification data related to the requirements for analysis.

Success Criteria:

This test is deemed successful if specifications meet or exceed requirements.

Test Procedures:

Test Case ID: BS017.003	
Test Name: Data Server Hardware Sizing Test	
Test Steps:	Comments:
1. Obtain copies of the DAAC Facility Hardware documents.	

2. Review the DAAC Facility Hardware documents and collect the necessary Ingest platform specifications data.	
3. Analyze the collected data.	Verify that the collected data meets or exceeds all requirements. S-DSS-02000, S-DSS-02010, S-DSS-21700, S-DSS-21710, S-DSS-21720, S-DSS-21730, S-DSS-21740, S-DSS-30950, S-DSS-30960
4. Return the copies of the DAAC Facility Hardware documents to the DAAC.	IMS1790#A, IMS1800#A

4.13.7.4 Test Case 4: Data Server Hardware Facilities Test (BS017.004)

This test demonstrates that hardware (ACMHW, DRPHW, WKSHW and DIPHW) is in accordance with ECS Facilities Plan requirements for electrical power, air conditioning, grounding, fire alarm, acoustics, physical interace, and footprint size and physical layout

Test Configuration:

N/A

Test Input:

Inputs to this test includes inspection of the Facility Plan document.

Test Output:

Outputs to this test include specification data related to the requirements for analysis.

Success Criteria:

This test is deemed successful if specifications meet or exceed requirements.

Test Procedures:

Test Case ID: BS017.004	
Test Name: Data Server Hardware Facilities Test	
Test Steps:	Comments:
1. Obtain a copy of the DAAC Facilities Plan document.	
2. Review the Facilities Plan document and collect the necessary hardware specifications data.	

3. Analyze the collected data.	Verify that the data meets or exceeds all requirements. S-DSS-60010, S-DSS-60020, S-DSS-60030, S-DSS-60040, S-DSS-60050, S-DSS-60060, S-DSS-60070, S-DSS-70010, S-DSS-70020, S-DSS-70030, S-DSS-70040, S-DSS-70050, S-DSS-70060, S-DSS-70070, S-DSS-80010, S-DSS-80020, S-DSS-80030, S-DSS-80040, S-DSS-80050, S-DSS-80060, S-DSS-80070, S-DSS-90010, S-DSS-90020, S-DSS-90030, S-DSS-90040, S-DSS-90050, S-DSS-90060, S-DSS-90070
4. Return the copy of the Facilities Plan document to the DAAC.	

4.13.7.5 Test Case 5: Data Server UNIX POSIX.2 Conformance Test (BS017.005)

This test demonstrates that each UNIX platform (ACMHW, DRPHW, and DIPHW) conforms to the following POSIX.2 standards:

- perl, emacs, gzip, tar, imake, prof, gprof, nm utilities
- man, vi user portability utilities
- make software development utilities
- lex, yacc language development utilities
- C shell, Bourne shell, Korn shell
- on-line or printed documentation for each installed tool
- one or more development environments supporting C and FORTRAN-77
- compiles and links strictly conformant POSIX-compliant source code
- interactive source level debugger for ECS supported languages

Test Configuration:

N/A

Test Input:

Inputs to this test include inspection of DAAC Facility Software documents.

Test Output:

Outputs to this test include specification data related to requirements for analysis.

Success Criteria:

This test is deemed successful if the specifications meet or exceed requirements.

Test Procedures:

Test Case ID: BS017.005	
Test Name: Data Server UNIX POSIX.2 Conformance Test	
Test Steps:	Comments:
1. Obtain copies of the DAAC Facility Software documents.	
2. Review the DAAC Facility Software documents and collect the necessary Ingest platform specifications data.	
3. Analyze the collected data.	Verify that the collected data meets or exceeds all requirements. S-DSS-60110, S-DSS-60120, S-DSS-60130, S-DSS-60140, S-DSS-60150, S-DSS-60160, S-DSS-60170, S-DSS-80110, S-DSS-80120, S-DSS-80130, S-DSS-80140, S-DSS-80150, S-DSS-80160, S-DSS-80170, S-DSS-90110, S-DSS-90120, S-DSS-90130, S-DSS-90140, S-DSS-90150, S-DSS-90160, S-DSS-90170, S-DSS-60180, S-DSS-60190, S-DSS-60195, S-DSS-80180, S-DSS-80190, S-DSS-80195, S-DSS-90180, S-DSS-90190, S-DSS-90195
4. Return the copies of the DAAC Facility Software documents to the DAAC.	

4.13.7.6 Test Case 6: Desktop Notification Of Operator Distribution Request Cancellation Test (BS017.006)

This test verifies that notification of a canceled Distribution Request by a DAAC operator will be sent to the User's Desktop Application if the user has an active session.

Test Configuration:

Hardware: Science Data Server, User Client Host, Working Storage, Archive Storage

Software: SDSRV CI, STGMT CI, DDIST CI, WKBNCH CI

Data: CERES L0 data

Tools: None

Test Input:

Inputs to this test include a Distribution Request for CERES L0 data and an operator command to cancel the Distribution Request.

Test Output:

Outputs to this test include User's Desktop Application display.

Success Criteria:

This test is deemed successful if the User's Desktop Application is notified when the operator cancels the user's Distribution Request.

Test Procedures:

Test Case ID: BS017.006	
Test Name: Desktop Notification Of Operator Distribution Request Cancellation Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation.	Assumption: all Science Data Server processes are active.
2. On the Science Data Server workstation open an xterm and use this xterm to open a User xterm and a Science Data Server xterm.	
3. On the Science Data Server xterm start up the Data Server GUI.	
4. On the Data Server GUI select the **Tracking** function.	
5. On the User xterm login to the workstation that is to simulate the external user.	
6. On the User xterm access the User's ECS Desktop Application.	
7. On the User xterm submit a Distribution Request for CERES L0 data.	
8. On the Data Server GUI select the Request ID of the user's Distribution Request that was submitted in step 7 and then select the Abort button.	
9. Monitor the User's ECS Desktop Application.	Verify that a notification of the cancellation of the user's Distribution Request is displayed. S-DSS-30046
10. Shutdown the User's ECS Desktop Application.	
11. Exit the User xterm.	
12. Shutdown the Data Server GUI.	
13. Exit the Science Data Server xterm.	
14. Logout of the Science Data Server workstation.	

4.13.7.7 Test Case 7: SMC Receipt of Distribution Activity Log Entries Test (BS017.007)

This test verifies that the Distribution Activity Log entries are forwarded to the SMC.

Test Configuration:

Hardware: Science Data Server, SMC Server, Client Host, Working Storage, Archive Storage

Software: SDSRV CI, STGMT CI, DDIST CI, SMC

Data: CERES L0 data

Tools: None

Test Input:

Inputs to this test include a Distribution Request for CERES L0 data.

Test Output:

Outputs to this test include an SMC activity log display.

Success Criteria:

This test is deemed successful if the Distribution Activity Log entries are forwarded to the SMC.

Test Procedures:

Test Case ID: BS017.007	
Test Name: SMC Receipt of Distribution Activity Log Entries Test	
Test Steps:	Comments:
1. Login to a SMC Server workstation.	Assumption: all Science Data Server processes are active.
2. On the SMC Server workstation open an xterm and use this xterm to open a User xterm.	
3. On the User xterm login to the workstation that is to simulate the external user.	
4. On the User xterm submit a Distribution Request for CERES L0 data.	
5. On the SMC Server xterm display the SMC activity log.	Verify that an entry was forwarded from the Distribution Activity Log pertaining to the user's CERES L0 data Distribution Request. S-DSS-30288
6. Exit the User xterm.	
7. Exit the SMC Server xterm.	
8. Logout of the SMC Server workstation.	IMS1646#A

4.13.7.8 Test Case 8: Data Availability Performance Test (BS017.008)

This test demonstrates network data availability performance for the following:

- the SDSRV shall support making archive data associated with a redefined ECS standard format available to the network in that format within an avg. of 2 minutes.
- the SDSRV shall support making archive data associated with a predefined ECS standard format available to the network in a different format within an avg. of 5 minutes.

- the SDSRV shall support making pre-computed Browse Data available to a requester in 58 seconds after accepting and validating the request in the number of seconds specified in Appendix E.
- the DDIST CI makes appropriate use of standards for data structures and data transport as defined for use within the publications of CCSDS and ISO/OSI for distribution of TRMM data to the TSDIS.

Test Configuration:

Hardware: Science Data Server, Science User Host, Working Storage, Archive Storage

Software: SDSRV CI, DDIST CI, STMGT CI

Data: data associated with redefined and predefined ECS standard formats and pre-computed Browse data

Tools: None

Test Input:

Inputs to this test include Pull Data Receipt Requests for data associated with redefined and predefined ECS standard formats, Browse data and inspection of DAAC Facility data structure and interface documents.

Test Output:

Outputs to this test include analysis of data availability performance data and specification data related to the requirement for analysis.

Success Criteria:

This test is deemed successful if data availability meets or exceeds performance requirements and the specification data meets or exceeds requirements.

Test Procedures:

Test Case ID: BS017.008	
Test Name: Data Availability Performance Test	
Test Steps:	Comments:
1. Login to the Science Data Server workstation.	Assumption: all Science Data Server and Distribution processes are active.
2. On the Science Data Server workstation open an xterm and use this xterm to open a Science User xterm and a Science Data Server xterm.	
3. On the Science User xterm login to the host that is to simulate the Science User.	
4. On the Science User xterm send a Pull Data Receipt Request to the DAAC for data associated with a redefined ECS standard format.	

5. On the Science Data Server xterm, approximately 2 minutes after sending the Data Receipt Request, obtain a directory listing of the working storage location in which the requested data has been placed.	Verify that the requested data shows up in the list command. S-DSS-01880
6. On the Science User xterm send a Pull Data Receipt Request to the DAAC for data associated with a predefined ECS standard format.	
7. On the Science Data Server xterm, approximately 5 minutes after sending the Data Receipt Request, obtain a directory listing of the working storage location in which the requested data has been placed.	Verify that the requested data shows up in the list command. S-DSS-01890
8. On the Science User xterm send a Pull Data Receipt Request to the DAAC for pre-computed Browse data.	
9. On the Science Data Server xterm, approximately 58 minutes after sending the Data Receipt Request, obtain a directory listing of the working storage location in which the requested data has been placed.	Verify that the requested data shows up in the list command. S-DSS-01920
10. Exit the Science User xterm.	
11. Exit the Science Data Server xterm.	
12. Logout of the Science Data Server workstation.	
13. Obtain copies of the DAAC Facility data structure and interface documents.	
14. Review the DAAC Facility data structure and interface documents and collect the appropriate standards specification data.	
15. Analyze the collected data.	Verify that the collected data meets or exceeds the requirement. S-DSS-30780
16. Return the copies of the DAAC Facility data structure and interface documents to the DAAC.	DADS3126#A

4.13.7.9 Test Case 9: Data Distribution Rate Test (BS017.009)

This test demonstrates network data distribution performance for the following:

- electronically distributing data to users at a rate equivalent to daily product volume, L1-L4
- distributing product QA data produced at the collocated Data Processing Subsystem within 1 hour from the time it is ready
- Data Server shall be capable of distributing the number of bytes of data per day derived from Appendix E to TSDIS (for the purpose of reprocessing)

This test will be coordinated with and require the support of PDPS I&T personnel.

Test Configuration:

Hardware: Science Data Servers, Planning and Processing Server, User Client, SCF and TSDIS Hosts, Working Storage and Archive Storage

Software: SDSRV CI, STGMT CI, DDIST CI, PRONG

Data: L1-L4 data, Product QA data and data derived from Appendix E of DID 304 for TSDIS reprocessing.

Tools: None

Test Input:

Inputs to this test include Data Insert Requests for Product QA data from the PRONG, Standing Data Receipt Requests for Product QA data from an SCF, Data Receipt Requests for L1-L4 from a User and Data Receipt Requests from TSDIS.

Test Output:

Outputs to this test include collection of distribution rate performance data for analysis.

Success Criteria:

This test is deemed successful if the data distribution performance meets or exceeds performance requirements.

Test Procedures:

Test Case ID: BS017.009	
Test Name: Data Distribution Rate Test	
Test Steps:	Comments:
1. Login to the Science Data Server workstation.	Assumption: all necessary PDPS and SDSRV processes for the request and distribution of data are active.
2. Open an xterm and use this xterm to start a User xterm, an SCF xterm, a TSDIS xterm and a Data Processing xterm.	
3. On the User xterm login to the simulated User Client Host.	
4. On the User xterm send multiple Push Data Receipt Requests for L1-L4 at a rate equivalent to the daily product volume for L1-L4 data to the ECS DAAC.	
5. On the User xterm obtain a listing of the directory into which the data has been transferred from the ECS DAAC.	Verify that all requested data has been received. S-DSS-30870
6. Exit the User xterm.	
7. On the SCF xterm login go the simulated SCF Client Host.	
8. On the SCF xterm send a Standing Push Data Receipt Request for a specific Products QA data to the ECS DAAC..	
9. On the Data Processing xterm login to the Data Processing workstation.	
10. On the Data Processing xterm send a Data Insert Request for the Product QA data.	
11. On the SCF xterm, approximately 1 hour after completion of step 10 obtain a directory listing of the SCF data receipt directory.	Verify that the Product QA data that was inserted into the Science Data Server in step 10 shows up in the directory listing. S-DSS-01870
12. Exit the SCF xterm.	

13. On the TSDIS xterm login to the simulated TSDIS Client Host.	
14. On the TSIDS xterm send multiple Data Receipt Requests for data identified in Appendix E of DID 304 for reprocessing purposes to the ECS DAAC.	
15. On the TSDIS xterm, after all Data Receipts Requests have been completed, obtain a directory listing of the TSDIS data receipt directory.	Verify that all requested data shows up in the directory listing. S-DSS-30890
16. Exit the TSDIS xterm.	
17. Logout of the Science Data Server workstation.	DADS3100#A, DADS3110#A

4.13.7.10 Test Case 10: Data Distribution Rate Growth Test (BS017.010)

This test demonstrates the ability to support the following growth performance requirements:

- SDSRV 200 percent growth in the number of Data Requests accepted and validated without architectural or design change
- DDIST CI shall be capable of providing 200 percent expansion in capacity without architecture or design change

Test Configuration:

Hardware: Science Data Server, User Host, Working Storage, Archive Storage

Software: SDSRV CI, STMGT CI, DDIST CI

Data: Multiple data types

Tools: LoadRunner

Test Input:

Inputs to this test include many Data Receipt Requests from Users using the LoadRunner Test Tool.

Test Output:

Outputs to this test include collection of performance data for analysis.

Success Criteria:

This test is deemed successful if the Data Request Rate performance data meets or exceeds requirements.

Test Procedures:

Test Case ID: BS017.010	
Test Name: Data Distribution Rate Test	
Test Steps:	Comments:
1. Login to the Science Data Server workstation.	Assumption: all necessary SDSRV processes for the request and distribution of data are active.

2. Open an xterm and use this xterm to start a User xterm and a Science Data Server xterm.	
3. On the Science Data Server xterm start up the Data Server GUI.	
4. On the Data Server GUI select the **Tracking** function.	
5. On the User xterm login to the simulated User Client Host.	
6. On the User xterm start up the LoadRunner Test Tool.	
7. Using the LoadRunner Test Tool start the script that will generate 200 percent of the nominal Data Receipt Requests.	
8. Use the Data Server GUI to monitor all Data Distribution Requests.	Verify that the Data Server accepted and successfully completed all Data Distribution Requests. S-DSS-01850, S-DSS-30875
9. Shutdown the LoadRunner Test Tool.	
10. Exit the User xterm.	
11. Exit the Data Server GUI.	
12. Exit the Science Data Server xterm.	
13. Logout of the Science Data Server workstation.	DADS0680#A, DADS1472#A, DADS1640#A, DADS1700#A, DADS2910#A, DADS3090#A

4.13.7.11 Test Case 11: Data Request Rate per Hour Performance Test (BS017.011)

This test demonstrates the ability to perform the following functions at a per hour rate :

- the SDSRV CI shall be capable of receiving a combined maximum number of Data Requests per hour (across ECS) from the Data Management Subsystem and/or the client Subsystem as derived from Appendix E.
- the SDSRV CI shall be capable of receiving a combined maximum number of Browse Requests per hour (across ECS) from the Data Management Subsystem and/or the Client Subsystem as derived from Appendix E.
- the STMGT CI shall be capable of processing a combined maximum number of Data Requests per hour (across ECS) from the Data Management Subsystem and/or the Client Subsystem as derived from Appendix E.

Test Configuration:

Hardware: Science Data Server, User Host, Working Storage, Archive Storage

Software: SDSRV CI, STGMT CI, DDIST CI

Data: L1 - L4 data and Browse data

Tools: LoadRunner

Test Input:

Inputs to this test include the maximum number of Data Receipt Requests per hour as derived from Appendix E of DID 304 from Users using the LoadRunner Test Tool.

Test Output:

Outputs to this test include collection of performance data for analysis.

Success Criteria:

This test is deemed successful if the Data Request Rate performance data meets or exceeds requirements.

Test Procedures:

Test Case ID: BS017.011	
Test Name: Data Request Rate per Hour Performance Test	
Test Steps:	Comments:
1. Login to the Science Data Server workstation.	Assumption: all necessary SDSRV processes for the request and distribution of data are active.
2. Open an xterm and use this xterm to start a User xterm and a Science Data Server xterm.	
3. On the Science Data Server xterm start up the Data Server GUI.	
4. On the Data Server GUI select the **Tracking** function.	
5. On the User xterm login to the simulated User Client Host.	
6. On the User xterm start up the LoadRunner Test Tool.	
7. Using the LoadRunner Test Tool start the script that will generate the maximum number of Data Receipt Requests per hour as derived from Appendix E of DID 304.	
8. Use the Data Server GUI to monitor all Data Distribution Requests.	Verify that the Data Server accepted and successfully completed all Data Distribution Requests. S-DSS-01900, S-DSS-21520
9. Using the LoadRunner Test Tool start the script that will generate the maximum number of Browse Requests per hour as derived from Appendix E of DID 304.	Verify that all Browse Requests were completed successfully. S-DSS-01910
10. Shutdown the LoadRunner Test Tool.	
11. Exit the User xterm.	
12. Exit the Data Server GUI.	
13. Exit the Science Data Server xterm.	
14. Logout of the Science Data Server workstation.	DADS1340#A, DADS1472#A, DADS1620#A, DADS2778#A, DADS3135#A

4.13.7.12 Test Case 12: Data Server and Processing Interface Performance Test (BS017.012)

This test demonstrates data storing interface performance capabilities between Data Server and PRONG for the following:

- accepting and storing Data Products derived from Appendix E from the PRONG CI while supporting standard product retrieval and browse data access load
- ingesting product data at a maximum rate (three times the nominal rate derived from Section E.1 of Appendix E bytes per day from the PRONG CI until the backlog is processed while standard product retrieval and browse data access loads are supported
- distributing the number of bytes of data per day derived from Appendix E to the PRONG CI (in support of production) by accepting and validating the number requests per day from the PRONG CI specified in Appendix E
- distributing the bytes of data per day derived from Appendix E to the PRONG CI (in support of production) by retrieving and staging the number of bytes per day for the PRONG derived from Appendix E

This test will be coordinated with and require the support of PDPS I&T personnel.

Test Configuration:

Hardware: Science Data Server, Planning and Processing Server, Working Storage, Archive Storage

Software: PRONG CI, SDSRV CI, STGMT CI, DDIST CI

Data: All data in Tables E-1 and E-3 of DID 304

Tools: None

Test Input:

Inputs to this test include Data Receipt Requests and Data Insert Requests from the PRONG.

Test Output:

Outputs to this test include performance data for analysis.

Success Criteria:

This test is deemed successful if all data is distributed or archived successfully and the data rates meet or exceed performance requirements.

Test Procedures:

Test Case ID: BS017.012	
Test Name: Data Server and Processing Interface Performance Test	
Test Steps:	Comments:
1. Login to the Science Data Server workstation.	This test will be executed while other loads are on the Science Data Server Subsystem.
2. Open an xterm and use this xterm to start a Data Processing xterm and a Science Data Server xterm.	
3. On the Data Processing xterm login to the Data Processing workstation.	
4. On the Data Processing xterm send a "Push" Data Receipt Request for data identified in Tables E-1 and of DID 304.	
5. On the Data Processing xterm obtain a directory listing of the Data Processing data input directory.	Verify that all requested data shows up in the list command. S-DSS-01950, S-DSS-01960
6. Repeat steps 3 through 6 until the amount of data specified in Tables E-1 and E-3 of DID 304 has been reached.	
7. On the Data Processing xterm send an Data Insert Request for data identified in Table E-1 of DID 304.	
8. On the Science Data Server xterm obtain a directory listing of the archive.	Verify that all inserted shows up in the list command. S-DSS-01930, S-DSS-01940
9. Repeat steps 7 and 8 until three times the amount of data specified in Table E-3 of DID 304 is reached.	
10. Exit the Data Processing xterm.	
11. Exit the Science Data Server xterm.	
12. Logout of the Science Data Server workstation.	DADS1340#A, DADS1472#A, DADS1620#A, DADS2778#A

4.13.7.13 Test Case 13: Media Data Product Availability Test (BS017.013)

This test demonstrates the following media distribution performance capabilities:

- the ability to make stored Data Products available on physical media within 24 hours of receipt of a Media Distribution Request.
- utilize media with a rated shelf life of at least 10 years as determined by National Archives and Record Administration (NARA), National Institute for Standards and Technology (NIST), NASA or an industry
- utilize archive media with a manufactured shelf life of at least 10 years when stored in a controlled environment
- the DDIST CI within the Data Server shall be capable of distributing Data via physical media generated at a rate equivalent to the daily rate data are ingested at that site

Test Configuration:

Hardware: Science Data Server, User Host, Working Storage, Archive Storage, 8mm tape drive

Software: SDSRV CI, STGMT CI, DDIST CI

Data: L0 - L4 data

Tools: LoadRunner

Test Input:

Inputs to this test include Data Receipt Requests for data on physical media and inspection of DAAC Facility Media Storage documentation.

Test Output:

Outputs to this test include performance data for analysis.

Success Criteria:

This test is deemed successful if all performance data collected meets or exceeds performance requirements.

Test Procedures:

Test Case ID: BS017.013	
Test Name: Media Data Product Availability Test	
Test Steps:	Comments:
1. Login to the Science Data Server workstation.	Assumption: all necessary SDSRV processes for the request and distribution of data are active.
2. Open an xterm and use this xterm to start a User xterm.	
3. On the User xterm login to the simulated User Client Host.	
4. On the User xterm send a Media Data Receipt Request to the ECS DAAC.	Verify that the ECS DAAC makes available the requested data on physical media within 24 hours of receiving the request. S-DSS-01860
5. On the User xterm start up the LoadRunner Test Tool.	
6. Using the LoadRunner Test Tool start the script that will generate Media Data Receipt Requests at a rate equivalent to the daily data ingest rate as derived from Appendix E of DID 304.	Verify that all Media requests are successfully completed. S-DSS-30810
7. Shutdown the LoadRunner Test Tool.	
8. Exit the User xterm.	
9. Logout of the Science Data Server workstation.	
10. Obtain copies of the DAAC Facility Media Storage documents.	
11. Review the DAAC Facility Media Storage documents and collect the necessary specification data.	

12. Analyze the collected data.	Verify that the collected data meets or exceeds the requirements. S-DSS-21655, S-DSS-21760
13. Return the copies of the DAAC Facility Media Storage documents to the DAAC.	DADS1340#A, DADS1472#A, DADS1620#A, DADS2778#A, DADS3010#A

4.13.7.14 Test Case 14: Archive Capacity Performance Test (BS017.014)

This test demonstrates archive capacity performance for the following:

- the STMGT CI within the Data Server has the capacity to archive the total bytes of data derived from Appendix E
- the GSFC DAAC STMGT CI within the Data Server archives original TSDIS standard products (Level 1B-3) after reprocessing for a minimum of 6 months
- the STMGT CI provides archival storage which is field-expandable. Field-expandable is defined as increasing the capacity or size of archive storage without removing archive storage device from site

Test Configuration:

N/A

Test Input:

Inputs to this test include inspection of the DAAC Facility Hardware and Policy documents.

Test Output:

Outputs to this test include specification data related to the requirements for analysis.

Success Criteria:

This test is deemed successful if the specifications meet or exceed the requirements.

Test Procedures:

Test Case ID: BS017.014	
Test Name: Archive Capacity Performance Test	
Test Steps:	Comments:
1. Obtain copies of the DAAC Facility Hardware and Policy documents.	
2. Review the DAAC Facility Hardware documents and collect the necessary archive hardware capacity and growth specification data.	
3. Review the DAAC Facility Policy documents and collect the necessary TSDIS standard product storage specification data.	

4. Analyze the collected data.	Verify that the collected data meets or exceeds the requirements. S-DSS-20590, S-DSS-21570, S-DSS-21630
5. Return the copies of the DAAC Facility Hardware documents to the DAAC.	DADS1340#A, DADS1472#A, DADS1620#A, DADS2778#A, DADS2900#A

4.13.7.15 Test Case 15: Data Server Hardware Availability Performance Test (BS017.015)

This test demonstrates hardware (DIPHW, ACMHW, WKSHW, DRPHW) availability performance for the following:

- the DIPHW CI is configured to support the SDPS function of Archiving and Distributing data Availability requirement of .98000 and a Mean Down Time requirement of <2 hrs.
- the ACMHW CI shall be configured to support the SDPS function of data order submission across DAACs Availability requirement of .96000 and Mean Down Time (MDT) requirement of < 4 hrs.
- the ACMHW CI shall be configured to support the SDPS function of local Data Request Submission's Availability requirement of .96000 and Mean Down Time (MDT) requirement of <4 hrs.
- the DRPHW CI shall be configured to provide .98000/ and a Mean Down Time (MDT) of <2hrs. availability for archiving data
- the DRPHW CI shall be configured to provide .96000 and a Mean Down Time (MDT) of <4 hrs. availability for accepting and updating metadata
- the DRPHW CI shall be configured to provide .993 and a Mean Down Time (MDT) of <2 hrs. availability for information searches on the ECS directory
- the DRPHW CI shall be configured to provide .96 and a Mean Down Time (MDT) of <4 hrs. availability for searches on local holdings.
- the DRPHW CI shall be configured to provide .96 and a Mean Down Time (MDT) of <4hrs. availability for database management and maintenance interface functions
- supports the RMA Requirements specified for the ECS Program.

Test Configuration:

N/A

Test Input:

Inputs to this test include entries in a Daily Operations/Maintenance Log for tracking DIPHW, ACMHW, WKSHW and DRPHW performance statistics.

Test Output:

Outputs to this test include analyzing the performance statistics in the Daily Operations/Maintenance Log.

Success Criteria:

This test is deemed successful if the availability of the DIPHW, ACMHW, WKSHW and DRPHW meets or exceeds performance requirements.

Test Procedures:

Test Case ID: BS017.015	
Test Name: Data Server Hardware Availability Performance Test	
Test Steps:	Comments:
1. Create a Daily Operations/Maintenance Log.	
2. Make an entry each day throughout the testing period reflecting ACMHW, WKSHW, DRPHW and DIPHW availability performance.	
3. At the end of the testing period analyze the ACMHW, WKSHW, DRPHW and DIPHW availability performance statistics.	Verify that the performance statistics meet or exceed performance requirements. S-DSS-02020, S-DSS-02030, S-DSS-02032, S-DSS-21800, S-DSS-21810, S-DSS-21811, S-DSS-21813, S-DSS-21814, S-DSS-21815, S-DSS-31000, S-DSS-31005, S-DSS-70075

4.13.7.16 Test Case 16: Bit Error Rate Performance Test (BS017.016)

This test demonstrates that DRPHW is capable of providing a bit error rate after correction less than 1 in 1 X 10**12. (This requirement may be fulfilled with a combination of hardware and software components.)

Test Configuration:

N/A

Test Input:

Inputs to this test include inspection of the DAAC Facility Hardware documents.

Test Output:

Outputs to this test include specification data related to the requirement for analysis.

Success Criteria:

This test is deemed successful if the specification meets or exceeds the requirement.

Test Procedures:

Test Case ID: BS017.016	
Test Name: Bit Error Rate Performance Test	
Test Steps:	Comments:
1. Obtain copies of the DAAC Facility Hardware documents.	
2. Review the DAAC Facility Hardware documents and collect the necessary archive hardware bit error rate specification data.	
3. Analyze the collected data.	Verify that the collected data meets or exceeds the requirement. S-DSS-21750
4. Return the copies of the DAAC Facility Hardware documents to the DAAC.	DADS3000#A

4.13.7.17 Test Case 17: Data Ingest to STMGT Test (BS017.017)

This test demonstrates the ability to allocate space in working storage and the archive while ingesting data. Requests are made to ingest and archive various types of data. During the ingest process, the data is copied to working storage and preprocessed before it is passed to the Data Server for insertion into the archive. The data will be examined on working storage and in the archive, to verify various storage management capabilities, such as opening/closing files, and writing/reading files in working storage, and to verify the data was copied correctly.

Test Configuration:

Hardware: SGI Workstation, Working Storage, Data Repository, Permanent Archive.

Software: SDSRV CI, STMGT CI.

Data: CER00, LIS00, NESDIS, LIS15 datasets.

Tools: Client driver.

Test Input:

Inputs to this test include requests to ingest and archive data.

Test Output:

Outputs to this test include messages stating successful insertion of the requested data into the archive.

Success Criteria:

This test is deemed successful if files on working storage and in the archive are successfully opened, closed, read, written to, and the data that resides in working storage and the archive compare favorable with that of the initial ingest request.

Test Procedures:

Test Case ID: BS017.017	
Test Name: Data Ingest to STMGT Test	
Test Steps:	Comments:
1. Start Ingest, DSS, client driver on separate xterms.	Software is started.
2. At Ingest, request to ingest/archive CER00 data.	Data is successfully archived. S-DSS-20985, S-DSS-20995, S-DSS-21005, S-DSS-21015, S-DSS-21025, S-DSS-21035, S-DSS-21040, S-DSS-21050, S-DSS-21070
3. On the ingest xterm, examine the CER00 data as it resides in working storage. Compare it with the data that was initially ingested.	The data in working storage compares favorably with the data originally ingested.
4. On the ingest xterm, examine the CER00 data as it resides in the archive. Compare it with the data that was initially ingested.	The data in the archive compares favorably with the data originally ingested.
5. At Ingest, request to ingest/archive LIS00 data via 8mm tape.	Data is successfully archived. S-DSS-20985, S-DSS-20995, S-DSS-21005, S-DSS-21015, S-DSS-21025, S-DSS-21035, S-DSS-21040, S-DSS-21050, S-DSS-21070
6. On the ingest xterm, examine the LIS00 data as it resides in working storage. Compare it with the data that was initially ingested.	The data in working storage compares favorably with the data originally ingested.
7. On the ingest xterm, examine the LIS00 data as it resides in the archive. Compare it with the data that was initially ingested.	The data in the archive compares favorably with the data originally ingested.
8. At Ingest, request to ingest/archive NESDIS data.	Data is successfully archived. S-DSS-20985, S-DSS-20995, S-DSS-21005, S-DSS-21015, S-DSS-21025, S-DSS-21035, S-DSS-21040, S-DSS-21050, S-DSS-21070
9. On the ingest xterm, examine the NESDIS data as it resides in working storage. Compare it with the data that was initially ingested.	The data in working storage compares favorably with the data originally ingested.
10. On the ingest xterm, examine the NESDIS data as it resides in the archive. Compare it with the data that was initially ingested.	The data in the archive compares favorably with the data originally ingested.
11. At the client driver, request to archive LIS15 data.	Data is successfully archived. S-DSS-20985, S-DSS-20995, S-DSS-21005, S-DSS-21015, S-DSS-21025, S-DSS-21035, S-DSS-21040, S-DSS-21050, S-DSS-21070
12. On the ingest xterm, examine the LIS15 data as it resides in working storage. Compare it with the data that was initially archived.	The data in working storage compares favorably with the data originally ingested.
13. On the ingest xterm, examine the LIS15 data as it resides in the archive. Compare it with the data that was initially archived.	The data in the archive compares favorably with the data originally ingested.

14. Terminate all software.	Software is terminated.
15. Exit the system.	DADS0100#A, DADS0180#A, DADS0190#A, DADS0425#A, DADS0460#A, DADS1730#A

4.13.7.18 Test Case 18: Data Distribution to STMGT Test (BS017.018)

This test demonstrates the ability to allocate space in working storage and the final destination, during distribution of data. Requests are made to distribute various types of data. During the distribution process, the data is copied to working storage before it is copied to its final distribution destination. The data will be examined on working storage and at its final destination, to verify various storage management capabilities, such as opening/closing files, and writing/reading files in working storage, and to verify the data was copied correctly. Test case BS007.001 - Data Ingest to STMGT Test must be run before this test, so the data will already reside in the archive, and it has already been analyzed for correctness.

Test Configuration:

Hardware: SGI Workstation, Working Storage, Data Repository, Permanent Archive.

Software: SDSRV CI, STMGT CI.

Data: CER00, LIS00, NESDIS, LIS15 datasets.

Tools: Client driver.

Test Input:

Inputs to this test include requests to ingest and archive data.

Test Output:

Outputs to this test include messages stating successful insertion of the requested data into the archive.

Success Criteria:

This test is deemed successful if files on working storage and in the archive are successfully opened, closed, read, written to, and the data that resides in working storage and the archive compare favorable with that of the initial ingest request.

Test Procedures:

Test Case ID: BS017.018	
Test Name: Data Distribution to STMGT Test	
Test Steps:	Comments:
1. Start DSS and the client driver on separate xterms.	Software is started.

2. At the client driver, request to distribute CER00 data via an FtpPush.	Data is successfully distributed. S-DSS-20985, S-DSS-20995, S-DSS-21005,S-DSS-21025, S-DSS-21035,S-DSS-21040, S-DSS-21050,S-DSS-21070, S-DSS-21080
3. Examine the CER00 data as it resides in working storage. Compare it with the data that was extracted from the archive.	The data in working storage compares favorably with the data originally archived.
4. Examine the CER00 data as it resides in the Push area. Compare it with the data that was extracted from the archive.	The data in the Push area compares favorably with the data originally archived.
5. At the client driver, request to distribute LIS00 data via an FtpPull.	Data is successfully distributed. S-DSS-20985, S-DSS-20995, S-DSS-21005,S-DSS-21025, S-DSS-21035,S-DSS-21040, S-DSS-21050,S-DSS-21070, S-DSS-21080
6. Examine the LIS00 data as it resides in working storage. Compare it with the data that was initially ingested.	The data in working storage compares favorably with the data originally archived.
7. Examine the LIS00 data as it resides in the Pull area. Compare it with the data that was initially ingested.	The data in the Pull area compares favorably with the data originally archived.
8. At the client driver, request to distribute LIS15 data via 8mm tape.	Data is successfully distributed. S-DSS-20985, S-DSS-20995, S-DSS-21005,S-DSS-21025, S-DSS-21035,S-DSS-21040, S-DSS-21050,S-DSS-21070, S-DSS-21080
9. Examine the NESDIS data as it resides in working storage. Compare it with the data that was initially archived.	The data in working storage compares favorably with the data originally archived.
10. On the ingest xterm, examine the NESDIS data as it resides in the archive. Compare it with the data that was initially archived.	The data on the tape compares favorably with the data originally archived.
11. Terminate all software.	Software is terminated.
12. Exit the system.	DADS0100#A, DADS0180#A, DADS0190#A, DADS0425#A, DADS0460#A, DADS1730#A

4.13.7.19 Test Case 19: Read ESDT Schema Test (BS017.019)

This test demonstrates the capability to access the ESDT schema to perform administration and maintenance activities. Accounts are established, allowing access to manipulate the schema. ESDT administration activities include the ability to create, update information within and delete an existing ESDT. This test deals only with viewing the current schema. Schema information includes: data type structure, data type service, and data type attribute data values.

Test Configuration:

Hardware: Workstation, file servers, DBMS based repository

Software: Schema Generation.

Data: None

Tools: None

Test Input:

Requests to view the ESDTs, and printouts of the current schema for several data types.

Test Output:

A schema representation for data server objects is displayed.

Success Criteria:

Access is allowed for viewing ESDT information.

Test Procedure:

Test Case ID: BS017.019	
Test Name: Read ESDT Schema Test	
Test Steps:	Comments:
1. Log on to GSFC DAAC Workstation.	Insure that workstation has access to database.
2. Bring up the Data Server GUI application.	The **"Data Server"** main screen is displayed.
3. Select the **"Data Types"** pull down Index button.	The **"Science Data Server - Data Types"** screen is displayed.
4. Verify that the list contains all of the stored data types.	
5. Further view the schema of several ESDTs.	
6. Verify information includes data type structure, data type attribute values.	S-DSS-03750,S-DSS-03760, S-DSS-03770,S-DSS-03780
7. The online schema information compares favorably with the previously printed information.	Compare with previously printed reports of the schema.
8. Select the "CLOSE" push button.	The Data Server main screen is displayed.
9. Exit the Data Server GUI.	
10. Log off of the Workstation.	DADS0370#A, IMS0240#A, IMS 0260#A, IMS 0350#A, IMS 0355#A, IMS 0450#A

4.13.7.20 Test Case 20: Add New ESDT and Insert Data Test (BS017.020)

This test demonstrates the ability of the data server to provide new ESDT information to the data management subsystem when a new ESDT is added. Data server schema information is modified by adding a new ESDT type. This information is provided to the data management subsystem. Advertisements are created to identify new schema information including identification of the new data type, it's attributes and valid values, service descriptions and service interfaces. Release B data types, and randomly-named data types will be added.

Test Configuration

Hardware: Workstation, Advertising DBMS Server,

Software: ADSRV, SDSRV, STMGT, DDIST, DSS GUI, Ingest, Ingest GUI

Data: Lsat-7 data

Tools: DSS Request Driver

Test Input:

Schema information, including a descriptor file and a DLL, is entered to create a new data type.

Test Output:

The schema is updated to include the new data type. The schema information is provided to the data management subsystem.

Success Criteria:

This test is considered successful if a new data type information is successfully entered into the schema. Schema information is successfully provided to the data management subsystem. Correct and appropriate advertisements are created to reflect he new data type including attributes and valid values, services and service interface.

Test Procedure:

Test Case ID: BS017.020	
Test Name: Add New ESDT Schema Data Type Information Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active;
2. On the first xterm login to the Ingest GUI.	
3. On the second xterm login to MSS to view the appropriate log files.	
4. On the third xterm, log into the Client.	
5. On the DSS GUI select the **"Data Types"** pull down Index button.	The **"Science Data Server - Data Types"** screen is displayed.
6. Select the **"Add"** push button.	This option allows user to add a new ESDT to the Data Types Table. The **"Add Data Type"** pop up dialog screen appears.
7. Enter the appropriate data information in the display boxes. Make the New Data Type **"ABCXYZ".**	The new ESDT is added to the Data Base.
8. View the DSS GUI data types screen and verify that the New Data Type **"ABCXYZ"** now appears.	
9. Verify information for the new ESDT includes data type structure, data type attribute values.	S-DSS-03750,S-DSS-03760, S-DSS-03770,S-DSS-03780
10. On the Advertising xterm, verify an advertisement was received stating the new data type, and its available services.	
11. On the Data Server GUI, return to the Data Types screen, and enter a new ESDT. Make the new Data Type **Lsat-7**	The new ESDT is added to the Data Base.
12. View the DSS GUI data types screen and verify that the New Data Type **Lsat-7** now appears.	An advertisement is sent stating the new ESDT and its available services.

13. At the Client, register and submit a subscription to be notified of Lsat-7 data receipt.	The subscription is accepted and processed, as seen on the appropriate DSS GUI screen.
14. At the DSS request driver, request to insert Lsat-7 data.	
15. The Lsat-7 data is inserted into the archive, as seen on the appropriate DSS GUI screens	Subscription notification is received.
16. At the Client, perform a search that will result in the Lsat-7 data just inserted.	The Lsat-7 data is displayed as a result of the search.
17. Request to distribute the Lsat-7 data via 4mm tape.	The distribution request is processed as expected.
18. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, and others.	All expected messages are logged and contain correct, concise information.
19. Log off of the Workstation	DADS0370#A, IMS0240#A, IMS 0260#A, IMS 0350#A, IMS 0355#A, IMS 0450#A

4.13.7.21 Test Case 21: Update ESDT Information Test (BS017.021)

This test demonstrates the ability of the data server to provide updated ESDT information to the data management subsystem. The tester modifies data server schema information for an existing ESDT. Update information is provided to the data management subsystem. Advertisements are created to identify updated schema information including updated service descriptions and service interfaces.

Test Configuration

Hardware: Workstation, Advertising DBMS Server,

Software: ADSRV, SDSRV, STMGT, DDIST, DSS GUI, Ingest, Ingest GUI

Data: LIS4l data

Tools: DSS Request Driver, Client

Test Input:

Schema information is entered to update an existing ESDT type. Schema information includes updating data type attributes and valid values, services and service interfaces. Files are generated which contain inputs for updating the ESDT information. Insert, subscription and distribution requests are also entered.

Test Output:

The schema is updated to include the new data type information. The schema information is provided to the data management subsystem. Data is inserted, subscription notification is received, and data is distributed as expected.

Success Criteria:

This test is considered successful if the tester is able to successfully enter new data type information into the schema. Schema information is successfully provided to the data management subsystem. Correct and appropriate advertisements are created to reflect the new data type, it's services and service interface. DSS capabilities are successfully performed.

Test Procedure:

Test Case ID: BS017.021	
Test Name: Update ESDT Information Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active;
2. On the first xterm login to the Ingest GUI.	
3. On the second xterm login to MSS to view the appropriate log files.	
4. On the third xterm, log into the Client.	
5. On the DSS GUI select the **"Data Types"** pull down Index button.	The **"Science Data Server - Data Types"** screen is displayed.
6. Select the **"Update"** push button.	This option allows user to update an existing ESDT in the Data Types Table.
7. Select **LIS4l** data, and enter the updated data information in the display boxes, including new services available for LIS4l data. .	The updated ESDT schema information is added to the Data Base.
8. View the DSS GUI data types screen and verify that the **"LIS4l"** data type is still listed.	
9. Verify schema information for the ESDT includes data type structure, data type attribute values, and the appropriate updates.	S-DSS-03750,S-DSS-03760, S-DSS-03770,S-DSS-03780
10. On the Advertising xterm, verify an advertisement was received stating the new services and other schema information associated with the LIS4l data.	
11. At the Client, register and submit a subscription to be notified of LIS4l data receipt.	The subscription is accepted and processed, as seen on the appropriate DSS GUI screen.
12. At the DSS request driver, request to insert LIS4l data.	
13. The LIS4l data is inserted into the archive, as seen on the appropriate DSS GUI screens	Subscription notification is received.
14. At the Client, perform a search that will result in the LIS4l data just inserted.	The LIS4l data is displayed as a result of the search.
15. Request to distribute the LIS4l data via FtpPush, specifying a local pathname.	The distribution request is processed as expected.
16. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, and others.	All expected messages are logged and contain correct, concise information.
17. Log off of the Workstation	DADS0370#A, IMS0240#A, IMS 0260#A, IMS 0350#A, IMS 0355#A, IMS 0450#A

4.13.7.22 Test Case22: Delete an ESDT and Read Data Test (BS017.022)

This test demonstrates the ability of the data server to provide schema deletion information to the data management subsystem. The data server schema information is modified by deleting schema information of an existing data type. Deletion information is provided to the data management subsystem. Advertisements are created to identify deleted schema information.

Test Configuration

Hardware: Workstation, Advertising DBMS Server

Software: ADSRV, SDSRV, STMGT, DDIST, Ingest, DSS GUI, Ingest GUI

Data: LIS00 data

Tools: DSS Request Driver, Client

Test Input:

Existing ESDT information is deleted. Schema information includes data type attributes and valid values, services and service interfaces. Requests to insert and distribute the deleted data type are also input.

Test Output:

The schema is updated to reflect the deletion of schema information. The data server successfully sends deletion information to the data management subsystem and the data management subsystem successfully receives the information. Advertisements are updated to reflect the change in the schema.

Success Criteria:

This test is considered successful if the tester is able to successfully delete data type schema information. Deletion of schema information is successfully provided to the data management subsystem. Correct and appropriate advertisements are created to reflect he new data type, it's services and service interface. Subsequent requests to insert and distribute the deleted data type result in clear and concise errors.

Test Procedure:

Test Case ID: BS017.022	
Test Name: Delete ESDT Schema Information Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active;
2. On the first xterm login to the Ingest GUI.	
3. On the second xterm login to MSS to view the appropriate log files.	
4. On the third xterm, log into the Client.	

5. At Ingest, request to ingest LIS00 data.	LIS00 data is ingested and inserted in the archive, as seen on the Ingest and DSS GUI screens.
6. On the DSS GUI select the **"Data Types"** pull down Index button.	The **"Science Data Server - Data Types"** screen is displayed.
7. Highlight **LIS00** data, and select the **"Delete"** push button.	This option allows user to delete an existing ESDT in the Data Types Table.
8. The **LIS00** data is deleted from the Data Types Table, and does not appear on the list of available data types.	
9. On the Advertising xterm, verify an advertisement was received stating the services and other schema information associated with the LIS00 data, are no longer available.	
10. At the Client, register and submit a subscription to be notified of LIS00 data receipt.	The subscription is rejected since LIS00 data is no longer valid.
11. At Ingest, request to insert LIS00 data.	Preprocessing and insertion fail, since LIS00 data is no longer valid.
12. At the Client, perform a search that will result in the LIS00 data inserted earlier.	The LIS00 data is displayed as a result of the search.
13. Request to distribute the LIS00 data via FtpPull.	The distribution request is rejected, since LIS00 data is no longer valid.
14. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, and others.	All expected messages are logged and contain correct, concise information.
15. Log off of the Workstation	DADS0370#A, IMS0240#A, IMS 0260#A, IMS 0350#A, IMS 0355#A, IMS 0450#A

4.13.7.23 Test Case 23: Electronic Distribution Test (BS017.023)

This test demonstrates the ability for the Client to perform electronic distribution requests. Electronic distribution includes requesting to distribute data from the archive via FtpPush (where the data is 'pushed' to a user specified destination), or FtpPull (where the data is placed in a previously allocated pull area, and the user must pull the data to his own environment). Several subscriptions will be submitted to demonstrate how subscriptions will first be fired to alert the user that data of a given type is available, and he can then request to distribute the data. The data will be viewed after retrieval to verify it can be accessed. Utilization of the pull area will be monitored. Several product order cancellation requests will also be performed. Logs will be viewed to verify they were updated accordingly. Several Release A data types, including TSDIS, NESDIS, V0, SDPF and Document, will be used for this test.

Test Configuration:

Hardware: Science Data Server, Working Storage, Archive Storage, Client H/W

Software: SDSRV, STGMT, DDIST, ADSRV, V0 Gateway, Ingest, DSS GUI, Ingest GUI, SbServer, Client

Data: TSDIS, NESDIS, V0, SDPF and Document Data

Tools: Client

Test Input:

Inputs to this test include submission of several subscriptions, data ingests, and data retrieval requests to the Science Data Server, some requesting FtpPush and some requesting FtpPull of data from the archive. It is also assumed that some data already resides in the archive for subsequent retrieval.

Test Output:

Outputs to this test include notification to the user of data availability, data stored in the archive, and the data distributed as requested.

Success Criteria:

This test is deemed successful if the data is correctly placed in the requested area and can be successfully accessed, the requester is notified of the data availability, and the appropriate logs are updated.

Test Procedures:

Test Case ID: BS017.023	
Test Name: Electronic Distribution Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active; Various data, representing many Release A data types, resides in the archive.
2. On the first xterm login to the Ingest GUI.	
3. On the second xterm login to MSS to view the appropriate log files.	
4. On the third xterm, log into the Client.	
5. On the Client, submit a subscription to be notified when NESDIS ETA and TOMS Nimbus Daily Ozone data is received.	Subscriptions are accepted and stored in the system, as seen on the appropriate DSS GUI screen.
6. Request to Ingest NESDIS ETA data via Ingest and a polling protocol.	The Ingest request is in progress, as seen on the appropriate Ingest GUI screen.
7. When the ingest request is in the insertion phase, view the appropriate DSS GUI screen.	The insertion request is in progress.
8. Subscription notification is received when the data is inserted in the archive.	
9. At the Client, perform a search that will result in the data just archived.	The search request is in progress, as seen on the appropriate DSS GUI screen.
10. At the Client, request to distribute the NESDIS data just archived via FtpPull.	The retrieval request is in progress, as seen on the appropriate DSS GUI screen.
11. When the retrieval request is complete, the data is placed in the pull area.	
12. Using the appropriate DSS GUI screens, monitor the pull area.	Utilization of the pull area is low.
13. Use FTP services to copy the data from the pull area to own workspace.	The data is successfully transferred.
14. View the data in own workspace.	The data looks as expected.
15. Request to Ingest TOMS Nimbus Daily Ozone data via Ingest and a polling protocol.	The Ingest request is in progress, as seen on the appropriate Ingest GUI screen.

16. When the ingest request is in the insertion phase, view the appropriate DSS GUI screen.	The insertion request is in progress.
17. Subscription notification is received when the data is inserted in the archive.	
18. At the Client, perform a search that will result in the data just archived.	The search request is in progress, as seen on the appropriate DSS GUI screen.
19. At the Client, request to distribute the TOMS data just archived via FtpPush, specifying a local pathname.	The retrieval request is in progress, as seen on the appropriate DSS GUI screen.
20. When the retrieval request is complete, the data is placed in the area requested.	
21. Using the appropriate DSS GUI screens, monitor the pull area.	The data just distributed via FtpPush is not in the pull area. Utilization of the pull area is low.
22. View the data in own workspace.	The data looks as expected.
23. View the appropriate DSS GUI screens to verify the requests have completed.	No insert or retrieval requests are currently in the system.
24. Repeat steps 5 - 23 above several times, ingesting and distributing different data types each time.	The expected results are seen; utilization of the pull area is low.
25. Repeat steps 9 - 14, and 18 - 23 above, using data already residing in the archive for input to the distribution requests.	The expected results are seen; utilization of the pull area is low.
26. At the Client, request an FtpPush and an FtpPull of two data types.	The requests are processed, as seen on the appropriate DSS GUI screen.
27. Before the distribution requests have completed, request to cancel them both.	The distribution requests are canceled, and are no longer in the system.
28. At the Client, request the same FtpPush and FtpPull requested in step 26 above.	The distribution requests are processed and complete successfully.
29. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, and others.	All expected messages are logged and contain correct, concise information.
30. Logout of the Science Data Server workstation.	DADS0100#A, DADS0498#A, DADS0525#A, DADS0570#A, DADS0600#A, DADS0610#A, DADS0660#A, DADS0690#A, DADS0700#A, DADS0760#A, DADS0880#A, DADS0927#A, DADS0940#A, DADS0960#A, DADS1010#A, DADS1020#A, DADS1030#A, DADS1470#A, DADS1610#A, DADS1860#A, DADS2090#A, DADS2580#A, DADS2675#A, DADS3100#A, DADS3125#A, IMS1380#A, DADS1085#A, DADS1110#A, DADS1114#A, DADS1370#A, DADS1806#A, DADS2110#A, DADS2160#A, DADS2170#A, DADS2190#A, DADS2410#A, DADS2430#A, DADS2450#A, DADS2460#A, DADS2480#A, DADS3150#A, IMS0030#A, IMS0890#A, IMS1005#A, IMS1060#A, IMS1280#A, IMS1300#A, IMS1700#A, IMS1720#A

4.13.7.24 Test Case 24: Media Distribution Test (BS017.024)

This test demonstrates the ability for the Client to perform media distribution requests. Media distribution includes requesting to distribute data from the archive on 8mm, 4mm, and 9 track tapes, or CD-ROMs. Several subscriptions will be submitted to demonstrate how subscriptions

will first be fired to alert the user that data of a given type is available, and he can then request to distribute the data. The data will be viewed after retrieval to verify it can be accessed. Logs will be viewed to verify they were updated accordingly. Many Release A data types, including TSDIS, NESDIS, V0, SDPF and Document, will be used during this test.

Test Configuration:

Hardware: Science Data Server, MSS Server, Working Storage, Archive Storage, 8mm, 4mm and 9-track tapes, CD-ROMs

Software: SDSRV, STGMT, DDIST, ADSRV, V0 Gateway, Ingest, DSS GUI, Ingest GUI, SbServer, Client, Interactive Ingest

Data: Various types of TSDIS, NESDIS, V0, SDPF and Document Data

Tools: Client

Test Input:

Inputs to this test include submission of several subscriptions, data ingests, and data retrieval requests to the Science Data, each requesting distribution of data from the archive on the various types of media supported in Release A, including 8mm, 4mm, and 9 track tape, and CD-ROM. It is also assumed that some data already resides in the archive for subsequent retrieval.

Test Output:

Outputs to this test include notification to the user of data availability, data stored in the archive, and the data distributed on the appropriate media, as requested. Output also consists of tape output to verify the data was transferred to tape correctly.

Success Criteria:

This test is deemed successful if the data is correctly placed on the requested media and can be accessed, the requester is notified of the data availability, and the appropriate logs are updated.

Test Procedures:

Test Case ID: BS017.024	
Test Name: Media Distribution Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active; Various data, representing many Release A data types, resides in the archive.
2. On the first xterm login to the Ingest GUI.	
3. On the second xterm login to MSS to view the appropriate log files.	
4. On the third xterm, log into the Client.	
5. On the Client, submit a subscription to be notified when TSDIS PR 2B-31, TSDIS GV 3A-54, SAGE II, and TSDIS TMI 1A-11 data is received.	Subscriptions are accepted and stored in the system, as seen on the appropriate DSS GUI screen.

6. Request to Ingest TSDIS PR 2B-31 data via Ingest and an auto network protocol.	The Ingest request is in progress, as seen on the appropriate Ingest GUI screen.
7. When the ingest request is in the insertion phase, view the appropriate DSS GUI screen.	The insertion request is in progress.
8. Subscription notification is received when the data is inserted in the archive.	
9. At the Client, perform a search that will result in the data just archived.	The search request is in progress, as seen on the appropriate DSS GUI screen.
10. At the Client, request to distribute the TSDIS data just archived via 8mm tape.	The retrieval request is in progress, as seen on the appropriate DSS GUI screen.
11. While the media distribution request is in progress, view the appropriate DSS GUI screen to view the current allocation of resources.	The appropriate drives and stackers are used correctly.
12. When the retrieval request is complete, the data is placed on the tape.	
13. Insert the tape just written to in a tape drive, and use unix commands to list the tape contents.	The data was successfully transferred to tape.
14. View the data on the tape.	The data looks as expected.
15. Request to Ingest TSDIS GV 3A-54 data via Ingest and an auto network protocol.	The Ingest request is in progress, as seen on the appropriate Ingest GUI screen.
16. When the ingest request is in the insertion phase, view the appropriate DSS GUI screen.	The insertion request is in progress.
17. Subscription notification is received when the data is inserted in the archive.	
18. At the Client, perform a search that will result in the data just archived.	The search request is in progress, as seen on the appropriate DSS GUI screen.
19. At the Client, request to distribute the TSDIS data just archived 4mm tape.	The retrieval request is in progress, as seen on the appropriate DSS GUI screen.
20. While the media distribution request is in progress, view the appropriate DSS GUI screen to view the current allocation of resources.	The appropriate drives and stackers are used correctly.
21. When the retrieval request is complete, the data is placed on the tape.	
22. Insert the tape just written to in a tape drive, and use unix commands to list the tape contents.	The data was successfully transferred to tape.
23. View the data on the tape.	The data looks as expected.
24. Request to Ingest SAGE II data via Ingest and a polling protocol.	The Ingest request is in progress, as seen on the appropriate Ingest GUI screen.
25. When the ingest request is in the insertion phase, view the appropriate DSS GUI screen.	The insertion request is in progress.
26. Subscription notification is received when the data is inserted in the archive.	
27. At the Client, perform a search that will result in the data just archived.	The search request is in progress, as seen on the appropriate DSS GUI screen.
28. At the Client, request to distribute the TSDIS data just archived via 9-track tape.	The retrieval request is in progress, as seen on the appropriate DSS GUI screen.
29. While the media distribution request is in progress, view the appropriate DSS GUI screen to view the current allocation of resources.	The appropriate drives and stackers are used correctly.
30. When the retrieval request is complete, the data is placed on the tape.	
31. Insert the tape just written to in a tape drive, and use unix commands to list the tape contents.	The data was successfully transferred to tape.
32. View the data on the tape.	The data looks as expected.

33. Request to Ingest TSDIS TMI 1A-11 data via Ingest and an auto network protocol.	The Ingest request is in progress, as seen on the appropriate Ingest GUI screen.
34. When the ingest request is in the insertion phase, view the appropriate DSS GUI screen.	The insertion request is in progress.
35. Subscription notification is received when the data is inserted in the archive.	
36. At the Client, perform a search that will result in the data just archived.	The search request is in progress, as seen on the appropriate DSS GUI screen.
37. At the Client, request to distribute the TSDIS data just archived via CD-ROM.	The retrieval request is in progress, as seen on the appropriate DSS GUI screen.
38. While the media distribution request is in progress, view the appropriate DSS GUI screen to view the current allocation of resources.	The appropriate drives and stackers are used correctly.
39. When the retrieval request is complete, the data is placed on the disk.	
40. Insert the disk just written to in a CD-ROM drive, and use the appropriate unix commands to list the disk contents.	The data was successfully transferred to tape.
41. View the data on the disk.	The data looks as expected.
42. View the appropriate DSS GUI screens to verify the requests have completed.	No insert or retrieval requests are currently in the system.
43. Repeat steps 5 - 42 above several times, ingesting and distributing different data types and varying the distribution media each time.	The expected results are seen; utilization of the pull area is low.
44. Repeat the steps above several times, without ingesting data, but instead using data already residing in the archive for input to the search/distribution requests.	The expected results are seen; utilization of the pull area is low.
45. At the Client, request a media distribution for each media type for several different data types.	The requests are processed, as seen on the appropriate DSS GUI screen.
46. Before the distribution requests have completed, request to cancel them both.	The distribution requests are canceled, and are no longer in the system.
47. Verify all hard media resources are freed up once the media distribution requests are canceled.	Resources are free, as seen on the appropriate DSS GUI screen.
48. At the Client, request the media distributions requested in step 45 above.	The distribution requests are processed and complete successfully.
49. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, and others.	All expected messages are logged and contain correct, concise information.

50. Logout of the Science Data Server workstation.	DADS0100#A, DADS0498#A, DADS0525#A, DADS0570#A, DADS0600#A, DADS0610#A, DADS0660#A, DADS0690#A, DADS0700#A, DADS0760#A, DADS0880#A, DADS0927#A, DADS0940#A, DADS0960#A, DADS1010#A, DADS1020#A, DADS1030#A, DADS1470#A, DADS1610#A, DADS1860#A, DADS2090#A, DADS2490#A, (a,b,d,e), DADS2510#A, DADS2530#A, DADS2770#A, DADS3110#A, IMS1380#A, IMS1650#A, IMS1660#A, DADS1085#A, DADS1110#A, DADS1114#A, DADS1370#A, DADS1806#A, DADS2110#A, DADS2160#A, DADS2170#A, DADS2190#A, DADS2410#A, DADS2430#A, DADS2450#A, DADS2460#A, DADS2480#A, DADS3150#A, IMS0030#A, IMS0890#A, IMS1005#A, IMS1060#A, IMS1280#A, IMS1300#A, IMS1700#A, IMS1720#A

4.13.7.25 Test Case 25: AMASS Interface Test (BS017.025)

This test demonstrates the ability for the user to access data in the archive. Data will be inserted in the archive. At the AMASS User Interface, attempts will then be made to track, view and alter the data in the archive. Selected data will then be distributed from the archive. Data Server and AMASS logs will be viewed to verify they were updated accordingly. Many Release A data types, including TSDIS, NESDIS, V0, SDPF and Document, will be used during this test.

Test Configuration:

Hardware: Science Data Server, MSS Server, Working Storage, Archive Storage, Tape robotics archive device

Software: SDSRV, STGMT, DDIST, ADSRV, V0 Gateway, Ingest, DSS GUI, Ingest GUI

Data: TSDIS, NESDIS, V0, SDPF and Document Data

Tools: AMASS User Interface

Test Input:

Inputs to this test include submission of several data ingest and data retrieval requests, and several commands at the AMASS User Interface to track, view and alter data in the archive.

Test Output:

Outputs to this test include data stored in the archive, data distributed as requested, and tracking of data in the archive via the AMASS User Interface.

Success Criteria:

This test is deemed successful if data in the archive can be tracked, viewed and altered as requested, and the appropriate logs are updated.

Test Procedures:

Test Case ID: BS017.025	
Test Name: AMASS Interface Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active; Various data, representing many Release A data types, resides in the archive.
2. On the first xterm login to the Ingest GUI.	
3. On the second xterm login to MSS to view the appropriate log files.	
4. On the third xterm, log into the Client.	
5. Request to Ingest CER00 and Snow/Ice data via Ingest and auto network and polling protocols.	The Ingest requests are in progress, as seen on the appropriate Ingest GUI screen.
6. When the ingest request is in the insertion phase, view the appropriate DSS GUI screen.	The insertion requests are in progress.
7. When the data is inserted in the archive, note the UR numbers for tracking the data in AMASS.	
8. At the Client, perform a search that will result in the CER00 data just archived.	The search request is in progress, as seen on the appropriate DSS GUI screen.
9. At the Client, request to distribute the CER00 data just archived via FtpPull.	The retrieval request is in progress, as seen on the appropriate DSS GUI screen.
10. When the retrieval request is complete, the data is placed in the pull area.	
11. At the AMASS User Interface, locate the data just archived using the UR number returned at insertion.	The data is found in the archive.
12. View the characteristics of each dataset associated with the data archived previously.	The correct information pertaining to the datasets is returned.
13. Verify that the CER00 data has already been accessed, via the FtpPull request, and the Snow/Ice data has not.	
14. Via the AMASS User Interface, create a new dataset, and copy the Snow/Ice data just archived into it.	The copy is performed correctly, and the data is actually copied to new archive media.
15. Via the AMASS User Interface, create another new dataset, edit the new dataset, save the changes. View the new dataset. List the directory contents.	Create, edit, save and view file and directory capabilities work as expected.
16. Via the AMASS User Interface, delete the new file just created.	The file is deleted, as are any references to it.
17. Via the AMASS User Interface, request to mount the new media created in step 14 above.	The tape is mounted.
18. At the Client, request to distribute the data contained on the new tape media mounted above via an FtpPush, specifying a local directory path.	The data is found, and distributed appropriately.
19. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, AMASS Activity Log, and others.	All expected messages are logged and contain correct, concise information.

20. Logout of the Science Data Server workstation.	DADS0430#A, DADS0435#A, DADS1360#A, DADS1520#A, DADS1530#A, DADS1540#A, DADS1550#A, DADS1610#A, DADS1630#A, DADS1710#A, DADS1720#A, DADS1375#A, DADS1791#A, DADS1800#A, DADS2950#A, DADS3040#A, DADS3055#A, IMS1060#A

4.13.7.26 Test Case 26: Metadata Update Test (BS017.026)

This test demonstrates the ability for the user to update Metadata that already resides in the inventory. Data will be inserted in the archive, and its Metadata viewed in the DSS GUI, and using SYBASE. Requests will then be made from the Client to update the Metadata. Verification that the updates were made correctly will be made using the DSS GUI and SYBASE commands. A search will then be performed from the Client, the results of which will include the updated Metadata, and the updated Metadata, and its corresponding data will then be requested for distribution. Data Server logs will be viewed to verify they were updated accordingly. Many Release A data types, including TSDIS, NESDIS, V0, SDPF and Document will be used during this test.

Test Configuration:

Hardware: Science Data Server, MSS Server, Working Storage, Archive Storage

Software: SDSRV, STGMT, DDIST, ADSRV, V0 Gateway, Ingest, DSS GUI, Ingest GUI, Gateway

Data: Various types of TSDIS, NESDIS, V0, SDPF and Document Data

Tools: V0 Client

Test Input:

Inputs to this test include submission of several data ingest, Metadata update and data retrieval requests.

Test Output:

Outputs to this test include data stored in the archive, Metadata in the inventory updated, and data distributed as requested.

Success Criteria:

This test is deemed successful if Metadata in the inventory can be updated, as requested, and the appropriate logs are updated.

Test Procedures:

Test Case ID: BS017.026	
Test Name: Metadata Update Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active; Various data, representing many Release A data types, resides in the archive.
2. On the first xterm login to the Ingest GUI.	
3. On the second xterm login to MSS to view the appropriate log files.	
4. On the third xterm, log into the Client.	
5. On a fifth xterm, log into SYBASE on the appropriate Data Server Data Base hardware.	
6. Request to Ingest TSDIS VIRS Science Data Packets and TSDIS PR 1C-21 data via Ingest and an auto network protocol.	The Ingest requests are in progress, as seen on the appropriate Ingest GUI screen.
7. When the ingest request is in the insertion phase, view the appropriate DSS GUI screen.	The insertion requests are in progress.
8. When the data is inserted in the archive, note the UR numbers for subsequent distribution requests.	
9. On the SYBASE xterm, view the inventory data base and locate the Ingest TSDIS VIRS Science Data Packets just inserted.	
10. At the Client, request to update several parameters in the Metadata just inserted.	The Metadata update request is in progress, as seen on the appropriate DSS GUI screen.
11. When the request is complete, view the Metadata in the inventory data, using the appropriate SYBASE commands.	The updates were performed as requested.
12. At the Client, perform a search that will result in the updated Metadata.	The search request is in progress, as seen on the appropriate DSS GUI screen, and the updated Metadata is returned as expected, as a result of the search.
13. At the Client, request to distribute the Ingest TSDIS VIRS Science Data Packets data just archived via FtpPull.	The retrieval request is in progress, as seen on the appropriate DSS GUI screen.
14. When the retrieval request is complete, the data is placed in the pull area.	
15. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, AMASS Activity Log, and others.	All expected messages are logged and contain correct, concise information.
16. Logout of the Science Data Server workstation.	DADS0010#A, DADS0020#A, DADS0525#A, DADS0570#A, DADS1610#A, DADS1850#A, DADS2090#A, IMS0455#A, IMS1060#A, IMS1380#A

4.13.7.27 Test Case 27: Subscriptions Test (BS017.027)

This test demonstrates the ability for the user to request subscriptions. Subscription requests will be submitted by the Client for notification of data receipt. All types of subscriptions will be submitted, including one-time, on-going and standing order. The appropriate data types will be ingested to verify the subscriptions are fired as expected. In the case of the standing order subscription, it will be verified that the data is automatically distributed to the pull area and the user notified. Subscriptions will also be updated and deleted via the Client. Once the subscription notification is received, some data retrieval requests will be submitted. Data Server logs will be viewed to verify they were updated accordingly. Various types of Release A data, including TSDIS, NESDIS, V0, SDPF and Document data will be used during this test.

Test Configuration:

Hardware: Science Data Server, MSS Server, Working Storage, Archive Storage

Software: SDSRV, STGMT, DDIST, ADSRV, V0 Gateway, Ingest, DSS GUI, Ingest GUI, SbServer

Data: Various types of TSDIS, NESDIS, V0, SDPF and Document Data

Tools: Client, SCF

Test Input:

Inputs to this test include submission of several subscription, data ingest and data retrieval requests.

Test Output:

Outputs to this test include subscription notification of data receipt, data stored in the archive and data distributed as requested.

Success Criteria:

This test is deemed successful if subscriptions are submitted, updated and deleted, as requested, and the appropriate logs are updated.

Test Procedures:

Test Case ID: BS017.027	
Test Name: Subscriptions Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active; Various data, representing many Release A data types, resides in the archive.
2. On the first xterm login to the Ingest GUI.	
3. On the second xterm login to MSS to view the appropriate log files.	
4. On the third xterm, log into the Client.	

5. At the Client, submit one-time subscriptions for CER00, TSDIS VIRS Radiances, and TSDIS TMI3A-11 data, and on-going subscriptions for TSDIS PR 2A-21 and TSDIS 3B-31 data.	Subscriptions are accepted and processed, as seen on the appropriate DSS GUI screen.
6. Request to Ingest the data specified by the subscriptions above, via Ingest and the appropriate ingest protocol.	The Ingest requests are in progress, as seen on the appropriate Ingest and DSS GUI screens.
7. When the data is inserted in the archive, verify that a notification is received for each data type.	
8. Request to Ingest the data specified by the subscriptions above a second time.	The Ingest requests are in progress, as seen on the appropriate Ingest and DSS GUI screens.
9. When the data is inserted in the archive, verify that a notification is received for TSDIS PR 2A-21 and TSDIS 3B-31 data only.	No notification is received for the one-time subscriptions.
10. At the SCF, submit standing order subscriptions for CER00 and NMC FNL data.	Subscriptions are accepted and processed, as seen on the appropriate DSS GUI screen.
11. At Ingest, request to ingest CER00 and NMC FNL data.	When the data is archived, a notification is sent to the SCF saying the data is available.
12. Verify a distribution been initiated to FtpPull the data just.	The retrieval request is in progress, as seen on the appropriate DSS GUI screen.
13. When the retrieval request is complete, the data is placed in the pull area, and the SCF is notified that the data is available on the pull area.	
14. At the Client, update several of the subscriptions submitted above, to include a later expiration time, and a different notification text.	Subscription updates are accepted and processed, as seen on the appropriate DSS GUI screen.
15. At the SCF, update the standing order subscription for NMC FNL data to include different notification text.	Subscription updates are accepted and processed, as seen on the appropriate DSS GUI screen.
16. At Ingest, ingest the appropriate data to fire the Client/SCF subscriptions.	Notifications received when the subscriptions fire include the updates.
17. At the Client, delete several of the subscriptions submitted earlier, including at least one one-time and one on-going subscription.	The subscriptions are deleted, as seen on the appropriate DSS GUI screen.
18. At the SCF, delete the standing order for CER00 data.	The subscription is deleted, as seen on the appropriate DSS GUI screen.
19. Request to ingest the data specified by the original subscription requests submitted above.	Subscriptions are not fired, and no notification is received for the data types that have had their subscriptions deleted. Notifications are received for the other subscription data types.
20. At the Client, perform a search and a product order for several data types received in step 19 above.	The search and order requests are processed correctly.
21. The data is distributed as requested.	
22. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, AMASS Activity Log, and others.	All expected messages are logged and contain correct, concise information.
23. Logout of the Science Data Server workstation.	DADS0100#A, DADS0498#A, DADS0500#A, DADS0525#A, DADS0540#A, DADS0550#A, DADS0570#A, DADS1610#A, DADS2090#A, IMS1060#A, IMS1080#A, IMS1380#A,

4.13.7.28 Test Case 28: DSS Startup/Shutdown/Recovery Test (BS017.028)

This test demonstrates the ability to startup, shutdown and perform recovery procedures on the Science Data Server. The Data Server will be initiated from the Desktop. Various functions will be performed, including data ingest, data retrieval, subscriptions and Metadata updates. Data Server will then be terminated abnormally to verify recovery of the data bases is performed. Data Server will again be initiated and several more requests performed. Data Server will then be terminated from the DeskTop. Data Server logs will be viewed to verify they were updated accordingly. Various types of Release A data, including TSDIS, NESDIS, V0, SDPF and Document data will be used during this test. HTSC support is needed for this test.

Test Configuration:

Hardware: Science Data Server, MSS Server, Working Storage, Archive Storage

Software: SDSRV, STGMT, DDIST, ADSRV, V0 Gateway, Ingest, DSS GUI, Ingest GUI, SbServer, DESKTOP

Data: Various types of TSDIS, NESDIS, V0, SDPF and Document Data

Tools: V0 Client

Test Input:

Inputs to this test include submission of various requests, including data ingest, data distribution, subscriptions and Metadata updates. Startup, shutdown and recovery requests are also submitted.

Test Output:

Outputs to this test include subscription notification of data receipt, data stored in the archive, Metadata updated and data distributed, as requested.

Success Criteria:

This test is deemed successful if Data Server is started and shutdown cleanly, various DSS requests are successful, the inventory is successfully restored after an interruption and the appropriate logs are updated.

Test Procedures:

Test Case ID: BS017.028	
Test Name: DSS Startup/Shutdown/Recovery Test	
Test Steps:	Comments:
1. Login to a Science Data Server workstation and open several xterms on the appropriate hardware machine for each subsystem.	Assumption: all software processes needed for the test are active; Various data, representing many Release A data types, resides in the archive.
2. On the first xterm login to the Ingest GUI.	
3. On the second xterm login to MSS to view the appropriate log files.	
4. On the third xterm, log into the Client.	

5. At the Client, make several Data Server requests, such as electronic and media distributions, submit subscriptions, and submit Metadata update requests.	The requests are processed and in the system, as seen on the appropriate DSS GUI screen.
6. As these requests are in progress, but not completed, have authorized HTSC personnel shutdown the Primary Ingest Client workstation.	
7. Login to the Backup Data Server Client workstation. **> rlogin** *<hostname>* **>** *<password>*	
8. On the Backup Data Server Client workstation warm start the Data Server Client.	Data Server is initiated.
9. On the Backup Data Server Client workstation, initiate the DSS GUI.	DSS GUI is initiated.
10. View the **System Requests** GUI screen to verify that no requests are currently in the system.	
11. Verify that requests that were incomplete before the interruption, have not completed.	
12. Resubmit the processing requests submitted in step 5.	All requests are processed successfully.
13. Verify all appropriate messages are logged in the correct log files, including MSS Event Log, DSS Inventory Update Log, DSS Archive Activity Log, AMASS Activity Log, and others.	All expected messages are logged and contain correct, concise information.
14. Logout of the Science Data Server workstation.	DADS2270#A, DADS2276#A, DADS2300#A, DADS2302#A, IMS0250#A,

4.14 Release A DAAC Tests

4.14.1 Release A DAAC Build (BS018)

This build demonstrates the end-to-end capabilities of the ECS Release A software. The application servers and processes will first be started using the start up capabilities. Next, data will be ingested and stored in the archive. The data will then be processed, and sent to the data server to be stored.

The ECS Desktop will be used to access user applications such as the Advertising Service, Document Data Server, EOSView and the Release A Search and Order tool. Several data and document searches will be performed using the Release A Search and Order tool. Finally, a product order will be submitted to verify archived data may be ordered.

This build also includes a set of test which verify some of the hardware, software and facilities requirements. These requirements will be verified by inspection or by analysis.

4.14.1.1 Test Case 1: Applications Startup/Shutdown (BS018.001)

This build test case demonstrates the capability of the MSS Management Agent Service to be integrated within the Release A DAAC Build. This test will verify the startup and shutdown of several subsystem applications.

Test Configuration:

Hardware: MSS Server, Managed resources: host (i.e. SUN, HP), Inter-networking subsystem components (i.e. LAN Network resources)

Software: HpOpenView, OODCE, MACI: MsAgSubAgent, MsAgDeputy, MsAgAgent (Peer SNMP), CSS APIs (MPF)

Data: None

Tools: HpOpenView MIB browser (verify startup/shutdown in the tables), Functional applications: MsAgSubAgent, MsAgDeputy, MsAgAgent.

Test Input:

Inputs to this test case include telling applications to startup and shutdown. The applications are from the following subsystems:

- PDPS
- Ingest
- Data Management (V0 Gateway)
- Interoperability (Advertising)
- Science Data Server
- Document Data Server

Test Output:

Outputs include notification that applications start up or shutdown by streaming events to the log file and by notification to HPOV.

Success Criteria

This test is deemed successful when the subsystem applications can startup and shutdown.

Test Procedures:

Test Case ID: BS018.001	
Test Name: Applications Startup/Shutdown	
Test Steps:	Comments:
1. Before application startup, dce security server is active.	
2. Start up PEER master agent, deputy, subagent, dgtest driver, and HPOV MIB Browser:	
3. Enter the PEER master agent directory: cd /usr/testa/msagent2/bin	

4. Start the master agent in the background: sudo MsAgAgent ../data/MsAgAgent.cfg <filename> ctrl z bg	MsAgAgent - PEER master agent (COTS Application) Note: This requires root or sudo root access. Any filename is acceptable.
5. Open a window on an HP machine where MsAgDeputy resides and log into DCE by typing : dce_login <username>	This application resides on the management host, and receives events from all subagents within each DAAC. The deputy converts all events to SNMP Traps, and sends them to HPOV's trapd.
6. Source the environment.csh file: source ../data/environment.csh	This will set up all the appropriate environment variables needed by the Deputy.
7. Start up the MsAgDeputy by typing: MsAgDeputy	In order to start the Deputy, all required environment variables must be set (as described in the installation process).
8. dce_login to mss server with a valid userid and an invalid password.	Verify authentication of dce user with an invalid password is rejected.
9. Create another session (on SUN or HP platform) and also log into DCE by typing: dce_login <username>	
10. Source the environment.csh file: source ../data/environment.csh	This will set up all the appropriate environment variables needed by the SubAgent.
11. Start up the MsAgSubAgent by typing: MsAgSubAgent ConfigFile MsAgSubAgent.aCfg ecs_mode ops	This application has the following capabilities: - Discovery of installed/DeInstalled/Upgraded applications and programs - Management of ECS developed applications and Proxy Agents - Event notification from application to subagent - Lifecycle services (startup, shutdown) - Metric handling (performance, fault, conf) - Event Notification to MsAgDeputy (HPOV) In order to start the SubAgent, all required environment variables must be set (as described in the installation process). Once started, the SubAgent will identify all installed Applications, Programs, and previously managed Process (which are still running). An event will be generated for each identified managed object. All the entries in the Static Application and Static Program tables will be displayed prior to the subagent listening for RPC request.
12. Create a third session and also log into DCE by typing: dce_login <username>	

13. Start up dgtest test driver by typing: dgtest (By default, this program will connect with a subagent running on the same host the dgtest was started from) or: dgtest <hostname> (This example will connect the dgtest program to a subagent running on the host).	dgtest - deputy gate controller (test driver) Since the agent has not yet been integrated into HPOV, this test driver simulates all agent control functionality that HPOV will possess in Release A. Functionality includes: - Start & stop of Applications and Programs - Get the number of seconds it will take to shutdown a Program, Process, or Application - Shut down Applications, Programs, Processes - Shut down the Subagent - Set attributes
14. Start the HpOpenView MIB browser (on the machine where MIB browser resides): /usr/OV/bin/xnmbrowser	
15. Enter the Host name in the box entitled "Name or IP Address".	Also, enter the IP Address instead of the Host name (i.e. 155.157.123.18 for msse4hp or 155.157.123.15 for msse8sun) in the box entitled "Name or IP Address".
16. Testing:	
17. Go to the MIB branch entitled: .iso.org.dod.internet.private.enterprises. ecs.mss.agent.application.appStTable.appStEntry	
18. From the sub-branch, query appStIndex	Note: to get the index of the application to be started from the static application table.
19. From the main menu of dgtest, press 2 to startup.	
20. From the submenu of dgtest, select 1 to startup the application.	
21. Specify the index (from step 14) to start.	Check the event, startup the application, is logged to the mss.log and is notified to HPOV.
22. Go to the MIB branch entitled: iso.org.dod.internet.private.enterprises. ecs.mss.agent.application.appDyTable.appDy	Make sure the application has been started successfully and to get the index of the application to be shutdown from the dynamic application table.
23. From the main menu of dgtest, press 3 to shutdown.	
24. From the submenu, press 1 to shutdown the application.	Note: Specify the index (from step 18) to shutdown. Check the event, shutdown the application, is logged to the mss.log and is notified to HPOV.
25. From the MIB browser, query the dynamic sub-branches (all tables, e.g., ApplDyn, ProgDyn, ProcessDyn, all metric tables, except static tables, e.g., progTable, AppStTable).	All references to Application, its programs and processes are gone.
26. Verify all applicable processes are gone by executing the following command: ps -ef | grep <processids # >(under the application)	(Verify ability to provide an extensible ECS management agent for ECS applications - MSS-36090)
27. Startup or shutdown a non-existing application by repeating steps 13 through 21.	It should handle gracefully. An event is sent to the log file and HPOV is notified.
28. Exit:	
29. To exit this test, check the process id number of the following running jobs: ps -ef | grep MsAg	

30. Then, kill the master agent (MsAgAgent), the deputy (MsAgDeputy), the subagent (MsAgSubAgent) processes by executing the following command: sudo kill -9 <processids #>	Note: It requires root or sudo root access to kill the master agent.
31. Check and make sure that all processes have been killed by: ps -ef | grep MsAg	
32. Next, make sure to clean up the CDS with this entry. You can do this by following the directions below: - Log into the HP machine where CDS resides - Log into DCE (dce_login) - Start up cdsbrowser by typing: cdsbrowser - Select "/.:/subsys", then "/.:subsys/HP" - Select "/.:/subsys/HP/sample-apps" - Select the object names that were registered (MsAgSubAgent and MsAgDeputy). They are: /.:/subsys/HP/sampleapps/MsAgSubAgent /.:/subsys/HP/sample-apps/MsAgDeputy - Highlight the entry and press the right button of your mouse to get a menu. Select "delete entry" to remove the entry from CDS. - Select all applications, programs, and processes under ops and test mode that were registered and delete them all: /.:/ecs/GSFC/ops/xProgram_ops /.:/ecs/GSFC/ops/xProgram_ops_group /.:/ecs/GSFC/OPS/xProgram_ops_profile Remember when logging out of DCE, type kdestroy.	

4.14.1.2 Test Case 2 : Release A DAAC Subscriptions Test (BS018.002)

This test demonstrates the ability for several users to submit subscriptions. A user will submit a subscription when he would like to be notified when certain data has been inserted into the archive. On-time and on-going subscriptions can be submitted, as well as standing order subscriptions. The standing order subscriptions are only submitted from the SCF, and in addition to notification, they include a distribution of the data to the pull area, once it has been archived. For this test, subscriptions will be submitted from PDPS, TSDIS, SCF and from the Science Data Server GUI for various types of data.

Test Configuration:

Hardware: Several Release A Workstations, Client Hosts

Software: PLANG, PRONG, PDPS GUI, SDSRV, SbServer, DSS GUI

Data: None

Tools: TSDIS Driver, SCF Driver

Test Inputs:

Input to this test includes several subscription requests from various systems. An assumption is made that all required software is already up and running.

Test Outputs:

Output from this test includes updates to the subscriptions data base reflecting the requested stored subscriptions.

Success Criteria:

This test is deemed successful if all subscription requests are processed and stored in the subscriptions data base, and all transactions are appropriately logged.

Test Procedures:

Test Case ID: BS018.002	
Test Name: Release A DAAC Subscriptions Test	
Test Steps:	Comments:
1. Logon to the DSS GUI.	
2. Logon to the PDPS GUI	
3. On the PDPS GUI, submit an on-going subscription for CER00 data, specifying the notification text and user, data type and end time.	
4. On the DSS GUI, verify the subscription was accepted and processed.	PDPS on-going subscription is displayed in the stored subscriptions list.
5. On the PDPS GUI, submit a one-time subscription for CER02 data, specifying the notification text and user, data type and end time.	
6. On the DSS GUI verify the subscription was accepted and processed.	PDPS one-time subscription is displayed in the stored subscriptions list.
7. Logon to the TSDIS driver and submit on-going subscriptions for TRMM TMI 2A-12 data, TRMM TMI 2A-12 Browse data, and TRMM PR 1C-21 data, specifying the notification text and user, data type and end time.	
8. On the DSS GUI, verify the subscriptions were accepted and processed.	TSDIS on-going subscriptions are displayed in the stored subscriptions list.
9. Logon to the SCF Driver, and submit a standing order subscription for CER00 data, specifying the notification text and user, data type and end time.	
10. On the DSS GUI, verify the subscriptions were accepted and processed.	SCF standing order subscription is displayed in the stored subscriptions list.
11. On the DSS GUI, update an existing subscription for TSDIS TRMM PR 1C-21 data. Update the user id to the DSS operator, rather than the TSDIS operator.	The request is not processed and the appropriate error messages are displayed.
12. On the DSS GUI, update an existing subscription for TSDIS TRMM PR 1C-21 data. Update the notification text.	The request is successfully processed as viewed on the appropriate DSS GUI screen.
13. Verify all messages are logged to the appropriate log files.	
14. Logoff all GUIs and drivers, and any workstations.	

4.14.1.3 Test Case 3 : Release A DAAC Ingest Test (BS018.003)

This test demonstrates the ability to ingest many types of data, using the Ingest subsystem. Requests to ingest SDPF, TSDIS, V0, Science Software Archive Packages, and Document data will be sent to Ingest, utilizing various ingest protocols, such as auto network, polling, document and HTML interactive ingest (HTML). A media ingest will also be performed. Error testing includes sending an invalid DAN.

Test Configuration:

Hardware: Several Release A Workstations, Client Hosts, 8mm tape device

Software: InRequestMgr, Polling, InteractiveIngest, Ingest GUI, SDSRV, STMGT, DDSRV, SDSRV GUI

Data: CER00, TRMM TMI 2A-12, TRMM TMI 2A-12 Browse, TRMM PR 1C-21, NMC ETA, Document, TOMS Ozone data on 8mm tape. Also, an invalid SDPF DAN is needed for error testing.

Tools: SDPF/TSDIS Insert Drivers

Test Inputs:

Input to this test includes a series of ingest requests. It is assumed that all software required for this test is already up and running.

Test Outputs:

Output from this test includes data ingested and inserted into the SDSRV or the DDSRV.

Success Criteria:

This test is considered a success if all data is successfully ingested, validated, and inserted in the appropriate data server, all transactions are correctly logged, and all errors encountered are correctly reported and logged.

Test Procedures:

Test Case ID: BS018.003	
Test Name: Release A DAAC Ingest Test	
Test Steps:	Comments:
1. Logon to the Ingest GUI.	
2. Logon to the SDPF insert driver.	
3. Logon to the TSDIS insert driver.	
4. Logon to NetScape and enter the URL of the Interactive Ingest Home Page.	
5. Place the Delivery Record (DR) representing the NMC ETA data in the appropriate polling directory.	The DR is read on the next polling interval.
6. Invoke the Ingest Monitor GUI and specify all data types to view the ongoing ingest requests.	The NMC ETA data is being processed.

7. On the SDPF insert driver, request to insert SDPF data with a DAN that specifies a non-existent directory.	The request is not processed, and a long DDN is returned specifying an invalid directory. The appropriate error messages are returned and logged.
8. On the SDPF insert driver, request to insert SDPF CER00 data with a valid DAN.	The request is accepted and processed, as seen on the Ingest Monitor GUI.
9. On the TSDIS insert driver, request to insert TRMM TMI 2A-12, TRMM TMI 2A-12 Browse, TRMM PR 1C-21 data.	The requests are accepted and processed, as seen on the Ingest Monitor GUI.
10. On the Interactive Ingest HTML screen, request to insert Document data, specifying a DR containing pointers to the document data.	The ingest request is accepted and processed, as seen on the Ingest Monitor GUI.
11. Invoke the Media Ingest GUI, and request to Ingest TOMS Ozone data via 8mm tape.	The ingest request is accepted and processed, as seen on the Ingest Monitor GUI.
12. On the Ingest Monitor GUI, all current ingest requests are displayed in various states.	
13. On the DSS GUI, view the System Requests GUI screen, to determine which ingest requests are in the insertion state.	The appropriate requests are displayed in the active requests list.
14. On the DSS GUI, view the current resources.	The 8mm tape drive is allocated for the media Ingest request.
15. On the Interactive Ingest HTML screen, request to insert a Science Software Archive Package, specifying the correct DR.	The ingest request is accepted and processed, as seen on the Ingest Monitor GUI.
16. View the status of the Interactive Ingest requests via the Interactive Ingest Status request screen.	The information in the Interactive Ingest Status request screen compares favorably with the same information displayed in the Ingest Monitor GUI.
17. When any ingest requests have completed, after a predetermined amount of time, invoke the Ingest History Log, and view the final state of the completed requests.	
18. When the Interactive Ingest requests have completed, view the final status, via the Interactive Ingest View Data Delivery Notice screen.	The correct information for the requests are displayed.
19. Verify the data was inserted into the appropriate data server.	Document data is stored in DDSRV.
20. When all requests have completed, view the Ingest Monitor GUI.	No requests are in progress.
21. When all requests have completed, view the Ingest History Log.	All requests have completed successfully except for the invalid DAN request, which has the correct information as to why it failed.
22. When all requests have completed, view the DSS GUI System Requests screen.	All requests have completed successfully.
23. When all requested data has been archived, the appropriate subscriptions are fired.	Notifications are sent to the appropriate users.
24. When the CER00 data is archived, view the DSS System Requests GUI screen.	A request is in progress to distribute the CER00 data to the pull area (standing order subscription).
25. Verify all messages are logged to the appropriate log files.	Messages stating that ADSRV was called to determine which data server to insert the data into are displayed, in addition to other status, error, result messages.
26. Logoff all GUIs and drivers, and any workstations.	

4.14.1.4 Test Case 4: PDPS End-to-End Test (BS018.004)

This test verifies the ability of the PDPS subsystem to perform its responsibilities from an initial startup condition to a final shutdown condition. Specifically, the following functionality will be tested:

- the ability to subscribe to data via the Advertising subsystem interface
- the ability to receive data via the Data Server interface
- the ability to process data within the PDPS (Plang and Prong) subsystem
- the ability to insert the generated data into the Data Server

Test Configuration:

Hardware: PLNHW, SPRHW AITHW machines (SunSparc 20, SGI)

Software: Advertising subsystem, Data Server interface, PDPS, AIT subsystem (SSI&T)

Data: Operations role name and password.

Tools: None

Test Input:

Inputs to this test case include user actions to the various software GUI screens and the operations role name and password.

Test Output:

Outputs from this test case include confirmation and error messages.

Success Criteria:

This test will be considered successful when an end-to-end scenario can be performed that tests the ability to subscribe to, receive, process, disseminate, and review generated data products in the PDPS.

Test Procedures:

Test Case ID: BS018.004	
Test Name: PDPS End-to-End Test	
Test Steps:	Comments:
1. Login to a AIT client workstation.	
2. Bring up the SSI&T GUI.	
3. Select the option to **Subscribe** to a data type.	The software will return with a pop-up screen from which selections of data can be made.
4. Select the data type(s) and press the **OK** button.	The software will acknowledge the subscription request with a confirmation message.

5. Login to the Planning workstation and create a terminal window to bring up the Production Request Editor GUI.	This is necessary to create a Production Request for the data product.
6. Enter the option to create a Production Request and enter the required information as requested.	Information such as PR priority, associated start/stop time, PGE information, etc.
7. Press the **Save** button when finished.	The software will return a verification pop-up message to acknowledge the creation of the PR and Data Processing Request.
8. Create another window on the Planning workstation and start the Planning Workbench GUI. Select the option to **Create a Plan**.	The software will bring up the Plan Generation GUI.
9. Enter Plan parameters and associate the PR created in step 7 to this Plan. Press the **Save** button.	The software will respond with an acknowledgment that the Plan was created. If desired, other PRs and Ground Events can be added to this Daily Plan.
10. Enter the option to Activate the plan.	The software will prompt for the portion of the plan to activate.
11. Enter the plan parameters and press the **OK** button.	The software will display a message that the plan was activated.
12. From a Processing workstation, bring up the AutoSys Ops Console.	This is needed to view the processing queue.
13. Verify that the DPR created in step 7 was scheduled for processing within AutoSys as a result of activating the plan.	The DPR will have a status of ON_HOLD until its processing time arrives.
14. As the data arrives into the ECS, the Data Server will notify PDPS.	PDPS will then check its database to 'see' which PRs and DPRs require this data granule for processing. The DPR created in step 7 will be one of those DPRs.
15. Since the input data granule for the DPR arrived, the Planning CI will determine if the processing start time for that DPR has been achieved. If so, the software will take the DPR "OFF_HOLD" within AutoSys.	If other DPRs within the activated plan require the same input granule and their time has arrived, they will also begin processing.
16. Verify that the PGE associated with the DPR executed without any errors.	The PGE will have produced a file that can be reviewed.
17. The generated data file(s) will be destaged to the Data Server.	The Data Server software will send a verification message for the successful insertion of the data file(s).
18. Bring up the QA Monitor GUI software and select the option to view the HDF file generated in step 16.	
19. Exit all GUIs by pressing the **Exit** button.	

4.14.1.5 Test Case 5: Client/Search/Data Access Services (BS0018.005)

This test demonstrates the ability to log on to the ECS system as a registered user with existing profile information, and launch the Release A Search and Order Tool (RASOT) from the Desktop to perform different types of searches (i.e. Guide, Inventory, and Directory), browse data, display coverage maps, and order data products.

Test Configuration:

Hardware: CLHW, DDSHW, DMGHW, DRPHW

Software: DmGwDirectoryQuery,DmGwDirectoryResult,DmGwQuery, StringVec,DmGwDataValue,DmGwDatatime,DmGwDirectoryRequest, DmGwErrorResult,DmGwODLAggregate,DmGwODLNonAggregate, DmGwODLParameter,DmGwODLTree,DmGwQuit, DmGwRSTAggregate,DmGwRSTNonAggregate,DmGwSpatial, DmGwTemportal,DmGwUserInfo,DmGwV0ECSMapper, DmGwV0Request

Data: Global Change Master Directory (GCMD), Inventory Data, Guide Documents

Tools: XRunner

Test Input:

Log on to the ECS system by entering valid userid and password, and launch applications from the Desktop by double clicking on the desktop object icon representing the applications. Enter information for type of search selected (Guide, Inventory, or Directory), and specify the data products to order.

Test Output:

The user is granted privileges to access the ECS system as a registered user, the user is displayed his/her profile information, and the user is able to launch applications. The requested level of information is obtained, and the selected data products are ordered.

Success Criteria:

This test is considered successful if the user after entering a valid userid and password is granted privileges to access the ECS system, is able to launch applications from the desktop, and is able to search and order data products using the Release A Search and Order Tool. The ECS Desktop must run on the following platforms: HP, IBM, Sun and SGI.

Test Procedures:

Test Case ID: BS018.005	
Test Name: Client/Search/Data Access Services	
Test Steps:	Comments:
1. Log on to the ECS system by entering a valid userid and password.	The tester will repeat this step for each of the following platforms: HP, IBM, Sun and SGI. S-CLS-13120, S-CLS-01490
2. The valid userid and password is accepted and the user is granted privileges to access the ECS system.	S-CLS-13410
3. Since the user is a registered ECS system user, the user profile pop-up screen is displayed on the Desktop window.	
4. The user may now update/modify the user profile information if needed.	S-CLS-12510 S-CLS-12520
5. If no updates /modifications need to be made to the user profile information the pop-up screen can be closed.	

6. The user can now launch applications, open containers, or documents by double clicking on the desktop object icons representing them.	S-CLS-00210
7. The user can launch applications such as: Advertising Service, Trouble Ticketing, EOSView, Release A Search and Order Tool (RASOT), and etc.	
8. Launch the Release A Search and Order Tool (RASOT) by double clicking on the desktop object icon representing it.	
9. This will bring the user to the Release A Search and Order Tool V0 Welcome screen.	
10. Move the cursor to the menu bar at the top of the screen .	
11. Click on the menu bar option Go To	
12. A pull down menu is displayed, select the Search Screen option.	
13. The Search Screen is displayed.	
14. Enter Directory search criteria on the screen.	
15. Execute the search by selecting the "Execute Search" button at the bottom of the screen.	S-DSS-04650
16. Verify the "Communication Status" window is displayed on the workstation. Verify the search is executing by observing the status on the "Communication Status" window.	S-DSS-01160
17. When the search is completed note the number of granules reported on the "Communication Status" window.	
18. Select the "Data" button for ECS data.	
19. Verify the "Directory Results Screen" appears on the workstation screen.	
20. Verify the directory search results match the search criteria selected.	S-CLS-10015
21. Select the "Count" button to the left of the first dataset displayed.	
22. Select "Detail Directory" at the bottom of the Directory Results Screen.	
23. Observe the Information pertaining to the selected data set.	
24. Click on the Close button at the bottom of the Detail Directory and Directory Results screens. The Directory Search Communication Status screen will be displayed.	
25. Click on the Close button at the bottom of the Directory Search Communication Status Screen. Go To the Search Screen.	
26. Select the Guide type Search.	
27. Use the Screen Functions menu to select Clear Form.	
28. Select the YES button on the "Do you really want to clear the search message?" dialog box.	
29. Select the Source/Platform List button.	

30. Select a Source/Platform and click on the Add button. Click on the OK button at the bottom of the screen.	
31. Click on the Execute Search button at the bottom of the Search screen.	
32. Observe the list of Guide documents.	
33. Select the Close button at the bottom of the screen. The Search Screen is displayed.	
34. Select the Text String field and type in a Source/Platform.	
35. Select the Execute Search button at the bottom of the screen. See if the list of Guide documents has expanded to a longer list.	
36. Select the Close button at the bottom of the screen. The Search screen is displayed.	
37. Select the Screen functions menu; select Clear Form. Select Yes in the dialog box asking Do you really want to clear the search.	
38. Select Inventory type Search.	S-DSS-00170
39. Select the Parameters List button	
40. Select the Parameters of your choice.	S-DSS-04670
41. Select the OK button at the bottom of the screen.	
42. Select the number of Granules returned for each dataset field.	S-DSS-04680
43. Reduce the number of Granules returned to 10 (from the default value of 100).	
44. Clear the Dataset ID field (if it has anything in it).	
45. Select the Geographic Information area by clicking on the None button in the upper right corner of the screen (a menu will appear).	S-DSS-04690
46. Select Point.	
47. Enter a Latitude and a Longitude.	
48. Click on the Execute Search button at the bottom of the screen. If asked "Do you wish to save previous results?", Click on the No button.	S-DMS-30360
49. Once the search has completed, select the Data button in the EDC row. The Inventory Results screen will be displayed.	S-DMS-30370
50. Select a Latitude and a Longitude with a Start Date and Time by clicking on the granule.	
51. Mark the granule for Integrated Browse, Detail Info., Coverage, and Order by clicking in the marking area in the right side of the screen.	
52. Select the Selection List button at the bottom of the screen.	
53. Observe the granule you selected.	
54. Click on the Inventory Results button at the bottom of the screen.	
55. Go to Detailed Information for Granules. The Detailed Inventory Results screen will be displayed.	S-DSS-04700

56. Observe the detailed granule information for the granule and select the Close button at the bottom of the screen. The Inventory Results screen will be displayed.	S-DSS-04660 S-DSS-04710
57. Select Go To Coverage Map.	
58. Observe the area displayed on the coverage map. The user can then select the various options (Pan, Zoom, Select, Cycle, Mark, and Choose) to enhance the coverage map.	S-CLS-10060
59. Click on the Close button at the bottom of the screen. The Inventory results screen is displayed.	
60. Select Go To Browse.	
61. The Browse Request Communication screen will appear.	
62. Once the image is successfully set, select the Image button, then Pan and Zoom the image, adjust the contrast.	S-DMS-30380
63. Display a description of the image and a legend, using the buttons at the bottom of the screen. Then select the Close button at the bottom of the screen. Also Close the Communication Status Screen.	S-CLS-10030
64. Select Go To Order Data.	
65. 65.Click on the granule and then click on the Package Options Selection button.	S-DMS-30400
66. The Packaging Options screen will be displayed.	
67. Select the processing option.	
68. Click on the OK button at the bottom of the Packaging Options Screen.	
69. Click on the Close button at the bottom of all screens.	
70. Select the YES button at the "Do you wish to exit" dialog box. The RASOT session will end.	

4.14.1.6 Test Case: 6 Release A DAAC Advertising Service (BS018.006)

This test will demonstrate the ability to access the Earth Science On-line Directory from the ECS Desktop, and submit a data advertisement.

Test Configuration:

Hardware: CLHW, DDSHW

Software: CSS Thread Service, AdvDBMSServer, AdvDBMSApplServer, AdvNavigatingServer, EcUtFactory, Object Factory Services, EcUt, Status and Logging IoAd, EcPo, Persistent Objects, IoAdCoreLib, Advertising, RogueWave DBTools++ Sybase interface, version 1.1, Sybase, version 10.0, RogueWave Tools++ 6.1 EcHt, HTML Framework, EcCsFtp services, , Netscape Commerce Server

Data: Advertising Service Database

Tools: Mosaic 2.7b1, NetScape 2.0

Test Input:

Inputs to this test case include the ftp address, provider id, applicable service ids, email address, comments to moderator, guide URL, ECS user name, and ACL password.

Test Output:

Outputs to this test case include log information, stating that the request was accepted.

Success Criteria:

This test is considered successful if the tester is able to launch the Earth Science On-line Directory from the ECS Desktop and submit a data advertisement. If the transaction can not be performed, an explanation must be returned to the tester in a meaningful message.

Test Procedures:

Test Case ID: BS018.006	
Test Name: Release A DAAC Advertising Service	
Test Steps:	Comments
1. 1.Start the ECS Desktop application	
2. Verify that the ECS Desktop is returned	
3. Select the Earth Science On-line Directory icon located on the desktop	
4. Verify “The Earth Science On-line Directory ” home page appears on the screen	S-IOS-00730
5. Select the “Contributions”	
6. Verify that the Contributions home page is returned	
7. Select “Create Directory Entry”	
8. Verify that Create Directory Entry home page is returned	
9. Select “Create Data Advertisement”	
10. Verify that Create Data Advertisement home page is returned	
11. Enter a title in the Title field	
12. Select the appropriate group for the advertisement.	
13. Select valid for “1” month	
14. Enter a Provider Id	
15. Enter a service ID in the Applicable Service Ids field	
16. Enter a mail address in the Email address field	
17. Enter “**Please create this advertisement**” in the comments to the moderator field	
18. Select “Preview Request”	
19. Select “ Send request to moderator “	The request will be send to the moderator e-mail interface
20. 20.Using a network browser, enter the URL for the Earth Science On-line Directory Home page	
21. Select "Moderation"	

22. Verify that the Moderation home page is returned	
23. Select a group from the displayed list	
24. Review the selected groups home page	S-IOS-00880
25. Enter the Email address in the ECS User name field	S-IOS-00040
26. Enter ACL password in the ECS password field	S-IOS-00040
27. Select " Display results"	
28. Verify that the Moderation Queue for selected group is returned	
29. Select "Display selected request"	
30. Verify that notification is returned stating that “Request was successfully accepted” and posted for general access	S-IOS-00810 S-IOS-00820 S-IOS-00700 S-IOS-00720 This procedure is valid also for receiving V0 Advertising Information from the V0 DAAC(s)

4.14.1.7 Test Case 7: Release A Document Data Server (BS018.007)

This test will demonstrate the ability to access the ECS Desktop and ingest documents into the ECS Document Data Server. The tester will conduct a search for the document once it has been ingested .

Test Configuration:

Hardware: DDSHW, DMGHW

Software: DsEsESDT, DsEsGuide, DsEsTypeID, DsCtClient, DsCtRequest, DsCtCommand, DsCtSearchCommand, DsDoServer, DsDoClient, DsDoCommand, DsDoRequest, DsGwQuery, DsGwResults, Illustra Web Datablade 2.1, Netscape Commerce Server 2.0

Data: On-line Documents

Tools: Mosaic 2.7b1, Netscape 2.0

Test Input:

Inputs to this test case include the title, priority level, component, service request, and requester of the document.

Test Output:

Outputs to this test case include notification that the submittal request was received.

Success Criteria:

This test is considered successful when the tester is able to supply documents to the ECS Document Data Server. Once the document is ingested into the ECS Document Server, the tester must able to access the ECS Document Data Server through the ECS Desktop and conduct a

search for the previously supplied document. Notification must be returned to the tester in a clear and meaningful error message if the documents can not be returned.

Test Procedures:

Test Case ID: BS018.007	
Test Name: Release A Document Data Server	Comments
Test Steps:	
1. Log onto a workstation	
2. Open an xterm	
3. Create a directory named Ingest	
4. Enter "**vi editor"** at the command line	
5. Enter "**daac document ingest 1**"	
6. Exit the vi editor and save the file to <**file name**>"	This will save the file to an ASCII file
7. Open an xterm and use this term to start the Ingest GUI,	
8. Start Netscape in this xterm window	The Netscape browser home page is displayed
9. Select "Open" button to open URL file	The URL dialog windows
10. Enter <**URL address>** for Ingest	
11. Select Open	
12. 12. Verify that the Interactive Ingest Main Form is returned	
13. Select "Submit Ingest Request"	
14. Verify that the Submit Ingest Request home page is returned	
15. Select <**file name**>	A DAN is associated with the document at this point. The DAN contains a Document Data Type Identifier.
16. Select "Submit"	
17. 17. Start the ECS Desktop	
18. Select the ECS Document Data Server	
19. Verify that the ECS Document Data Server home page is returned	
20. Select the "Search" located at the bottom of the page	
21. Enter < **file name**> "	This is the same file name of the document previously ingested.
22. Verify the DDSRV: Repository View is returned	
23. Select "Browse "	
24. Verify that the DDSRV: Repository Browse is returned	
25. Select Document ID	
26. Verify the document is returned	S-DSS-10170 S-DSS-10241
27. Exit the DDSRV and the ECS Desktop.	

4.14.1.8 Test Case 8: Release A DAAC CSMS Hardware Verification (BS018.008)

The purpose of this test case is to account for all of the defined hardware configuration and resource types that shall be provided for GSFC, LaRC, EOC, EDC DAACs, and SMC.

Test Configuration:

Hardware: All defined DAAC hardware resources

Software: None

Data: DAAC Hardware Configuration data

Tools: None

Test Input:

None

Test Output:

All Hardware configurations and resources are verified.

Success Criteria:

This test case is deemed successful when all hardware configuration and resource requirements have been successfully verified.

Test Procedures:

Test Case ID: BS018.008	
Test Name: Release A DAAC Hardware Verification	
Test Steps:	Comments:
1. Verify that the Enterprise Monitoring Server shall be physically and functionally identical to the Enterprise Communications Server in supporting the CSMS requirements.	C-HRD-11000
2. Verify that the Enterprise Monitoring Server shall share data with the Local System Management Server in supporting the CSMS requirements.	C-HRD-11005
3. Verify that the Enterprise Monitoring Server shall preserve DAAC autonomy of operations.	C-HRD-11010
4. Verify that the Enterprise Monitoring Server shall host the MSS software configuration items to create, with the Enterprise Communications Server and Management Workstations, an enterprise monitoring and coordination center for the ECS.	C-HRD-11015
5. Verify that the Enterprise Monitoring Server processor shall include a dedicated terminal to be used as a local systems operations console.	C-HRD-11100
6. Verify that the Enterprise Monitoring Server processor shall be capable of expansion with additional quantities and types of peripherals.	C-HRD-11105
7. Verify that the Enterprise Monitoring Server processor shall be upgradeable/replaceable within the same product family without major software modification or replacement of any peripheral or attached component.	C-HRD-11110
8. Verify that the Enterprise Monitoring Server processor terminal shall be compatible with the Management Workstation display device.	C-HRD-11120

9. Verify that the Enterprise Monitoring Server data storage shall be compatible with the Local System Management Server short-term data storage.	C-HRD-11310
10. Verify that the Enterprise Monitoring Server data storage shall have the following hot swappable components: a. Disks b. Power Supplies c. Fans d. Disk-array controllers	C-HRD-11320
11. Verify that the Enterprise Monitoring Server data storage shall be cross-strapped with the Enterprise Communications Server data storage in supporting the CSMS requirements.	C-HRD-11325
12. Verify that the Enterprise Monitoring Server data storage shall be capable of archiving data to the ECS data server archive for data archive.	C-HRD-11335
13. Verify that the Enterprise Monitoring Server data archive shall adhere to ECS data server archival requirements for data storage and retrieval.	C-HRD-11345
14. Verify that the Enterprise Monitoring Server peripheral disk drives shall be capable of retrieving data stored from both the enterprise monitoring server data storage and data archive.	C-HRD-11505
15. Verify that the Enterprise Monitoring Server peripherals shall support at least one tape drive.	C-HRD-11530
16. Verify that the Enterprise Monitoring Server peripheral tape drive shall have the following characteristics: a. 4mm Digital Audio Tape format b. Accept industry standard magnetic 4mm DAT (i.e. DDS-90) c. Data transfer rate of 200KB/sec	C-HRD-11535
17. Verify that the Enterprise Monitoring Server tape drives shall be upgradeable/replaceable within the same product family.	C-HRD-11540
18. Verify that the Enterprise Monitoring Server peripherals shall support at least one CD-ROM drive.	C-HRD-11565
19. Verify that the Enterprise Monitoring Server peripheral CD-ROM drive shall have the following characteristic: a. Accept 600MB Compact Disk	C-HRD-11570
20. Verify that the Enterprise Monitoring Server peripheral CD-ROM drives shall be upgradeable/replaceable within the same product family.	C-HRD-11575
21. Verify that the Local Management Server shall be physically and functionally identical to the Local Communications Server in supporting the CSMS requirements.	C-HRD-12000
22. Verify that the Local Management Server shall share data with the Enterprise Monitoring Server in supporting the CSMS requirements.	C-HRD-12005
23. Verify that the Local Management Server shall manage only the local DAAC and preserve other DAAC autonomy of operations.	C-HRD-12010

24. Verify that the Local Management Server shall host the MSS software configuration items to create, with the Local Communications Server and Management Workstations, a local system management center for each ECS DAAC.	C-HRD-12015
25. Verify that the Local Management Server processor shall include a dedicated terminal to be used as a local systems operations console.	C-HRD-12100
26. Verify that the Local Management Server processor shall be capable of expansion with additional quantities and types of peripherals.	C-HRD-12105
27. Verify that the Local Management Server processor shall be upgradeable/replaceable within the same product family without major software modification or replacement of any peripheral or attached component.	C-HRD-12110
28. Verify that the Local Management Server processor terminal shall be compatible with the Management Workstation display device.	C-HRD-12120
29. Verify that the Local Management Server data storage shall be compatible with the Enterprise Monitoring Server intermediate-term data storage.	C-HRD-12310
30. Verify that the Local Management Server data storage shall support RAID level-5: striping with interleaved parity.	C-HRD-12315
31. Verify that the Local Management Server data storage shall have the following hot swappable components: a. Disks b. Power Supplies c. Fans d. Disk-array controllers	C-HRD-12320
32. Verify that the Local Management Server data storage shall be cross-strapped with the Local Communications Server short-term data storage in supporting the CSMS requirements.	C-HRD-12325
33. Verify that the Local Management Server data storage shall be capable of archiving data to the ECS Data Server archive for data archive.	C-HRD-12335
34. Verify that the Local Management Server data archive shall adhere to ECS Data Server archival requirements for data storage and retrieval.	C-HRD-12345
35. Verify that the Local Management Server peripheral disk drives shall be capable of retrieving data stored from both the Local Management server data storage data archive.	C-HRD-12505
36. Verify that the Local Management Server peripherals shall support at least one tape drive.	C-HRD-12530
37. Verify that the Local Management Server peripheral tape drive shall have the following characteristics: a. 4mm Digital Audio Tape format b. Accept industry standard magnetic 4mm DAT (i.e. DDS-90) c. Data transfer rate of 200KB/sec	C-HRD-12535
38. Verify that the Local Management Server tape drives shall be upgradeable/replaceable within the same product family.	C-HRD-12540

39. Verify that the Local Management Server peripherals shall support at least one CD-ROM drive.	C-HRD-12565
40. Verify that the Local Management Server peripheral CD-ROM drive shall have the following characteristic: a. Accept 600MB Compact Disk	C-HRD-12570
41. Verify that the Local Management Server peripheral CD-ROM drives shall be upgradeable/replaceable within the same product family.	C-HRD-12575
42. Verify that all Management Workstations and processors shall be capable of operating simultaneously and independently of other workstations and management/communications servers.	C-HRD-13000
43. Verify that at a minimum, each processor shall have the capability to support a POSIX compliant IEEE 1003.1 operating system (UNIX).	C-HRD-13100
44. Verify that Each Management Workstation shall provide one QWERTY keyboard which shall: a. Be detachable and cabled for movement on a desk-top style workstation area b. Provide a minimum of 12 programmable function keys	C-HRD-13105
45. Verify that Each Management Workstation shall provide one color text and graphics display device which shall: a. Display the complete ASCII character set b. Provide a minimum of 1024 pixel x 864 lines resolution display c. Display a minimum of 16 colors d. Display pages 24 lines by 80 characters wide e. Display a minimum of four screen display pages f. Display pages readable from any location along the width of the workstation and up to a distance of 6 feet from the screen g. Provide a minimum of 19 inches diagonal non-glare screen h. Provide RGB video output for hard copy i. Feature an integral swivel/tilt base j. Provide brightness, contrast and power controls within easy reach. k. Be physically relocatable within the operations center	C-HRD-13110
46. Verify that the Management Workstation shall provide one cursor pointing device (mouse).	C-HRD-13115
47. Verify that the Management Workstation shall be upgradeable/replaceable within the same product family.	C-HRD-13120
48. Verify that the Management Workstation data storage shall be capable of retrieving data from the data storage function of both the Enterprise Monitoring Server and the Local Management Server.	C-HRD-13300
49. Verify that all Management Workstation disk drives serving a specific function (e.g. local management, enterprise monitoring) shall be identical and will have equal capacity.	C-HRD-13505

50. Verify that each Printer shall be physically and functionally identical in supporting the CSMS printing requirements.	C-HRD-13900
51. Verify that the Enterprise Monitoring Server shall be capable of 100 percent growth in the processing speed specified in Appendix A of the current version of 304-CD-003 without modifications or upgrades to software.	C-HRD-16000
52. Verify that the Enterprise Monitoring Server shall be capable of 100 percent growth in the storage capacity specified in Appendix A of the current version of 304-CD-003 without modifications or upgrades to software.	C-HRD-16005
53. Verify that the Local Management Server shall be capable of 100 percent growth in the processing speed specified in Appendix A of the current version of 304-CD-003 without modifications or upgrades to software.	C-HRD-16010
54. Verify that the Local Management Server shall be capable of 100 percent growth in the storage capacity specified in Appendix A of the current version of 304-CD-003 without modifications or upgrades to software.	C-HRD-16015
55. Verify that the Enterprise Monitoring Server shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-003.	C-HRD-16020
56. Verify that the Local Management Server shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-003 for all DAAC configurations.	C-HRD-16025
57. Verify that the Management Workstation shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-003.	C-HRD-16030
58. Verify that the MSS-MHCI hardware selection criteria shall meet overall ECS security policies and system requirements.	C-HRD-17000
59. Verify that the MSS-MHCI functional string between the Enterprise Monitoring Server and the Local Management Server at the SMC shall be configured to support the SMC function of Gathering and Disseminating System Management Information's Availability requirement of 0.998 and a Mean Down Time of < 20 minutes during times of staffed operation.	C-HRD-18010
60. Verify that the Enterprise Communications Server shall be physically and functionally identical to the Enterprise Monitoring Server in supporting the CSMS requirements.	C-HRD-21000
61. Verify that the Enterprise Communications Server shall share data with the Local Communications Server in supporting the CSMS requirements.	C-HRD-21005
62. Verify that the Enterprise Communications Server shall preserve DAAC autonomy of operations.	C-HRD-21010

63. Verify that the Enterprise Communications Server shall host the CSS software configuration items to create, with the Enterprise Monitoring Server and Management Workstations, an enterprise monitoring and coordination center for the ECS.	C-HRD-21015
64. Verify that the Enterprise Communications Server processor shall include a dedicated terminal to be used as a local systems operations console.	C-HRD-21100
65. Verify that the Enterprise Communications Server processor shall be capable of expansion with additional quantities and types of peripherals.	C-HRD-21105
66. Verify that the Enterprise Communications Server processor shall be upgradeable/replaceable within the same product family without major software modification or replacement of any peripheral or attached component.	C-HRD-21110
67. Verify that the Enterprise Communications Server processor terminal shall be compatible with the Management Workstation display device.	C-HRD-21120
68. Verify that the Enterprise Communications Server data storage shall be compatible with the Communications Server short-term data storage.	C-HRD-21310
69. Verify that the Enterprise Communications Server data storage shall support RAID level-5: striping with interleaved parity.	C-HRD-21315
70. Verify that the Enterprise Communications Server data storage shall have the following hot swappable components: a. Disks b. Power Supplies c. Fans d. Disk-array controllers	C-HRD-21320
71. Verify that the Enterprise Communications Server data storage shall be cross-strapped with the Enterprise Monitoring Server data storage in supporting the CSMS requirements.	C-HRD-21325
72. Verify that the Enterprise Communications Server data storage shall be capable of archiving data to the ECS Data Server archive for data archive.	C-HRD-21335
73. Verify that the Enterprise Communications Server data archive shall adhere to ECS data server archival requirements for data storage and retrieval.	C-HRD-21345
74. Verify that the Enterprise Communications Server peripheral disk drives shall be capable of retrieving data stored from both the Enterprise Communications server data storage and data archive.	C-HRD-21505
75. Verify that the Enterprise Communications Server peripherals shall support at least one tape drive.	C-HRD-21530
76. Verify that the Enterprise Communications Server peripheral tape drive shall have the following characteristics: a. 4mm Digital Audio Tape format b. Accept industry standard magnetic 4mm DAT (i.e. DDS-90) c. Data transfer rate of 200KB/sec	C-HRD-21535

77. Verify that the Enterprise Communications Server tape drives shall be upgradeable/replaceable within the same product family.	C-HRD-21540
78. Verify that the Enterprise Communications Server peripherals shall support at least one CD-ROM drive.	C-HRD-21565
79. Verify that the Enterprise Communications Server peripheral CD-ROM drive shall have the following characteristic: a. Accept 600MB Compact Disk	C-HRD-21570
80. Verify that the Enterprise Communications Server peripheral CD-ROM drives shall be upgradeable/replaceable within the same product family.	C-HRD-21575
81. Verify that the Local Communications Server shall be physically and functionally identical to the Local Management Server in supporting the CSMS requirements.	C-HRD-22000
82. Verify that the Local Communications Server shall share data with the Enterprise Communications Server in supporting the CSMS requirements.	C-HRD-22005
83. Verify that the Local Communications Server shall be configurable according to local DAAC user authentication/authorization policy and preserve other DAAC autonomy of operations.	C-HRD-22010
84. Verify that the Local Communications Server shall host the CSS software configuration items to create, with the Local Management Server and Management Workstations, a local system management center for each ECS DAAC.	C-HRD-22015
85. Verify that the Local Communications Server processor shall include a dedicated terminal to be used as a local systems operations console.	C-HRD-22100
86. Verify that the Local Communications Server processor shall be capable of expansion with additional quantities and types of peripherals.	C-HRD-22105
87. Verify that the Local Communications Server processor shall be upgradeable/replaceable within the same product family without major software modification or replacement of any peripheral or attached component.	C-HRD-22110
88. Verify that the Local Communications Server processor shall have the capability to support a POSIX compliant IEEE 1003.1 operating system (UNIX).	C-HRD-22115
89. Verify that the Local Communications Server processor terminal shall be compatible with the Management Workstation display device.	C-HRD-22120
90. Verify that the Local Communications Server data storage shall be compatible with POSIX compliant operating systems from several vendors.	C-HRD-22300
91. Verify that the Local Communications Server short-term data storage shall be compatible with the Enterprise Communications Server intermediate-term data storage.	C-HRD-22310

92. Verify that the Local Communications Server data storage shall support RAID level-5: striping with interleaved parity.	C-HRD-22315
93. Verify that the Local Communications Server data storage shall have the following hot swappable components: a. Disks b. Power Supplies c. Fans d. Disk-array controllers	C-HRD-22320
94. Verify that the Local Communications Server data storage shall be cross-strapped with the Local Management Server short-term data storage in supporting the CSMS requirements.	C-HRD-22325
95. Verify that the Local Communications Server data storage shall be capable of archiving data to the ECS Data Server archive.	C-HRD-22335
96. Verify that the Local Communications Server data archive shall adhere to ECS Data Server archival requirements for data storage and retrieval.	C-HRD-22345
97. Verify that the Local Communications Server peripheral disk drives shall be capable of retrieving data stored from both the Local Communications server data storage and data archive.	C-HRD-22505
98. Verify that the Local Communications Server peripherals shall support at least one tape drive.	C-HRD-22530
99. Verify that the Local Communications Server peripheral tape drive shall have the following characteristics: a. 4mm Digital Audio Tape format b. Accept industry standard magnetic 4mm DAT (i.e. DDS-90) c. Data transfer rate of 200KB/sec	C-HRD-22535
100. Verify that the Local Communications Server tape drives shall be upgradeable/replaceable within the same product family.	C-HRD-22540
101. Verify that the Local Communications Server peripherals shall support at least one CD-ROM drive.	C-HRD-22565
102. Verify that the Local Communications Server peripheral CD-ROM drive shall have the following characteristic: a. Accept 600MB Compact Disk	C-HRD-22570
103. Verify that the Local Communications Server peripheral CD-ROM drives shall be upgradeable/replaceable within the same product family.	C-HRD-22575
104. Verify that the BulletinBoard Server shall share data with the Enterprise Communications Server in supporting the CSMS requirements.	C-HRD-23000
105. Verify that the BulletinBoard Server shall preserve DAAC autonomy of operations and aggregate all ECS DAAC authentication/authorization policies by user type and DAAC, to provide a integrated view of ECS for user registration, account administration, and authentication/authorization to ECS services.	C-HRD-23005

106. Verify that the BulletinBoard Server shall host the CSS software configuration items to create a single, secure unified access to all ECS services.	C-HRD-23010
107. Verify that the BulletinBoard Server shall host ECS client software and toolkits for ECS-external distribution.	C-HRD-23015
108. Verify that the BulletinBoard Server processor shall include a dedicated terminal to be used as a local systems operations console.	C-HRD-23100
109. Verify that the BulletinBoard Server processor shall be upgradeable/expandable with additional quantities and types of peripherals.	C-HRD-23105
110. Verify that the BulletinBoard Server processor shall be upgradeable/replaceable within the same product family without the need for any perturbation of any software or replacement of any peripheral or attached component.	C-HRD-23110
111. Verify that the BulletinBoard Server processor terminal shall be compatible with the Management Workstation display device.	C-HRD-23120
112. Verify that the BulletinBoard Server data storage shall be capable of archiving data to the ECS data server archive for long-term storage and software/toolkit safestore.	C-HRD-23310
113. Verify that the BulletinBoard Server data archive shall adhere to ECS data server archival requirements for data storage and retrieval.	C-HRD-23320
114. Verify that the BulletinBoard Server peripherals shall support at least one tape drive.	C-HRD-23530
115. Verify that the BulletinBoard Server peripheral tape drive shall have the following characteristics: a. 4mm Digital Audio Tape format b. Accept industry standard magnetic 4mm DAT (i.e. DDS-90) c. Data transfer rate of 200KB/sec	C-HRD-23535
116. Verify that the BulletinBoard Server tape drives shall be upgradeable/replaceable within the same product family.	C-HRD-23540
117. Verify that the BulletinBoard Server peripherals shall support at least one CD-ROM drive.	C-HRD-23565
118. Verify that the BulletinBoard Server peripheral CD-ROM drive shall have the following characteristic: a. Accept 600MB Compact Disk	C-HRD-23570
119. Verify that the BulletinBoard Server peripheral CD-ROM drives shall be upgradeable/replaceable within the same product family.	C-HRD-23575
120. Verify that the Enterprise Communications Server shall be capable of 100 percent growth in the processing speed specified in Appendix A of the current version of 304-CD-003 without modifications or upgrade to software.	C-HRD-26000

121. Verify that the Enterprise Communications Server shall be capable of 100 percent growth in the storage capacity specified in Appendix A of the current version of 304-CD-003 without modifications or upgrade to software.	C-HRD-26005
122. Verify that the Local Communications Server shall be capable of 100 percent growth in the processing speed specified in Appendix A of the current version of 304-CD-003 without modifications or upgrade to software.	C-HRD-26010
123. Verify that the Local Communications Server shall be capable of 100 percent growth in the storage capacity specified in Appendix A of the current version of 304-CD-003 without modifications or upgrade to software.	C-HRD-26015
124. Verify that the Enterprise Communications Server shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-003.	C-HRD-26020
125. Verify that the Local Communications Server shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-003.	C-HRD-26025
126. Verify that the BulletinBoard Server shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-003.	C-HRD-26030
127. Verify that the CSS-DCHCI hardware selection criteria shall meet overall ECS security policies and system requirements.	C-HRD-27000
128. Verify that the CSS-DCHCI Bulletin Board Server shall provide a security perimeter for ECS.	C-HRD-27005
129. Verify that the CSS-DCHCI Enterprise and Local Communications Servers shall be configured to provide autonomous DAAC security perimeters, FOS isolation, and an Iso-cell ECS security perimeter.	C-HRD-27010
130. Verify that the CSS-DCHCI Local Communications Server shall maintain one backup of all software and key data items in a separate physical location.	C-HRD-28005
131. Verify that the CSS DCHCI Enterprise Communications Server at the SMC shall be configured to support the SMC function of Gathering and Disseminating System Management Information's availability requirement of .998 and a mean down time of <= 20 minutes during times of staffed operation.	C-HRD-28020
132. Verify that the ISS shall provide LANs at the following Release A sites: a. GSFC DAAC LAN b. GSFC EOC LAN c. EDC DAAC LAN d. LaRC DAAC LAN e. GSFC SMC LAN	C-HRD-31000
133. Verify that the LAN Analysis Equipment shall provide protocol analysis through the transport layer for all ISS LAN protocols and interconnection protocols to MANs/WANs.	C-HRD-34000

134. Verify that the LAN Analysis Equipment shall include: a. Communications line monitors to store and display up to 10,000 bytes of data sent and received over any of the communications lines at rates of 10MB/sec to 100MB/sec, and supporting the protocols used within and interconnecting ECS. b. Local Area Network analyzers	C-HRD-34010
135. Verify that the EOC LAN loop delay contribution shall not exceed more than 500 msec (goal 250 msec) seconds of the total ECS delay of 2.5 seconds for emergency real-time commands.	C-HRD-36000
136. Verify that the EOC Operational LAN backbone shall be able to support a peak traffic rate of 24 Mbps to support AM-1 flows from the Ecom interface.	C-HRD-36010
137. Verify that the ISS shall provide wide area bandwidth necessary to support data transfer in accordance with Release A requirements specified in "Communications Requirements for the ECS Project", 194-220-SE3-001.	C-HRD-36020
138. Verify that the ISS shall provide sufficient local area network bandwidth at the LaRC DAAC to support data transfer between and among physical nodes provided by SDPS, MSS and CSS in accordance with the Release A network I/O sizing listed in Appendix A of the current version of 304-CD-003.	C-HRD-36030
139. Verify that the ISS shall provide sufficient local area network bandwidth at the GSFC DAAC to support data transfer between and among physical nodes provided by SDPS, MSS and CSS in accordance with the Release A network I/O sizing listed in Appendix A of the current version of 304-CD-003.	C-HRD-36050
140. Verify that the ISS shall provide sufficient local area network bandwidth at the EDC DAAC to support data transfer between and among physical nodes provided by SDPS, MSS and CSS in accordance with the Release A network sizing listed in Appendix A of the current version of 304-CD-003.	C-HRD-36060
141. Verify that the ISS shall reuse the existing V0 DAAC LAN at EDC for Release A.	C-HRD-36065
142. Verify that the ISS LANs at the GSFC and LaRC DAAC sites shall be capable of supporting twice the R-A network traffic load estimates without redesign.	C-HRD-36070
143. Verify that the ISS LANs at the Release-A DAAC sites shall be designed in a manner that allows a. Nodes to be added to any given LAN segment. b. Additional LAN segments to be added to the LAN.	C-HRD-36080
144. Verify that the EOC Operational LAN shall be able to support 230 network devices without redesign.	C-HRD-36090
145. Verify that the EOC Operational LAN shall be able to support peak data rates of up to 48 Mbps without redesign.	C-HRD-36100
146. Verify that the ISS networks shall support the use of network and transport layer filtering to control access from internal and external interfaces.	C-HRD-37000

147. Verify that the ISS-INHCI DAAC LANs shall provide transparent portability across heterogeneous site LAN architectures.	C-HRD-39000
148. Verify that the ISS-INHCI DAAC LANs shall enable expansion to GByte networks including the ability to provide increased volume of data distribution and access.	C-HRD-39005
149. Verify that the GSFC LSM in the R-A time frame shall provide a Local Communications Server configured with: a. Two Fixed Disks b. One Tape Drive c. One CD-ROM Drive d. Storage cross-strapped with Local Management Server	C-HRD-42005
150. Verify that the GSFC LSM in the R-A timeframe shall provide one Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers.	C-HRD-42010
151. Verify that the GSFC LSM in the R-A timeframe shall provide two (2) Management Workstations, which can perform any GSFC LSM function.	C-HRD-42015
152. Verify that the GSFC LSM in the R-A timeframe shall provide 1 system printer.	C-HRD-42020
153. Verify that the GSFC infrastructure in the R-A timeframe shall provide one GSFC LAN.	C-HRD-42500
154. Verify that the GSFC EMC in the R-A timeframe shall provide an enterprise monitoring server, enterprise communications server, four (4) Management Workstations, one (1) printer, and bulletin board server transferred from the IR-1 EDF.	C-HRD-42700
155. Verify that the GSFC EMC in the R-A timeframe shall provide, via the ECS data server, a Enterprise Monitoring Server long-term data storage capability.	C-HRD-42705
156. Verify that the EOC LSM in the R-A timeframe shall provide a Local Management Server configured with: a. Two Fixed Disks b. One Tape Drive c. One CD-ROM Drive d. Storage cross-strapped with Local Communications Server	C-HRD-43000
157. Verify that the EOC LSM in the R-A timeframe shall provide a Local Communications Server configured with: a. Two Fixed Disks b. One Tape Drive c. One CD-ROM Drive d. Storage cross-strapped with Local Management Server	C-HRD-43005
158. Verify that the EOC LSM in the R-A timeframe shall provide one Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers.	C-HRD-43010
159. Verify that the EOC LSM in the R-A timeframe shall provide two (2) Management Workstations, which can perform any EOC LSM function.	C-HRD-43015

160. Verify that the EOC LSM in the R-A timeframe shall provide 1 system printer.	C-HRD-43020
161. Verify that the EOC infrastructure in the R-A timeframe shall provide one EOC LAN.	C-HRD-43500
162. Verify that the LaRC LSM in the R-A timeframe shall provide a Local Communications Server configured with: a. Two Fixed Disks b. One Tape Drive c. One CD-ROM Drive d. Storage cross-strapped with Local Management Server	C-HRD-45005
163. Verify that the LaRC LSM in the R-A timeframe shall provide one Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers.	C-HRD-45010
164. Verify that the LaRC LSM in the R-A timeframe shall provide two (2) Management Workstations, which can perform any LaRC LSM function.	C-HRD-45015
165. Verify that the LaRC LSM in the R-A timeframe shall provide 1 system printer.	C-HRD-45020
166. Verify that the LaRC infrastructure in the R-A timeframe shall provide one LaRC LAN.	C-HRD-45500
167. Verify that the EDC LSM in the R-A timeframe shall provide a Local Communications Server configured with: a. Two Fixed Disks b. One Tape Drive c. One CD-ROM Drive d. Storage cross-strapped with Local Management Server	C-HRD-46005
168. Verify that the EDC LSM in the R-A timeframe shall provide one Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers.	C-HRD-46010
169. Verify that the EDC LSM in the R-A timeframe shall provide two (2) Management Workstations, which can perform any EDC LSM function.	C-HRD-46015
170. Verify that the EDC LSM in the R-A timeframe shall provide 1 system printer.	C-HRD-46020
171. Verify that the EDC infrastructure in the R-A timeframe shall provide one EDC LAN.	C-HRD-46500

4.14.1.9 Test Case 9: Release A DAAC DM Hardware Verification (BS018.009)

This test case verifies the hardware, software and facilities requirements for the Data Management subsystem. These requirements will be verified by inspection or analysis. The method of verification will be described in the Release A I&T Test Report.

Test Configuration:

Hardware: All defined DAAC hardware resources

Software: None

Data: DAAC Hardware Configuration data

Tools: None

Test Input:

None

Test Output:

All Hardware software and facilities requirements are verified.

Success Criteria:

This test case is deemed successful when all hardware, software and facilities requirements have been successfully verified.

Test Procedures:

Test Case ID: BC018.009	
Test Name: Release A DAAC Hardware Verification	
Test Steps:	Comments:
1. Verify the electrical power requirements for DMGHW CI equipment are in accordance with the ECS Facilities Plan (DID 302/DV2).	S-DMS-60010
2. Verify the air conditioning requirements for the DMGHW CI equipment are in accordance with the ECS Facilities Plan (DID 302/DV2).	S-DMS-60020
3. Verify the grounding requirements for DMGHW CI equipment are in accordance with ECS Facilities Plan (DID 302/DV2).	S-DMS-60030
4. Verify the fire alarm requirements for DMGHW CI equipment are in accordance with ECS Facilities Plan (DID 302/DV2).	S-DMS-60040
5. Verify the acoustical requirements for DMGHW CI equipment are in accordance with ECS Facilities Plan (DID 302/DV2).	S-DMS-60050
6. Verify the physical interface requirements between DMGHW CI equipment and the facility are in accordance with ECS Facilities Plan (DID 302/DV2).	S-DMS-60060
7. Verify the footprint size and the physical layout of DMGHW CI equipment are in accordance with the ECS Facilities Plan (DID 302/DV2).	S-DMS-60070
8. Verify the operating system for each Unix platform in the DMGHW CI conforms to the POSIX.2 standard.	S-DMS-60110
9. Verify the DMGHW CI POSIX.2 compliant platform has the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.	S-DMS-60120
10. Verify the DMGHW CI POSIX.2 compliant platform has the following POSIX.2 user Portability Utilities installed at a minimum: man, vi.	S-DMS-60130
11. Verify the DMGHW CI POSIX.2 compliant platform has the following POSIX.2 Software Development Utilities installed at a minimum: make.	S-DMS-60140

12. Verify the DMGHW CI POSIX.2 compliant platform has the following POSIX.2 C-Language Development Utilities installed at a minimum: lex, yacc.	S-DMS-60150
13. Verify the DMGHW CI POSIX.2 compliant platform has the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.	S-DMS-60160
14. Verify the DMGHW CI POSIX.2 compliant platform has on-line documentation or printed documentation for each installed tool.	S-DMS-60170
15. Verify the DMGHW CI POSIX.2 compliant platform has installed one or more development environment supporting the following languages: a. C b. FORTRAN-77	S-DMS-60180
16. Each development environment associated with the POSIX.2 compliant platform in the DMGHW CI has the capability to compile and link strictly conformant POSIX-compliant source code.	S-DMS-60190
17. Each development environment associated with the POSIX.2 compliant platform in the DMGHW CI has an interactive source level debugger for ECS supported languages.	S-DMS-60195
18. Verify the DMGHW CI are configured to support the SDPS function of information searches on the ECS directory's availability requirement of .993 and a mean down time (MDT) requirement of < 2 hours during times of staffed operations.	S-DMS-60300
19. Verify the DMGHW CI are configured to support the SDPS function of User Interfaces to Client, Interoperability, Data Server, and Data Management (IMS) services at Individual DAAC Site's availability requirement of .993 and a mean down time requirement of < 2 hours during times of staffed operations.	S-DMS-60360
20. Verify the DMGHW CI are configured to support the SDPS function of Metadata Ingest and Update's availability requirement of .96 and a mean down time requirement of < 4 hours during times of staffed operations.	S-DMS-60370
21. Verify the DMGHW CI are configured to support the SDPS function of Local Data Order Submission's availability requirement of .96 and a mean down time requirement of < 4 hours during times of staffed operations.	S-DMS-60380
22. Verify the DMGHW CI are configured to support the SDPS function of Data Order Submission Across DAAC's availability requirement of .96 and a mean down time requirement of < 4 hours during times of staffed operations.	S-DMS-60390
23. Verify the DMGHW CI are configured to support the SDPS function of Client, Interoperability, Data Management and Data Server (IMS) Data Base Management and Maintenance Interface's availability requirement of .96 and a mean down time requirement of < 4 hours during times of staffed operations.	S-DMS-60400

24. Verify the DMGHW CI elements and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements.	S-DMS-60410
25. Verify the maximum down time of the DMGHW CI shall not exceed twice the required MDT in 99 percent of failure occurrences.	S-DMS-60420
26. Verify the GTWAY CI provides utilities which extract from the Data Dictionary the information needed by the V0 Client, in the format expected by the V0 Client.	S-DMS-30520
27. Verify the GTWAY CI provides for the return of Service Requests results.	S-DMS-30505
28. Verify the GTWAY CI provides for the submission of Service Requests.	S-DMS-30500
29. Verify the GTWAY CI are available 24 hours a day, 7 days a week within the constraints of the RMA requirements.	S-DMS-30100

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Appendix A. SDPS Requirements Verification Matrix

TS003.001	S-DMS-30540	The GTWAY CI shall provide the capability to translate Version 0 system protocol into ECS system protocols.
	S-DMS-30360	The GTWAY CI shall have the capability to receive Inventory Search Requests from the Version 0 IMS using Version 0 system protocols.
	S-DMS-30370	The GTWAY CI shall have the capability to send Inventory Search Results to the Version 0 IMS using Version 0 system protocols.
TS003.002	S-DMS-30340	The GTWAY CI shall provide the capability to translate Version 0 system protocol into ECS system protocols.
	S-DMS-30360	The GTWAY CI shall have the capability to receive Inventory Search Requests from the Version 0 IMS using Version 0 system protocols.
	S-DMS-30370	The GTWAY CI shall have the capability to send Inventory Search Results to the Version 0 IMS using Version 0 system protocols.
TS003.003	S-DMS-30340	The GTWAY CI shall provide the capability to translate Version 0 system protocol into ECS system protocols.
	S-DMS-30360	The GTWAY CI shall have the capability to receive Inventory Search Requests from the Version 0 IMS using Version 0 system protocols.
	S-DMS-30370	The GTWAY CI shall have the capability to send Inventory Search Results to the Version 0 IMS using Version 0 system protocols.
TS004.001	S-DMS-30340	The GTWAY CI shall provide the capability to translate Version 0 system protocol into ECS system protocols.
TS004.002	S-DMS-30340	The GTWAY CI shall provide the capability to translate Version 0 system protocol into ECS system protocols.
TS005.002	S-DMS-30380	The GTWAY CI shall have the capability to receive Browse Requests from the Version 0 IMS using Version 0 system protocols.
TS006.001	S-IOS-00010	The ADSRV CI shall provide the capability for viewing Advertisements.
	S-IOS-00060	Advertising internal data base management queries shall be expressed in standard query language (SQL).
	S-IOS-00590	The ADSRV CI shall provide Advertisements that describe Science Processing Library holdings.
	S-IOS-00610	The ADSRV CI shall find Advertisements which match text string expressions in the Service Request
	S-IOS-00080	The ADSRV CI shall provide a capability to access Advertisements for ECS and non-ECS data and services.
	S-IOS-00030	Advertising shall contain information that describes EOSDIS science data sets.
	S-IOS-00070	The ADSRV CI shall provide capability for displaying Advertisements for data and services provided by non-ECS systems with which ECS is interoperable.
TS006.002	S-IOS-00610	The ADSRV CI shall find Advertisements which match text string expressions in the Service Request
TS006.003	S-IOS-00830	The ADSRV shall have the capability to send Advertising information to the NOAA SAAs.

	S-IOS-00840	The ADSRV shall have the capability to receive Advertising information from the NOAA SAAs.
	S-IOS-00850	The ADSRV shall have the capability to receive Advertising information from the NOAA Data Centers.
TS006.004	S-IOS-00230	The ADSRV CI shall provide the capability to add, delete, or modify individual Advertisements.
TS006.005	S-IOS-00800	The ADSRV CI shall provide an application program interface for the submission of Service Requests.
	S-IOS-00800	The ADSRV CI shall provide an application program interface for the submission of Service Requests.
	S-IOS-00600	The ADSRV CI shall provide the clients with a binding to the advertisement which can be used to issue Service Requests to the selected service or use the reference to the service in a Universal Reference
	S-IOS-00020	The ADSRV CI shall support interactive information management capabilities for authorized personnel to administer advertising data.
	S-IOS-00040	The ADSRV CI shall use the identification of the user on whose behalf a Service Request is issued as the basis for access control decisions.
	S-IOS-00050	Advertising accesses to data shall be subject to access controls of read, write, update and delete, singly or in combination, based on user privileges.
	S-IOS-00380	The ADSRV CI shall collect the management data used to support security management.
	S-IOS-00390	Advertising data accesses shall be subject to access controls of read, write, update and delete, singly or in combination, based on data types.
	S-IOS-00400	Advertising data accesses shall be subject to access controls of read, write, update and delete, singly or in combination, based on data ownership.
	S-IOS-00410	The capability to add, delete, or modify individual advertising data and service listings shall be limited to authorized users.
	S-IOS-00810	The ADSRV CI shall provide an application program interface for the submission of requests for administrative services.
	S-IOS-00490	The ADSRV CI shall collect Fault Management Data and provide it to the MSS.
	S-IOS-00880	The ADSRV CI shall allow ECS personnel to review submitted advertisements before those advertisements are posted for general access.
	S-IOS-00760	The ADSRV CI shall provide Notifications in response to Subscription Events.
	S-IOS-00330	The ADSRV CI shall support the interruption of any administrative or maintenance activity and its restart without loss of information.
	S-IOS-00640	The ADSRV CI shall support interactive information management capabilities for users to add a Subscription to be informed of changes in the Advertisements.
	S-IOS-00650	The ADSRV CI shall support interactive information management capabilities for users to cancel a Subscription
	S-IOS-00660	The ADSRV CI shall support Subscription Update Requests.
	S-IOS-00670	The ADSRV CI shall be capable of obtaining the current Subscription Notification.

	S-IOS-00680	The ADSRV CI shall provide attributes of the identified Subscription(s) in the format specified by the output specifications, e.g., as text document(s), hyperlink document(s) or a set of data records
	S-IOS-00250	The ADSRV CI shall support interactive information management capabilities for authorized users to renew an existing advertisement before it expires
	S-IOS-00260	The ADSRV CI shall support interactive information management capabilities for users to replace an existing advertisement with an updated version
	S-IOS-00510	The ADSRV CI shall collect Accountability Management Data and provide it to the MSS.
	S-IOS-00340	The ADSRV CI shall perform a single keyword attribute directory search in not exceeding 2 seconds.
	S-IOS-00090	The ADSRV CI shall support an administration utility for performance monitoring of system CPU, memory, disk and I/O.
	S-IOS-00100	The ADSRV CI shall support an administration utility for performance monitoring of database query processing.
	S-IOS-00110	The ADSRV CI shall support an administration utility for performance tuning.
	S-IOS-00120	The ADSRV CI shall support an administration utility for administration of access control.
	S-IOS-00130	The ADSRV CI shall support an administration utility for on-line full backup and restoration of advertising service data.
	S-IOS-00140	The ADSRV CI shall support an administration utility for on-line incremental backup and restoration of advertising service data.
	S-IOS-00150	Advertising shall support an administration utility for manual recovery of advertising service data from media and system failures.
	S-IOS-00160	The ADSRV CI shall support an administration utility for automatic recovery of advertising service data from system failures.
	S-IOS-00170	The ADSRV CI shall support a data administration utility for data import.
	S-IOS-00180	The ADSRV CI shall support a data administration utility for data export.
	S-IOS-00220	The ADSRV CI shall maintain a log of all information read, write, update and delete activity.
	S-IOS-60010	The electrical power requirements for ADSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-IOS-60020	The air conditioning requirements for the ADSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-IOS-60030	The grounding requirements for ADSHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-IOS-60040	The fire alarm requirements for ADSHW CI equipment shall be in accordance with)ECS Facilities Plan (DID 302/DV2).
	S-IOS-60050	The acoustical requirements for ADSHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-IOS-60060	The physical interface requirements between ADSHW CI equipment and the facility shall be in accordance with ECS Facilities Plan (DID 302/DV2).

	S-IOS-60070	The footprint size and the physical layout of ADSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-IOS-60110	The operating system for each Unix platform in the ADSHW CI shall conform to the POSIX.2 standard.
	S-IOS-60120	The ADSHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.
	S-IOS-60130	The ADSHW CI POSIX.2 compliant platform shall have the following POSIX.2 user Portability Utilities installed at a minimum: man, vi.
	S-IOS-60140	The ADSHW CI POSIX.2 compliant platform shall have the following POSIX.2 Software Development Utilities installed at a minimum: make.
	S-IOS-60150	The ADSHW CI POSIX.2 compliant platform shall have the following POSIX.2 C-Language Development Utilities installed at a minimum: lex, yacc.
	S-IOS-60160	The ADSHW CI POSIX.2 compliant platform shall have the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.
	S-IOS-60170	The ADSHW CI POSIX.2 compliant platform shall have on-line documentation or printed documentation for each installed tool.
	S-IOS-60180	The ADSHW CI POSIX.2 compliant platform shall have installed one or more development environment supporting the following languages: a. C b. FORTRAN-77
	S-IOS-60190	Each development environment associated with the POSIX.2 compliant platform in the ADSHW CI shall have the capability to compile and link strictly conformant POSIX-compliant source code.
	S-IOS-60195	Each development environment associated with the POSIX.2 compliant platform in the ADSHW CI shall have an interactive source level debugger for ECS supported languages.
	S-IOS-00870	The ADSRV CI shall support submission of advertisements in <TBD> format.
	S-IOS-00770	The ADSRV CI shall be able to provide attributes of the Advertisements selected by a Search Request or an Advertisement Request as text document(s), hyperlink document(s) or a set of data records, in accordance with specifications contained in the request.
	S-IOS-00690	The ADSRV CI shall accept Search Requests as specified in Appendix A.
	S-IOS-00700	The ADSRV CI shall accept Advertisement Requests as specified in Appendix A.
	S-IOS-00710	The ADSRV CI shall accept Subscription Requests as defined in Appendix A.
	S-IOS-00720	The ADSRV CI shall accept Advertisements as defined in Appendix A.
TS007.001	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above

	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
	EOSD2400#A	ECS shall provide multiple categories of data protection based on the sensitivity levels of ECS data, as defined in NHB 2410.9.
	IMS-0230#A	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW
	S-IOS-00050	Advertising accesses to data shall be subject to access controls of read, write, update and delete, singly or in combination, based on user privileges.
	S-IOS-00120	The ADSRV CI shall support an administration utility for administration of access control.
	S-IOS-00050	Advertising accesses to data shall be subject to access controls of read, write, update and delete, singly or in combination, based on user privileges.
	S-IOS-00410	The capability to add, delete, or modify individual advertising data and service listings shall be limited to authorized users.
	S-IOS-00120	The ADSRV CI shall support an administration utility for administration of access control.

TS007.002	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW
	IMS-0230#A	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
	IMS-0260#A	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
TS007.003	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
	IMS-0230#A	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
	IMS-0260#A	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW
	S-IOS-00120	The ADSRV CI shall support an administration utility for administration of access control.
	S-IOS-00050	Advertising accesses to data shall be subject to access controls of read, write, update and delete, singly or in combination, based on user privileges.
	S-IOS-00410	The capability to add, delete, or modify individual advertising data and service listings shall be limited to authorized users.
TS007.004	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
	IMS-0260#A	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.

	IMS-0030#A	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from
	IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW
	S-IOS-00020	The ADSRV CI shall support interactive information management capabilities for authorized personnel to administer advertising data.
	S-IOS-00010	The ADSRV CI shall provide the capability for viewing Advertisements.
TS007.005	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
	IMS-0230#A	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
	V0-0370#A	The DAAC(s) shall have the capability to send and ECS shall have the capability to receive Advertising Information [implementation issue 6].
	S-IOS-00040	The ADSRV CI shall use the identification of the user on whose behalf a Service Request is issued as the basis for access control decisions.
	S-IOS-00810	The ADSRV CI shall provide an application program interface for the submission of requests for administrative services.
	S-IOS-00820	The ADSRV shall have the capability to receive V0 Advertising Information from the DAAC(s).
	S-IOS-00880	The ADSRV CI shall allow ECS personnel to review submitted advertisements before those advertisements are posted for general access.
	S-IOS-00700	The ADSRV CI shall accept Advertisement Requests as specified in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.
	S-IOS-00720	The ADSRV CI shall accept Advertisements as defined in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.

TS007.006	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
	S-IOS-00170	The ADSRV CI shall support a data administration utility for data import.
	S-IOS-00180	The ADSRV CI shall support a data administration utility for data export.
TS007.007	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
	S-IOS-00130	The ADSRV CI shall support an administration utility for on-line full backup and restoration of advertising service data.
TS007.008	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
TS007.009	IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.

TS007.010	IMS-1700#A	The IMS shall provide the capability to generate reports on: a. The backlog of data distribution requests b. The backlog of processing requests c. The backlog of data acquisition requests d. Data quality assessment e. Daily IMS operations summaries f. IMS performance summaries
	S-IOS-00530	The ADSRV CI shall provide operations staff with the capability to generate ADSRV performance summary reports.
	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
	S-IOS-00340	The ADSRV CI shall perform a single keyword attribute directory search in not exceeding 2 seconds.
TS007.011	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
TS007.012	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
TS007.013	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
TS007.014	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
TS007.015	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
TS007.016	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
TS007.017	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
TS007.018	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
TS007.190	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
	S-IOS-00230	The ADSRV CI shall provide the capability to add, delete, or modify individual Advertisements.

TS007.020	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
	S-IOS-00230	The ADSRV CI shall provide the capability to add, delete, or modify individual Advertisements.
TS007.021	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
TS007.022	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
TS007.023	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
TS007.024	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
	S-IOS-00520	The ADSRV CI shall provide operations staff with the capability to generate daily ADSRV operations summary reports.
TS007.025	S-IOS-00730	The ADSRV CI shall allow advertisements of services that can be accessed via the WWW.
TS007.026	S-IOS-60010	The electrical power requirements for ADSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-IOS-60020	The air conditioning requirements for the ADSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-IOS-60030	The grounding requirements for ADSHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-IOS-60040	The fire alarm requirements for ADSHW CI equipment shall be in accordance with)ECS Facilities Plan (DID 302/DV2).
	S-IOS-60050	The acoustical requirements for ADSHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-IOS-60060	The physical interface requirements between ADSHW CI equipment and the facility shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-IOS-60070	The footprint size and the physical layout of ADSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-IOS-60110	The operating system for each Unix platform in the ADSHW CI shall conform to the POSIX.2 standard.
	S-IOS-60120	The ADSHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.
	S-IOS-60130	The ADSHW CI POSIX.2 compliant platform shall have the following POSIX.2 user Portability Utilities installed at a minimum: man, vi.
	S-IOS-60140	The ADSHW CI POSIX.2 compliant platform shall have the following POSIX.2 Software Development Utilities installed at a minimum: make.
	S-IOS-60150	The ADSHW CI POSIX.2 compliant platform shall have the following POSIX.2 C-Language Development Utilities installed at a minimum: lex, yacc.
	S-IOS-60160	The ADSHW CI POSIX.2 compliant platform shall have the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.
	S-IOS-60170	The ADSHW CI POSIX.2 compliant platform shall have on-line documentation or printed documentation for each installed tool.

	S-IOS-60180	The ADSHW CI POSIX.2 compliant platform shall have installed one or more development environment supporting the following languages: a. C b. FORTRAN-77
	S-IOS-60190	Each development environment associated with the POSIX.2 compliant platform in the ADSHW CI shall have the capability to compile and link strictly conformant POSIX-compliant source code.
	S-IOS-60195	Each development environment associated with the POSIX.2 compliant platform in the ADSHW CI shall have an interactive source level debugger for ECS supported languages.
TS008.001	S-PLS-00005	The PLANG CI shall accept priority Production Requests for the generation of specific Data Products.
	S-PLS-00020	The PLANG CI shall generate Data Processing Requests from Production Requests.
	S-PLS-00060	The PLANG CI shall support the capability to display a response message to the operations staff, indicating the acceptance / rejection status of Production Requests and the reasons for rejection (if applicable).
	S-PLS-01200	The PLANG CI shall provide the operations staff with the capability to perform the following on-line functions, via GUI: a. Entry of product requests for standard products, b. Query / update / cancellation of production requests for standard products, c. Query status of production requests, d. Query / update of production rules and PGE information, e. Entry of plan creation requests, f. Entry of plan activation requests, g. Entry of plan cancellation requests, h. Query candidate / active plans and corresponding status, i. Entry of requests for processing log reports / production and data processing request status reports / resource utilization reports / planning workload status reports / management reports, j. Entry of ground events, k. Query / update of ground events.
	S-PLS-00050	The PLANG CI shall reject a Production Request if an unauthorized User Identifier is specified.
	S-PLS-00040	The PLANG CI shall reject a Production Request if an invalid product identifier has been specified.
	S-PLS-00010	The PLANG CI shall accept Production Requests for specific Data Products with associated time windows that are to be routinely generated.
	S-PLS-00400	The PLANG CI shall maintain Product Generation Executives (PGEs) information that identifies the Science Software, the order of execution, the conditions for execution, the processing environment, and the input / output data types and locations.
	S-PLS-00460	The PLANG CI shall maintain lists of Granules needed to satisfy Production Requests.
TS008.002	S-PLS-00180	The PLANG CI shall validate updates (modifications / cancellations) to existing Production Requests.

	S-PLS-00220	The PLANG CI shall support the display of a response message to the operations staff, indicating the acceptance /rejection status of updates to a Production Request.
	S-PLS-00200	The PLANG CI shall accept updates (modifications / cancellations) to Production Requests entered by the operations staff.
TS008.003	S-PLS-00400	The PLANG CI shall maintain Product Generation Executives (PGEs) information that identifies the Science Software, the order of execution, the conditions for execution, the processing environment, and the input / output data types and locations.
	S-PLS-00460	The PLANG CI shall maintain lists of Granules needed to satisfy Production Requests.
	S-PLS-00440	The PLANG CI shall maintain Production Rules that define the production strategy (rules defining production priorities and preferences) to be used when preparing a Production Plan.
	S-PLS-01200	The PLANG CI shall provide the operations staff with the capability to perform the following on-line functions, via GUI: a. Entry of product requests for standard products, b. Query / update / cancellation of production requests for standard products, c. Query status of production requests, d. Query / update of production rules and PGE information, e. Entry of plan creation requests, f. Entry of plan activation requests, g. Entry of plan cancellation requests, h. Query candidate / active plans and corresponding status, i. Entry of requests for processing log reports / production and data processing request status reports / resource utilization reports / planning workload status reports / management reports, j. Entry of ground events, k. Query / update of ground events.
	S-PLS-00450	The PLANG CI shall support the capability that allows the operations staff to update (enter/ modify/ delete) the Production Rules (via GUI).
TS010.001	S-DPS-30610	The PRONG CI shall process the TRMM spacecraft ancillary data to assess the quality of onboard attitude data to detect and note in metadata the following conditions: a. missing data b. erroneous data (i.e. invalid Euler angle, invalid Euler angle rate)
	S-DPS-30700	The PRONG CI shall provide to the SDP Toolkit, at a minimum, the following metadata with the ephemeris data files for TRMM processing: a. Time range b. Orbit number range c. Platform
	S-DPS-30740	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in the native format of the host hardware for TRMM processing.
	S-DPS-30760	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for TRMM processing.

	S-DPS-31020	The PRONG CI shall provide, at a minimum, the following metadata information to the SDP Toolkit with SDPF-generated L0 data a. Actual start time of staged L0 data b. Actual end time of staged L0 data c. Number of physical L0 data files staged d. Start time of L0 data as requested by EOS investigators through the planning/processing system e. End time of L0 data as requested by EOS investigators through the planning/processing system f. APID of each L0 data file g. Orbit number or orbit number range of the staged L0 data file
TS010.002	S-DPS-30740	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in the native format of the host hardware for TRMM processing.
	S-DPS-30760	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for TRMM processing.
	S-DPS-31700	The PRONG CI shall extract metadata attributes for external Ancillary Data sets, in addition to metadata extraction by the INGST CI.
	S-DPS-31020	The PRONG CI shall provide, at a minimum, the following metadata information to the SDP Toolkit with SDPF-generated L0 data a. Actual start time of staged L0 data b. Actual end time of staged L0 data c. Number of physical L0 data files staged d. Start time of L0 data as requested by EOS investigators through the planning/processing system e. End time of L0 data as requested by EOS investigators through the planning/processing system f. APID of each L0 data file g. Orbit number or orbit number range of the staged L0 data file
	S-DPS-30700	The PRONG CI shall provide to the SDP Toolkit, at a minimum, the following metadata with the ephemeris data files for TRMM processing: a. Time range b. Orbit number range c. Platform
TS010.003	S-DPS-30700	The PRONG CI shall provide to the SDP Toolkit, at a minimum, the following metadata with the ephemeris data files for TRMM processing: a. Time range b. Orbit number range c. Platform
	S-DPS-30740	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in the native format of the host hardware for TRMM processing.
	S-DPS-30760	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for TRMM processing.

	S-DPS-31020	The PRONG CI shall provide, at a minimum, the following metadata information to the SDP Toolkit with SDPF-generated L0 data a. Actual start time of staged L0 data b. Actual end time of staged L0 data c. Number of physical L0 data files staged d. Start time of L0 data as requested by EOS investigators through the planning/processing system e. End time of L0 data as requested by EOS investigators through the planning/processing system f. APID of each L0 data file g. Orbit number or orbit number range of the staged L0 data file
TS010.004		
TS011.001	S-DPS-20330	The PRONG CI shall accept a Cancel Data Processing Request message to delete a Data Processing Request from the Processing Queue.
	S-DPS-20510	The PRONG CI shall respond to the source of the Data Processing Request with a Data Processing Request Response upon the completion of validation and queue processing.
	S-DPS-20500	The Processing shall queue the Data Processing Request using the Priority Information associated with the Data Processing Request.
	S-DPS-20400	The PRONG CI shall accept a Data Processing Request (DPR) that requests the execution of a PGE.
	S-DPS-20490	The PRONG CI shall queue only validated Data Processing Requests
TS011.002	S-DPS-20330	The PRONG CI shall accept a Cancel Data Processing Request message to delete a Data Processing Request from the Processing Queue.
TS011.003	S-DPS-20330	The PRONG CI shall accept a Cancel Data Processing Request message to delete a Data Processing Request from the Processing Queue.
TS012.001	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00520	The SDSRV CI shall return a successful completion status to the provider of data only after all data and associated Metadata has been successfully stored.
	S-DSS-03010	The SDSRV CI shall be capable of receiving Calibration Data.
	S-DSS-03020	The SDSRV CI shall be capable of receiving Metadata associated with Calibration Data.
	S-DSS-03110	The SDSRV CI shall be capable of receiving Instrument Calibration Data.
	S-DSS-03120	The SDSRV CI shall be capable of receiving Metadata associated with Instrument Calibration Data.
	S-DSS-03130	The SDSRV CI shall be capable of receiving Instrument Characterization Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.

	S-DSS-03350	The SDSRV CI shall be capable of receiving V0 Migration Data in native format
	S-DSS-03360	The SDSRV CI shall be capable of receiving Metadata associated with V0 Migration Data in native format
	S-DSS-03366	The SDSRV CI shall be capable of receiving inventory characteristic data.
	S-DSS-03367	The SDSRV CI shall be capable of receiving File Format Descriptions (e.g. HDF Spec.).
	S-DSS-03369	The SDSRV CI shall be capable of receiving expedited data from instruments.
	S-DSS-03370	Upon receipt of data types the SDSRV CI shall perform data type specific checking.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03412	The SDSRV CI shall interface with the STMGT CI to provide storage for L0 - L4 Data.
	S-DSS-03416	The SDSRV CI shall provide storage for Metadata associated with Ancillary Data.
	S-DSS-03480	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument calibration data.
	S-DSS-03500	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument characterization data.
	S-DSS-03560	The SDSRV CI shall interface with the STMGT CI to provide storage for Orbit/Attitude data.
	S-DSS-03720	The SDSRV CI shall interface with the STMGT CI to provide storage for V0 migration data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04520	The SDSRV CI shall provide the capability to validate metadata before insertion into the Inventory.
	S-DSS-04530	The SDSRV CI shall provide the capability to validate updated metadata before insertion into the Inventory.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.

	S-DSS-20030	The STMGT CI shall check each Insert Request it receives for the correct type of data in all fields. Fields that shall be checked include Request Identifier, date of request, Priority Information, data type and original identifier.
	S-DSS-20600	The STMGT CI shall provide the capability to uniquely identify each data granule that is archived.
	S-DSS-20620	The STMGT CI shall provide the capability to retrieve each individual data granule that is stored.
	S-DSS-20621	The STMGT CI shall calculate a checksum for each file associated with each data granule stored in the archive.
	S-DSS-20622	The STMGT CI shall provide to the SDSRV CI's MD Component a copy of the checksum value calculated upon initial receipt of each file in each data granule stored in the archive.
	S-INS-00100	The INGST CI shall provide the capability to periodically check a location accessible to the ESN for the presence of data granule files.
	S-INS-00110	The INGST CI shall submit an Polling Ingest Request after detecting the presence of data granule files in a location accessible to the ESN. The request shall contain the file location.
	S-INS-00300	The INGST CI shall return status on ongoing Ingest Requests to an authorized operations staff member.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00330	The INGST CI shall determine the Data Type Identifier for a set of ingested files, whenever the identifier was not provided in the Ingest Request. - CCR for deletion is pending
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/~~DDSRV CI~~ associated with the type of the data granule.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00460	The INGST CI shall determine the size of each file transferred to ECS whenever file sizes are specified in the corresponding Ingest Request.
	S-INS-00470	The INGST CI shall compare the size of each file after data transfer to ECS with file sizes specified in the corresponding Ingest Request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00500	The INGST CI shall provide operations staff the capability to view selected entries from the Ingest History Log.
	S-INS-00800	The INGST CI shall ingest Data, provided by the EDOS, from the ESN into the GSFC DAAC using a file transfer protocol.

TS012.002	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04520	The SDSRV CI shall provide the capability to validate metadata before insertion into the Inventory.
	S-DSS-04540	The SDSRV CI shall reject metadata which fails one or more validations constraints.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.
	S-DSS-20030	The STMGT CI shall check each Insert Request it receives for the correct type of data in all fields. Fields that shall be checked include Request Identifier, date of request, Priority Information, data type and original identifier.
	S-DSS-20600	The STMGT CI shall provide the capability to uniquely identify each data granule that is archived.
	S-INS-00085	The INGST CI shall report status to the provider of a polling ingest request (delivery record file) for the following: a. File transfer failure; b. File size descrepancies; c. Invalid data type identifier; d. Missing required meatdata; e. Metadata parameters out of range; f. Failure to archive data; g. Missing required request information; h. Successful archive of the data.
	S-INS-00100	The INGST CI shall provide the capability to periodically check a location accessible to the ESN for the presence of data granule files.
	S-INS-00340	The INGST CI shall report status on processing of an Ingest Request to the Error Log for the following: a. File transfer failure (2) b. File size discrepancies (2) c. Invalid Data Type Identifier (1) d. Missing required metadata (2, 3) e. Metadata parameters out of range (2, 3) f. Metadata extraction failure (2) g. Data conversion failure (3) h. Data reformatting failure (3) i. Failure to archive data (1) j. Inability to transfer data within the specified time window (2) k. Missing required request information (1) l. Unauthorized Ingest request submitter (1) m. Successful archive of the data (1)

	S-INS-00340	The INGST CI shall report status on processing of an Ingest Request to the Error Log for the following: a. File transfer failure (2) b. File size discrepancies (2) c. Invalid Data Type Identifier (1) d. Missing required metadata (2, 3) e. Metadata parameters out of range (2, 3) f. Metadata extraction failure (2) g. Data conversion failure (3) h. Data reformatting failure (3) i. Failure to archive data (1) j. Inability to transfer data within the specified time window (2) k. Missing required request information (1) l. Unauthorized Ingest request submitter (1) m. Successful archive of the data (1)
	S-INS-00800	The INGST CI shall ingest Data, provided by Version 0, from the LaRC DAAC using a file transfer protocol. CCR pending to add 4mm to phase 3
TS013.001	S-INS-00340	The INGST CI shall report status on processing of an Ingest Request to the Error Log for the following: a.File transfer failure (2) b.File size discrepancies (2) c.Invalid Data Type Identifier (1) d.Missing required metadata (2, 3) e.Metadata parameters out of range (2, 3) f. Metadata extraction failure (2) g.Data conversion failure (3) h. Data reformatting failure (3) i.Failure to archive data (1) j.Inability to transfer data within the specified time window (2) k.Missing required request information (1) l.Unauthorized Ingest request submitter (1) m.Successful archive of the data (1)
	S-INS-00404	The INGST CI shall extract metadata from ingested data into a form accepted by the Science Data Server / Document Data Server, as needed, for the following categories of data: a. Metadata parameters stored by parameter byte order and parameter byte length; b. Metadata parameters stored in PVL format; c. Metadata parameters stored in HDF format; d. Dataset-specific metadata formats
TS013.002	S-INS-00340	The INGST CI shall report status on processing of an Ingest Request to the Error Log for the following: a.File transfer failure (2) b.File size discrepancies (2) c.Invalid Data Type Identifier (1) d.Missing required metadata (2, 3) e.Metadata parameters out of range (2, 3) f. Metadata extraction failure (2) g.Data conversion failure (3) h. Data reformatting failure (3) i.Failure to archive data (1) j.Inability to transfer data within the specified time window (2) k.Missing required request information (1) l.Unauthorized Ingest request submitter (1) m.Successful archive of the data (1)

	S-INS-00404	The INGST CI shall extract metadata from ingested data into a form accepted by the Science Data Server / Document Data Server, as needed, for the following categories of data: a. Metadata parameters stored by parameter byte order and parameter byte length; b. Metadata parameters stored in PVL format; c. Metadata parameters stored in HDF format; d. Dataset-specific metadata formats
TS014.001	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00520	The SDSRV CI shall return a successful completion status to the provider of data only after all data and associated Metadata has been successfully stored.
	S-DSS-03010	The SDSRV CI shall be capable of receiving Calibration Data.
	S-DSS-03020	The SDSRV CI shall be capable of receiving Metadata associated with Calibration Data.
	S-DSS-03110	The SDSRV CI shall be capable of receiving Instrument Calibration Data.
	S-DSS-03120	The SDSRV CI shall be capable of receiving Metadata associated with Instrument Calibration Data.
	S-DSS-03130	The SDSRV CI shall be capable of receiving Instrument Characterization Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03350	The SDSRV CI shall be capable of receiving V0 Migration Data in native format
	S-DSS-03360	The SDSRV CI shall be capable of receiving Metadata associated with V0 Migration Data in native format
	S-DSS-03366	The SDSRV CI shall be capable of receiving inventory characteristic data.
	S-DSS-03367	The SDSRV CI shall be capable of receiving File Format Descriptions (e.g. HDF Spec.).
	S-DSS-03369	The SDSRV CI shall be capable of receiving expedited data from instruments.
	S-DSS-03370	Upon receipt of data types the SDSRV CI shall perform data type specific checking.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03412	The SDSRV CI shall interface with the STMGT CI to provide storage for L0 - L4 Data.
	S-DSS-03480	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument calibration data.
	S-DSS-03500	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument characterization data.

	S-DSS-03560	The SDSRV CI shall interface with the STMGT CI to provide storage for Orbit/Attitude data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04520	The SDSRV CI shall provide the capability to validate metadata before insertion into the Inventory.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20620	The STMGT CI shall provide the capability to retrieve each individual data granule that is stored.
	S-DSS-20621	The STMGT CI shall calculate a checksum for each file associated with each data granule stored in the archive.
	S-DSS-20622	The STMGT CI shall provide to the SDSRV CI's MD Component a copy of the checksum value calculated upon initial receipt of each file in each data granule stored in the archive.
	S-INS-00130	The INGST CI shall interactively accept Hard Media Ingest Requests from operations staff for data to be ingested from hard media.
	S-INS-00140	The INGST CI shall check the Hard Media Ingest Request to verify that the Media Type is a type supported by the facility to which the request was submitted.
	S-INS-00150	The INGST CI shall verify that the External Data Provider specified in a Hard Media Ingest Request is an authorized provider of hard media to be ingested.
	S-INS-00165	The INGST CI shall read a Delivery Record file describing data to be ingested to determine the files to be ingested after hard media data transfer.
	S-INS-00170	The INGST CI shall report Hard Media Ingest Request status to the submitting operations staff for the following:
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/~~DDSRV CI~~ associated with the type of the data granule.
	S-INS-00425	The INGST CI shall provide the capability to request transfer of data from an 8mm tape.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00460	The INGST CI shall determine the size of each file transferred to ECS whenever file sizes are specified in the corresponding Ingest Request.
	S-INS-00470	The INGST CI shall compare the size of each file after data transfer to ECS with file sizes specified in the corresponding Ingest Request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request:

TS014.002	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00520	The SDSRV CI shall return a successful completion status to the provider of data only after all data and associated Metadata has been successfully stored.
	S-DSS-03010	The SDSRV CI shall be capable of receiving Calibration Data.
	S-DSS-03020	The SDSRV CI shall be capable of receiving Metadata associated with Calibration Data.
	S-DSS-03110	The SDSRV CI shall be capable of receiving Instrument Calibration Data.
	S-DSS-03120	The SDSRV CI shall be capable of receiving Metadata associated with Instrument Calibration Data.
	S-DSS-03130	The SDSRV CI shall be capable of receiving Instrument Characterization Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03350	The SDSRV CI shall be capable of receiving V0 Migration Data in native format
	S-DSS-03360	The SDSRV CI shall be capable of receiving Metadata associated with V0 Migration Data in native format
	S-DSS-03366	The SDSRV CI shall be capable of receiving inventory characteristic data.
	S-DSS-03367	The SDSRV CI shall be capable of receiving File Format Descriptions (e.g. HDF Spec.).
	S-DSS-03369	The SDSRV CI shall be capable of receiving expedited data from instruments.
	S-DSS-03370	Upon receipt of data types the SDSRV CI shall perform data type specific checking.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03412	The SDSRV CI shall interface with the STMGT CI to provide storage for L0 - L4 Data.
	S-DSS-03480	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument calibration data.
	S-DSS-03500	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument characterization data.
	S-DSS-03560	The SDSRV CI shall interface with the STMGT CI to provide storage for Orbit/Attitude data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).

	S-DSS-04520	The SDSRV CI shall provide the capability to validate metadata before insertion into the Inventory.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20620	The STMGT CI shall provide the capability to retrieve each individual data granule that is stored.
	S-DSS-20621	The STMGT CI shall calculate a checksum for each file associated with each data granule stored in the archive.
	S-DSS-20622	The STMGT CI shall provide to the SDSRV CI's MD Component a copy of the checksum value calculated upon initial receipt of each file in each data granule stored in the archive.
	S-INS-00130	The INGST CI shall interactively accept Hard Media Ingest Requests from operations staff for data to be ingested from hard media.
	S-INS-00140	The INGST CI shall check the Hard Media Ingest Request to verify that the Media Type is a type supported by the facility to which the request was submitted.
	S-INS-00150	The INGST CI shall verify that the External Data Provider specified in a Hard Media Ingest Request is an authorized provider of hard media to be ingested.
	S-INS-00165	The INGST CI shall read a Delivery Record file describing data to be ingested to determine the files to be ingested after hard media data transfer.
	S-INS-00170	The INGST CI shall report Hard Media Ingest Request status to the submitting operations staff for the following:
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/~~DDSRV CI~~ associated with the type of the data granule.
	S-INS-00425	The INGST CI shall provide the capability to request transfer of data from an 8mm tape.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00460	The INGST CI shall determine the size of each file transferred to ECS whenever file sizes are specified in the corresponding Ingest Request.
	S-INS-00470	The INGST CI shall compare the size of each file after data transfer to ECS with file sizes specified in the corresponding Ingest Request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request:
TS014.003	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00520	The SDSRV CI shall return a successful completion status to the provider of data only after all data and associated Metadata has been successfully stored.

	S-DSS-03010	The SDSRV CI shall be capable of receiving Calibration Data.
	S-DSS-03020	The SDSRV CI shall be capable of receiving Metadata associated with Calibration Data.
	S-DSS-03110	The SDSRV CI shall be capable of receiving Instrument Calibration Data.
	S-DSS-03120	The SDSRV CI shall be capable of receiving Metadata associated with Instrument Calibration Data.
	S-DSS-03130	The SDSRV CI shall be capable of receiving Instrument Characterization Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03350	The SDSRV CI shall be capable of receiving V0 Migration Data in native format
	S-DSS-03360	The SDSRV CI shall be capable of receiving Metadata associated with V0 Migration Data in native format
	S-DSS-03366	The SDSRV CI shall be capable of receiving inventory characteristic data.
	S-DSS-03367	The SDSRV CI shall be capable of receiving File Format Descriptions (e.g. HDF Spec.).
	S-DSS-03369	The SDSRV CI shall be capable of receiving expedited data from instruments.
	S-DSS-03370	Upon receipt of data types the SDSRV CI shall perform data type specific checking.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03412	The SDSRV CI shall interface with the STMGT CI to provide storage for L0 - L4 Data.
	S-DSS-03480	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument calibration data.
	S-DSS-03500	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument characterization data.
	S-DSS-03560	The SDSRV CI shall interface with the STMGT CI to provide storage for Orbit/Attitude data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04520	The SDSRV CI shall provide the capability to validate metadata before insertion into the Inventory.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20620	The STMGT CI shall provide the capability to retrieve each individual data granule that is stored.
	S-DSS-20621	The STMGT CI shall calculate a checksum for each file associated with each data granule stored in the archive.

	S-DSS-20622	The STMGT CI shall provide to the SDSRV CI's MD Component a copy of the checksum value calculated upon initial receipt of each file in each data granule stored in the archive.
	S-INS-00130	The INGST CI shall interactively accept Hard Media Ingest Requests from operations staff for data to be ingested from hard media.
	S-INS-00140	The INGST CI shall check the Hard Media Ingest Request to verify that the Media Type is a type supported by the facility to which the request was submitted.
	S-INS-00150	The INGST CI shall verify that the External Data Provider specified in a Hard Media Ingest Request is an authorized provider of hard media to be ingested.
	S-INS-00165	The INGST CI shall read a Delivery Record file describing data to be ingested to determine the files to be ingested after hard media data transfer.
	S-INS-00170	The INGST CI shall report Hard Media Ingest Request status to the submitting operations staff for the following:
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/~~DDSRV CI~~ associated with the type of the data granule.
	S-INS-00425	The INGST CI shall provide the capability to request transfer of data from an 8mm tape.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00460	The INGST CI shall determine the size of each file transferred to ECS whenever file sizes are specified in the corresponding Ingest Request.
	S-INS-00470	The INGST CI shall compare the size of each file after data transfer to ECS with file sizes specified in the corresponding Ingest Request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request:
TS014.004	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00520	The SDSRV CI shall return a successful completion status to the provider of data only after all data and associated Metadata has been successfully stored.
	S-DSS-03010	The SDSRV CI shall be capable of receiving Calibration Data.
	S-DSS-03020	The SDSRV CI shall be capable of receiving Metadata associated with Calibration Data.
	S-DSS-03110	The SDSRV CI shall be capable of receiving Instrument Calibration Data.
	S-DSS-03120	The SDSRV CI shall be capable of receiving Metadata associated with Instrument Calibration Data.

	S-DSS-03130	The SDSRV CI shall be capable of receiving Instrument Characterization Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03350	The SDSRV CI shall be capable of receiving V0 Migration Data in native format
	S-DSS-03360	The SDSRV CI shall be capable of receiving Metadata associated with V0 Migration Data in native format
	S-DSS-03366	The SDSRV CI shall be capable of receiving inventory characteristic data.
	S-DSS-03367	The SDSRV CI shall be capable of receiving File Format Descriptions (e.g. HDF Spec.).
	S-DSS-03369	The SDSRV CI shall be capable of receiving expedited data from instruments.
	S-DSS-03370	Upon receipt of data types the SDSRV CI shall perform data type specific checking.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03412	The SDSRV CI shall interface with the STMGT CI to provide storage for L0 - L4 Data.
	S-DSS-03480	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument calibration data.
	S-DSS-03500	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument characterization data.
	S-DSS-03560	The SDSRV CI shall interface with the STMGT CI to provide storage for Orbit/Attitude data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04520	The SDSRV CI shall provide the capability to validate metadata before insertion into the Inventory.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20620	The STMGT CI shall provide the capability to retrieve each individual data granule that is stored.
	S-DSS-20621	The STMGT CI shall calculate a checksum for each file associated with each data granule stored in the archive.
	S-DSS-20622	The STMGT CI shall provide to the SDSRV CI's MD Component a copy of the checksum value calculated upon initial receipt of each file in each data granule stored in the archive.
	S-INS-00130	The INGST CI shall interactively accept Hard Media Ingest Requests from operations staff for data to be ingested from hard media.
	S-INS-00140	The INGST CI shall check the Hard Media Ingest Request to verify that the Media Type is a type supported by the facility to which the request was submitted.

	S-INS-00150	The INGST CI shall verify that the External Data Provider specified in a Hard Media Ingest Request is an authorized provider of hard media to be ingested.
	S-INS-00160	The INGST CI shall authenticate that the Hard Media Ingest Request is input by operations staff authorized to ingest hard media data.
	S-INS-00165	The INGST CI shall read a Delivery Record file describing data to be ingested to determine the files to be ingested after hard media data transfer.
	S-INS-00170	The INGST CI shall report Hard Media Ingest Request status to the submitting operations staff for the following:
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/~~DDSRV CI~~ associated with the type of the data granule.
	S-INS-00425	The INGST CI shall provide the capability to request transfer of data from an 8mm tape.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00460	The INGST CI shall determine the size of each file transferred to ECS whenever file sizes are specified in the corresponding Ingest Request.
	S-INS-00470	The INGST CI shall compare the size of each file after data transfer to ECS with file sizes specified in the corresponding Ingest Request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request:
	S-INS-00810	The INGEST shall ingest Data, provided by Version 0, from the GSFC DAAC on 8mm tape.
TS014.005	S-DSS-04540	The SDSRV CI shall reject metadata which fails one or more validations constraints.
	S-DSS-20030	The STMGT CI shall check each Insert Request it receives for the correct type of data in all fields. Fields that shall be checked include Request Identifier, date of request, Priority Information, data type and original identifier.
	S-INS-00140	The INGST CI shall check the Hard Media Ingest Request to verify that the Media Type is a type supported by the facility to which the request was submitted.
	S-INS-00160	The INGST CI shall authenticate that the Hard Media Ingest Request is input by operations staff authorized to ingest hard media data.
	S-INS-00165	The INGST CI shall read a Delivery Record file describing data to be ingested to determine the files to be ingested after hard media data transfer.
	S-INS-00170	The INGST CI shall report Hard Media Ingest Request status to the submitting operations staff for the following:

	S-INS-00340	The INGST CI shall report status on processing of an Ingest Request to the Error Log for the following: a. File transfer failure (2) b. File size discrepancies (2) c. Invalid Data Type Identifier (1) d. Missing required metadata (2, 3) e. Metadata parameters out of range (2, 3) f. Metadata extraction failure (2) g. Data conversion failure (3) h. Data reformatting failure (3) i. Failure to archive data (1) j. Inability to transfer data within the specified time window (2) k. Missing required request information (1) l. Unauthorized Ingest request submitter (1) m. Successful archive of the data (1)
TS015.001	S-DSS-00023	The SDSRV CI shall perform services specified by Service Requests.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00410	The INGST CI shall provide the capability to electronically transfer data to be ingested via the ESN into a specified ECS storage location.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
TS015.002	S-DSS-00023	The SDSRV CI shall perform services specified by Service Requests.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00340	The INGST CI shall report status on processing of an Ingest Request to the Error Log for the following: a.File transfer failure (2) b.File size discrepancies (2) c.Invalid Data Type Identifier (1) d.Missing required metadata (2, 3) e.Metadata parameters out of range (2, 3) f. Metadata extraction failure (2) g.Data conversion failure (3) h. Data reformatting failure (3) i.Failure to archive data (1) j.Inability to transfer data within the specified time window (2) k.Missing required request information (1) l.Unauthorized Ingest request submitter (1) m.Successful archive of the data (1)
	S-INS-00410	The INGST CI shall provide the capability to electronically transfer data to be ingested via the ESN into a specified ECS storage location.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.

TS015.003	S-INS-00050	The INGST CI shall report the following to the MSS event log services: a. Receipt of a network ingest request; b. Response to a network ingest request.
	S-INS-00500	The INGST CI shall provide operations staff the capability to view selected entries from the Ingest History Log.
	S-INS-00510	The INGST CI shall provide the capability to select Ingest History Log entries for viewing by the following parameters: ... e. Test or operational mode.
TS015.004	S-INS-00320	The INGST CI shall select an Ingest Request for processing based on the priorities of current requests so long as the number of requests concurrently processed is less than a threshold specified by operations staff. Requests of equal priority will be processed first-in, first-out..
	S-DSS-00020	The SDSRV CI shall accept Service Requests from clients.
	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-20985	The STMGT CI shall provide the SDSRV CI the capability to open files on archive storage media in the WKSHW CI.
	S-DSS-20995	The STMGT CI shall provide the SDSRV CI the capability to close files on archive storage media in the WKSHW CI.
	S-DSS-21015	The STMGT CI shall provide the SDSRV CI the capability to write information into files on archive storage media in the WKSHW CI.
	S-DSS-21040	The STMGT CI shall provide the SDSRV CI the capability to open files on staging devices in the WKSHW CI.
	S-DSS-21050	The STMGT CI shall provide the SDSRV CI the capability to close files on staging devices in the WKSHW CI.
	S-DSS-21060	The STMGT CI shall provide the SDSRV CI the capability to write information into files on staging devices in the WKSHW CI.
TS015.005	S-INS-00270	The INGST CI shall accept ingest Status Requests from authorized operations staff to determine the status of: a: a specified ongoing Ingest Request identitifed by ingest Request Identifier b: all ongoing Ingest Requests associated with a specified User Identifier c: all ongoing Ingest Requests
	S-INS-00280	The INGST CI shall determine the User Identifier for an operations staff member submitting an ingest Status Request.
	S-INS-00290	The INGST CI shall authenticate the User Identifier of operations staff requesting status on all ongoing Ingest Requests.
	S-INS-00295	The INGST CI shall return an error status to the requester and log information in the Error Log if status is requested on ongoing Ingest Requests from an unauthorized requester.
	S-INS-00300	The INGST CI shall return status on ongoing Ingest Requests to an authorized operations staff member.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00315	The INGST CI shall provide the capability for authorized operations staff to select status of ongoing Ingest Request processing for viewing by means of the External Data Provider.

TS017.001	S-CLS-12510	The WKBCH CI shall provide the user a capability to view their User Profile.
	S-CLS-12520	The WKBCH CI shall provide the capability for a user to modify their User Profile Information.
TS017.002	S-CLS-13120	The WKBCH CI shall provide users with initial system access procedures.
	S-CLS-13410	The WKBCH shall provide display the results of user validation to the user.
	S-CLS-13370	The WKBCH CI shall provide users an interface for user authentication.
TS017.024	S-DSS-30800	The Data Distribution within the Data Server shall support making stored products available on physical media within 24 hours.
TS018.001	S-DMS-30540	The GTWAY CI shall provide the capability to translate Version 0 system protocol into ECS system protocols.
	S-DMS-30560	The GTWAY CI shall have the capability to receive Inventory Search Requests from the Version 0 IMS using Version 0 system protocols.
TS018.002	S-DMS-30540	The GTWAY CI shall provide the capability to translate Version 0 system protocol into ECS system protocols.
	S-DMS-30560	The GTWAY CI shall have the capability to receive Inventory Search Requests from the Version 0 IMS using Version 0 system protocols.
TS018.003	S-DMS-30540	The GTWAY CI shall provide the capability to translate Version 0 system protocol into ECS system protocols.
	S-DMS-30560	The GTWAY CI shall have the capability to receive Inventory Search Requests from the Version 0 IMS using Version 0 system protocols.
TS019.001	S-DSS-10010	The guide shall be maintained on-line by the DDSRV CI.
	S-DSS-10030	The DDSRV CI shall support storage, retrieval and searching of documents in HTML format.
	S-DSS-10050	The DDSRV CI shall provide documents to requesting agencies.
	S-DSS-10060	The DDSRV CI shall provide access to the ECS guide (documentation/reference material) and guide services.
	S-DSS-10070	The DDSRV CI shall store, maintain and provide data management services for ECS guide (documentation/reference material).
	S-DSS-10250	Upon receipt and successful storage of all supported document formats and descriptive data, the DDSRV CI shall provide access to the document and/or data.
TS019.002	S-DSS-10054	The DDSRV CI shall generate an update to metadata reflecting changes in data holdings resulting from an intra-site data transfer or some other update.
TS019.003	S-DSS-10186	The DDSRV CI shall report to operations staff all errors involving file accesses.
TS019.004	S-DSS-10184	The DDSRV CI shall notify operations staff of any system error or fault.
TS021.001	S-DSS-00160	The SDSRV CI shall accept and process Update Metadata Requests to update Metadata that has been previously stored in the Inventory.
	S-DSS-01472	The SDSRV CI shall validate Subscription Requests for change in core metadata events.
	S-DSS-04610	The SDSRV CI shall update the Metadata whenever a data item is updated.
	S-DSS-04596	The SDSRV shall provide the capability to allow DAAC operations personnel to approve the QA metadata update.

	S-DSS-04600	The SDSRV CI shall update the Metadata for a data item whenever an unexpected loss occurs.
	S-DSS-00820	The SDSRV CI shall provide a mechanism to control changes to the Configuration Management Data.
	S-DSS-00970	The SDSRV CI shall provide the capabilities to add, delete, or modify ECS Metadata to authorized users only.
	S-DSS-00165	The SDSRV CI shall update the Inventory with the updated Metadata that was received.
	S-DSS-04570	The SDSRV CI shall provide services to add to the existing Inventory
	S-DSS-04590	The SDSRV CI shall provide services to modify the existing Inventory
	S-DSS-04580	The SDSRV CI shall provide services to delete from the existing Inventory
	S-DSS-20090	The STMGT CI shall maintain an Inventory Update Log. The following information shall be recorded: time and date of update, unique data identifier, archive media name, source of data, storage device name and requester.
TS021.002	S-DSS-21380	In the event of storage device or archive media failure, the STMGT CI shall notify operations staff and provide appropriate information to include failed device name or media, failure code or reason and time/date of failure.
	S-DSS-30660	In the event of media failure (i.e., tape breaks), the DDIST CI shall provide the capability to restart the distribution on a new piece of media.
	S-DSS-20390	The STMGT CI shall provide tools for recovering data from failed archive media when such tools are supplied by the vendor of the supporting FSMS product(s).
	S-DSS-20400	The STMGT CI shall provide tools for recovering data from failed archive devices, when such tools are supplied by either the vendor of the supporting FSMS product(s) or by the vendor of the affected hardware.
	S-DSS-21380	In the event of storage device or archive media failure, the STMGT CI shall notify operations staff and provide appropriate information to include failed device name or media, failure code or reason and time/date of failure.
	S-DSS-30660	In the event of media failure (i.e., tape breaks), the DDIST CI shall provide the capability to restart the distribution on a new piece of media.
	S-DSS-20390	The STMGT CI shall provide tools for recovering data from failed archive media when such tools are supplied by the vendor of the supporting FSMS product(s).
	S-DSS-20400	The STMGT CI shall provide tools for recovering data from failed archive devices, when such tools are supplied by either the vendor of the supporting FSMS product(s) or by the vendor of the affected hardware.
TS021.003	S-DSS-00901	The SDSRV CI shall provide tools for database backup and restore.
	S-DSS-00900	The SDSRV CI shall support the interruption of a data base administrative or maintenance activity and its restart without loss of information.
TS021.004	S-DSS-00901	The SDSRV CI shall provide tools for database backup and restore.

	S-DSS-21180	The STMGT CI shall provide operations staff the capability to backup storage system unique files, which shall include all logs, files used by the storage system and files indicating the allocation of storage devices to Data Servers.
	S-DSS-21190	The STMGT CI shall provide operations staff the capability to restore storage system unique files.
	S-DSS-21220	The STMGT CI shall provide operations staff a mechanism to display/view storage system archive media backup/restore operations by ECS element.
TS021.005	S-DSS-20190	The STMGT CI shall have the capability to automatically dismount archive media from storage devices which support removable media when different archive media must be mounted to retrieve data.
	S-DSS-20180	The STMGT CI shall have the capability to automatically dismount archive media from storage devices which support removable media when different archive media must be mounted to store data.
TS021.006	S-DSS-20100	The STMGT CI shall provide operations staff personnel the capability to manually access archive media resident in storage devices.
	S-DSS-20110	The STMGT CI shall provide operations staff the capability to insert archive media into storage devices which support removable media.
	S-DSS-20120	The STMGT CI shall provide operations staff the capability to remove archive media from storage devices which support removable media.
	S-DSS-20130	The STMGT CI shall provide operations staff the capability to manually dismount archive media.
	S-DSS-20140	The STMGT CI shall provide operations staff the capability to manually mount archive media.
	S-DSS-20200	The STMGT CI shall provide a mechanism to remove archive media from storage devices to allow insertion of new or different archive media in the storage device.
	S-DSS-20890	The STMGT CI shall provide operations staff the capability to load media into storage devices which support removable media.
	S-DSS-20910	The STMGT CI shall provide operations staff the capability to unload media from storage devices which support removable media.
	S-DSS-21220	The STMGT CI shall provide operations staff a mechanism to display/view storage system archive media backup/restore operations by ECS element.
	S-DSS-20240	If the end of the archive media is encountered before completing a write operation, the STMGT CI shall select new media and complete the write operation with the new archive media.
	S-DSS-21050	The STMGT CI shall provide the SDSRV CI the capability to close files on staging devices in the WKSHW CI.
	S-DSS-20170	The STMGT CI shall automatically request operations staff to load a new archive media to store data if no media exists with sufficient space for the new data.
TS021.007	S-DSS-21330	The STMGT CI shall notify operations staff whenever a device failure condition occurs. Such failures shall also be logged in the Archive Activity Log.
	S-DSS-20150	The STMGT CI shall provide operations staff the capability to manually dismount backup archive media.
	S-DSS-20160	The STMGT CI shall provide operations staff the capability to manually mount backup archive media.

	S-DSS-20420	The STMGT CI shall be capable of producing backup archive media which uses openly published and non-proprietary formats for recording data.
	S-DSS-20430	The STMGT CI shall be capable of producing backup archive media which has a fully described file structure.
	S-DSS-20440	The STMGT CI shall be capable of producing backup archive media which has a fully described physical file organization.
TS021.008	S-DSS-20220	If an uncorrectable error occurs during archive, the STMGT CI shall notify the operations staff, select a different piece of Media and complete the archive operation. Note: Contents of original media shall be recreated on new media and the original removed from system.
	S-DSS-20230	The STMGT CI shall notify operations staff to discard source archive media after its contents have been re-created on the new media.
	S-DSS-20250	If an uncorrectable error occurs during retrieval operations, STMGT CI shall terminate the operation and notify operations staff and the user/data requester of the failure.
	S-DSS-20255	If an uncorrectable error occurs during retrieval operations, STMGT CI shall automatically recreate the contents on new media.
	S-DSS-30490	If an uncorrectable error occurs while writing to distribution media, the operation shall be aborted and a new piece of media automatically requested from operations staff.
TS021.009	S-DSS-20250	If an uncorrectable error occurs during retrieval operations, STMGT CI shall terminate the operation and notify operations staff and the user/data requester of the failure.
	S-DSS-20255	If an uncorrectable error occurs during retrieval operations, STMGT CI shall automatically recreate the contents on new media.
	S-DSS-30490	If an uncorrectable error occurs while writing to distribution media, the operation shall be aborted and a new piece of media automatically requested from operations staff.
TS021.010	S-DSS-20300	The STMGT CI shall provide operations staff the capability to display information about the archive media resident in storage devices. Such information shall include: archive volume name, creation time/date, archive volume status.
	S-DSS-20350	The STMGT CI shall use a fully described file structure to store data.
	S-DSS-20360	The STMGT CI shall use a fully described physical file organization to store data.
	S-DSS-20370	The STMGT CI shall use openly published and non-proprietary data formats to store data.
	S-DSS-20530	The STMGT CI shall provide the capability to display/view/print the allocation of storage devices to Data Servers.
	S-DSS-20540	The STMGT CI shall provide an automatic capability during startup to allocate storage devices to Data Servers.
	S-DSS-21390	The STMGT CI shall maintain a File Directory of all data files which have been archived.
	S-DSS-21400	The STMGT CI shall provide operations staff a mechanism to create the File Directory.
	S-DSS-21410	The STMGT CI shall provide operations staff a mechanism to append records to the File Directory.
	S-DSS-21420	The STMGT CI shall provide operations staff a mechanism to display selected records in the File Directory.

	S-DSS-21450	The STMGT CI shall provide operations staff the capability to backup the contents of the File Directory.
	S-DSS-21460	The STMGT CI shall provide operations staff the capability to recover the contents of the File Directory in the case of file corruption.
	S-DSS-21470	The STMGT CI shall provide operations staff the capability to view/display/print contents of the File Directory.
	S-DSS-21480	The STMGT CI shall maintain a unique data set id for each data item in its File Directory.
	S-DSS-21490	The STMGT CI shall be capable of tracking the physical location of each data granule via use of the File Directory.
	S-DSS-30490	If an uncorrectable error occurs while writing to distribution media, the operation shall be aborted and a new piece of media automatically requested from operations staff.
	S-DSS-02900	The STMGT CI shall provide operations staff the capability to initialize media in storage devices which support removable media.
	S-DSS-21440	The STMGT CI shall provide operations staff a mechanism to update records in the File Directory.
	S-DSS-20380	The STMGT CI shall provide the capability to continue operations in a degraded mode despite hardware failures of individual archive storage devices, archive media and/or operator consoles.
	S-DSS-20510	The STMGT CI shall provide operations staff the capability to obtain configuration information about operator selected storage devices.
	S-DSS-20520	The STMGT CI shall provide operations staff the capability to change the allocation of storage devices to individual Data Servers.
	S-DSS-20710	The STMGT CI shall assign a unique identifier to new archive media.
	S-DSS-20900	The STMGT CI shall provide operations staff the capability to initialize media in storage devices which support removable media.
	S-DSS-21270	The STMGT CI shall provide the operations staff the capability to display information about archive storage devices. Such information shall include current status, current operation, # operations completed, # errors reported, time/date of last error.
	S-DSS-21312	The STMGT CI shall be developed using file storage management systems that have configuration-controlled application programming interfaces (APIs).
	S-DSS-21360	The STMGT CI shall use a hierarchy of disk and/or tape storage devices and associated storage media to store data.
	S-DSS-21363	The STMGT CI shall provide location-transparent access to the archived data.
	S-DSS-21700	The DRPHW CI shall be capable of providing of 200 percent expansion in capacity without architecture or design change.
TS021.011	S-DSS-20380	The STMGT CI shall provide the capability to continue operations in a degraded mode despite hardware failures of individual archive storage devices, archive media and/or operator consoles.
	S-DSS-30490	If an uncorrectable error occurs while writing to distribution media, the operation shall be aborted and a new piece of media automatically requested from operations staff.
TS021.012	S-DSS-20780	The STMGT CI shall provide operations staff the capability to view/display/print the Intermediate Activity Log.

	S-DSS-20790	The STMGT CI shall provide the capability to sort, extract and/or select Intermediate Activity Log entries by the following: start/stop time, intermediate operation, Request Identifier, and staging resource(s).
	S-DSS-20690	The STMGT CI shall provide the capability to display/view/print the Inventory Update Log.
	S-DSS-20700	The STMGT CI shall provide the capability to select/extract Inventory Update Log records for time periods selected by operations staff.
	S-DSS-20760	The STMGT CI shall provide operations staff the capability to view/display/print the Archive Activity Log.
	S-DSS-20770	The STMGT CI shall provide the capability to sort, extract and/or select Archive Activity Log entries by the following: start/stop time, operation requested, result of request.
	S-DSS-20080	The STMGT CI shall maintain an Archive Activity Log of all Service Requests received. The log of Service Requests shall be in chronological order and shall include a Request Identifier, the operation requested, completion status of request and a date/time stamp.
TS022.001	S-DSS-00450	The SDSRV CI shall provide Advertisements that indicate the class of data available from the Data Server.
	S-DSS-20250	If an uncorrectable error occurs during retrieval operations, STMGT CI shall terminate the operation and notify operations staff and the user/data requester of the failure.
	S-DSS-04390	Standard Product related Metadata at the Data Server shall include Metadata associated with static subsetted, subsampled, and summary products.
	S-DSS-03770	The SDSRV CI Schema Information shall include for each Data Type the services available for that Data Type.
	S-DSS-03780	The SDSRV CI Schema Information shall include for each Data Type the Data Type Attributes for that Data Type and the Valid Values associated with each Data Type Attribute.
	S-DSS-20255	If an uncorrectable error occurs during retrieval operations, STMGT CI shall automatically recreate the contents on new media.
	S-DSS-30490	If an uncorrectable error occurs while writing to distribution media, the operation shall be aborted and a new piece of media automatically requested from operations staff.
	S-DSS-00550	The SDSRV CI shall provide the capability for operations staff to view Schema Information.
	S-DSS-03750	The SDSRV CI shall support Schema Information for each Data Type.
	S-DSS-03760	The SDSRV CI Schema Information shall include for each Data Type the structure of that Data Type.
	S-DSS-20300	The STMGT CI shall provide operations staff the capability to display information about the archive media resident in storage devices. Such information shall include: archive volume name, creation time/date, archive volume status.
TS022.002	S-DSS-20540	The STMGT CI shall provide an automatic capability during startup to allocate storage devices to Data Servers.
	S-DSS-00450	The SDSRV CI shall provide Advertisements that indicate the class of data available from the Data Server.

	S-DSS-00460	The SDSRV CI shall provide Advertisements that indicate the services available from the Data Server.
	S-DSS-03820	Each SDSRV CI Advertisement shall identify the service's interface.
	S-DSS-03830	Each SDSRV CI Advertisement shall include Service Descriptions.
	S-DSS-21390	The STMGT CI shall maintain a File Directory of all data files which have been archived.
TS022.003	S-DSS-21400	The STMGT CI shall provide operations staff a mechanism to create the File Directory.
	S-DSS-00450	The SDSRV CI shall provide Advertisements that indicate the class of data available from the Data Server.
	S-DSS-00460	The SDSRV CI shall provide Advertisements that indicate the services available from the Data Server.
	S-DSS-03820	Each SDSRV CI Advertisement shall identify the service's interface.
	S-DSS-03830	Each SDSRV CI Advertisement shall include Service Descriptions.
	S-DSS-00570	The SDSRV CI shall provide the capability for operations staff to update Schema Information.
TS022.004	S-DSS-21450	The STMGT CI shall provide operations staff the capability to backup the contents of the File Directory.
	S-DSS-03810	The SDSRV CI shall have the ability to cancel the advertising of publicly available services.
	S-DSS-00610	The SDSRV CI shall provide the capability for operations staff to delete Schema Information.
	S-DSS-21510	The Science Management within the Data Server shall be capable of providing of 200% expansion in capacity without architecture or design change.
TS022.005	S-DSS-20350	The STMGT CI shall use a fully described file structure to store data.
	S-DSS-20360	The STMGT CI shall use a fully described physical file organization to store data.
	S-DSS-20370	The STMGT CI shall use openly published and non-proprietary data formats to store data.
TS023.001	S-DSS-00015	The SDSRV CI shall insure that each Data Request includes a User Identifer, a Request Priority, and a Data Identifier.
	S-DSS-00023	The SDSRV CI shall perform services specified by Service Requests.
	S-DSS-00025	The SDSRV CI shall insure that each Service Request includes a User Identifer, a Request Priority, and all other parameters required for that request.
	S-DSS-00692	The SDSRV CI shall be capable of receiving data from the DDSRV CI.
	S-DSS-00702	The SDSRV CI shall be capable of sending management directives to DDSRV CI.
	S-DSS-04037	The SDSRV CI shall supply the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005 to the DDIST CI.
	S-DSS-04120	The SDSRV CI shall supply instrument characterization data to the DDIST CI.
	S-DSS-04140	The SDSRV CI shall supply instrument historical data to the DDIST CI.
	S-DSS-04160	The SDSRV CI shall supply inventory characteristic data to the DDIST CI.

	S-DSS-04200	The SDSRV CI shall supply Production History data to the DDIST CI.
	S-DSS-04240	The SDSRV CI shall supply QA Statistics to the DDIST CI.
	S-DSS-04260	The SDSRV CI shall supply scientific calibration data to the DDIST CI.
	S-DSS-04280	The SDSRV CI shall supply spacecraft historical data to the DDIST CI.
	S-DSS-04300	The SDSRV CI shall supply correlative data to the DDIST CI.
	S-DSS-20490	The STMGT CI shall control access to archived data to prevent unauthorized access.
	S-DSS-20500	The STMGT CI shall report unauthorized attempts to access archived data when detected to operations staff.
	S-DSS-30010	The DDIST CI shall accept Electronic Distribution Requests or Media Distribution Requests.
	S-DSS-30020	Distribution Requests shall have the format described in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.
	S-DSS-30030	The DDIST CI shall validate each Electronic Distribution Request and verify that the format conforms to that specified in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.
	S-DSS-30040	The DDIST CI shall log the following on the Distribution Activity Log whenever an Electronic Distribution Request fails validation: User Identifier, Request Identifier, Date and Time, and an explanation of the failure.
	S-DSS-30050	The DDIST CI shall send a Notification to the source of the request if an Electronic Distribution Request fails validation.
	S-DSS-30260	The DDIST CI shall validate each Media Distribution Request and verify that it conforms to the format specified in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.
	S-DSS-30280	The DDIST CI shall log the following to the Distribution Activity Log, for each Electronic Distribution Request: User Identifier, Data Destination, and the Distribution Size.
	S-DSS-30290	The DDIST CI shall provide operations staff with the capability to display the Distribution Activity Log.
	S-DSS-30295	The DDIST CI shall alert operations staff when electronic transmission problems are encountered.
	S-DSS-30320	The DDIST CI shall record in the Distribution Activity Log the occurrence of correctable errors.
	S-DSS-30330	If the DDIST CI is unable to distribute data electronically, the User Identifier, the list of data, and the reason for the failure will be logged.
	S-DSS-30340	If the DDIST CI is unable to distribute data electronically, the user shall be sent a Notification.
	S-DSS-30400	The DDIST CI shall log the User Identifier for the user that originated the Data Distribution Request.
TS023.002	S-DSS-00696	The SDSRV CI shall be capable of receiving data from the DDIST CI.
	S-DSS-04230	The SDSRV CI shall supply Metadata associated with production plan data to the DDIST CI.

	S-DSS-10210	The DDSRV CI shall receive information that describes spacecraft-housekeeping and Ancillary Data parameters stored in the Science Data Server.
	S-DSS-10290	The DDSRV CI shall supply documents to the DDIST CI.
	S-DSS-10292	The DDSRV CI shall receive management directives from the SDSRV CI.
	S-DSS-20880	The STMGT CI shall maintain an Intermediate Activity Log. It shall include date/time stamp, operation id (file space alloc./dealloc., media mount/dismount/loads/unload, file read/write/delete), affiliated Request Identifier and associated staging resources.
	S-DSS-30030	The DDIST CI shall validate each Electronic Distribution Request and verify that the format conforms to that specified in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.
	S-DSS-30162	The DDIST CI custom GUIs shall conform to the guidelines in Version 5.1 of the ECS User Inteface Style Guide.
	S-DSS-30310	The DDIST CI shall provide the capability to sort the Distribution Activity Log by distribution type (i.e., electronic (push/pull) and physical media type (tape, CD-ROM, etc.)).
	S-DSS-30305	The DDIST CI shall provide the capability to view entries according to type of distribution, by time period or by data type (i.e., source of request).
	S-DSS-30280	The DDIST CI shall log the following to the Distribution Activity Log, for each Electronic Distribution Request: User Identifier, Data Destination, and the Distribution Size.
	S-DSS-30290	The DDIST CI shall provide operations staff with the capability to display the Distribution Activity Log.
	S-DSS-30340	If the DDIST CI is unable to distribute data electronically, the user shall be sent a Notification.
	S-DSS-30390	The DDIST CI shall log the Data Destination and the number of data items distributed in an electronic distribution.
	S-DSS-30515	The Data Server shall distribute data in the approved ECS standard format in which it is stored. (i.e., HDF-EOS, V0 native, or Landsat 7 standard format.)
	S-DSS-30520	The DDIST CI shall provide the capability to place Data in publicly available disks for users to "pull" the data, via ftp, at their discretion.
	S-DSS-30530	The DDIST CI shall provide the capability to limit access to Data in the user pull area to the science user and the operations staff.
	S-DSS-30570	When Data is placed in the user pull area, requesting user shall be notified that the Data is available for a limited time.
	S-DSS-30575	The DDIST CI shall notify operations staff when the time limit has expired for Data in the user pull area.
	S-DSS-30580	The DDIST CI shall, after operator confirmation, delete expired Data from the user pull area.
	S-DSS-30585	Operations staff shall be able to turn off the function of operator confirmation associated with the automatic deletion of Data in the user pull area.
	S-DSS-30710	The DDIST CI shall provide the capability to distribute any Data , or appropriate subset, listed in the Inventory. Note: The appropriate subset of a data item is determined by and depends on the subject data type.

	S-DSS-30780	The DDIST CI shall make appropriate use of standards for data structures and data transport as defined for use within the publications of CCSDS and ISO/OSI for distribution of TRMM data to the TSDIS .
	S-DSS-30797	The DDIST CI shall receive management directives from the SDSRV CI.
TS023.003	S-DSS-00696	The SDSRV CI shall be capable of receiving data from the DDIST CI.
	S-DSS-00704	The SDSRV CI shall be capable of sending management directives to DDIST CI.
	S-DSS-04230	The SDSRV CI shall supply Metadata associated with production plan data to the DDIST CI.
	S-DSS-10210	The DDSRV CI shall receive information that describes spacecraft-housekeeping and Ancillary Data parameters stored in the Science Data Server.
	S-DSS-10290	The DDSRV CI shall supply documents to the DDIST CI.
	S-DSS-10292	The DDSRV CI shall receive management directives from the SDSRV CI.
	S-DSS-30280	The DDIST CI shall log the following to the Distribution Activity Log, for each Electronic Distribution Request: User Identifier, Data Destination, and the Distribution Size.
	S-DSS-30290	The DDIST CI shall provide operations staff with the capability to display the Distribution Activity Log.
	S-DSS-30330	If the DDIST CI is unable to distribute data electronically, the User Identifier, the list of data, and the reason for the failure will be logged.
	S-DSS-30340	If the DDIST CI is unable to distribute data electronically, the user shall be sent a Notification.
	S-DSS-30390	The DDIST CI shall log the Data Destination and the number of data items distributed in an electronic distribution.
	S-DSS-30310	The DDIST CI shall provide the capability to sort the Distribution Activity Log by distribution type (i.e., electronic (push/pull) and physical media type (tape, CD-ROM, etc.)).
	S-DSS-30305	The DDIST CI shall provide the capability to view entries according to type of distribution, by time period or by data type (i.e., source of request).
	S-DSS-20880	The STMGT CI shall maintain an Intermediate Activity Log. It shall include date/time stamp, operation id (file space alloc./dealloc., media mount/dismount/loads/unload, file read/write/delete), affiliated Request Identifier and associated staging resources.
	S-DSS-30515	The Data Server shall distribute data in the approved ECS standard format in which it is stored. (i.e., HDF-EOS, V0 native, or Landsat 7 standard format.)
	S-DSS-30600	The DDIST CI shall provide the capability to distribute Data electronically via ftp (push).
	S-DSS-30670	If an electronic push distribution fails, DDIST CI shall make a system defined number of additional attempts before aborting the transmission and notifying the originator of the failure. These additional attempts shall be included in the Distribution Activity Log.

	S-DSS-30710	The DDIST CI shall provide the capability to distribute any Data , or appropriate subset, listed in the Inventory. Note: The appropriate subset of a data item is determined by and depends on the subject data type.
	S-DSS-30797	The DDIST CI shall receive management directives from the SDSRV CI.
TS023.004	S-DSS-30680	The DDIST CI shall provide capability for operations staff to change the system defined number of additional attempts for re-transmission.
TS023.005	S-DSS-30170	The DDIST CI shall respond to Status Requests from science users with a Request State indicating that the specified Distribution Request is “pending”, “active”, or “not found”
	S-DSS-30250	Upon the receipt of a status request, DDIST shall validate and provide the status of previously submitted distribution request.
TS025.001	S-DSS-01460	The SDSRV CI shall accept Subscription Requests that specify an action to be taken and an event to initiate the action.
	S-DSS-01482	The SDSRV CI shall validate Subscription Requests for send notification actions.
	S-DSS-01490	The SDSRV CI shall process Subscription Requests at the occurrence of the specified event.
	S-DSS-01500	In the event that more than one Subscription is linked to a single event, the SDSRV CI shall process the actions defined in the Subscriptions on a first-come, first-serve basis.
	S-DSS-01530	The SDSRV CI shall provide the capability for Subscriptions to notify users via email or directly to a program interface.
	S-DSS-01480	The SDSRV CI shall validate Subscription Requests for distribution of data actions.
	S-DSS-01484	The SDSRV CI shall validate Subscription Requests for collection of data for later distribution actions.
	S-DSS-01640	The SDSRV CI shall provide the capability to notify a subscriber on individual data granule basis.
	S-DSS-01510	The SDSRV CI shall provide the capability to notify users when data has been archived and is available for access.
	S-DSS-00251	The SDSRV CI custom GUIs shall conform to the guidelines in version 5.1 of the ECS Interface Style Guide.
	S-DSS-01570	The SDSRV CI shall provide the capability for operations staff to view the stored Subscriptions.
TS025.002	S-DSS-01460	The SDSRV CI shall accept Subscription Requests that specify an action to be taken and an event to initiate the action.
	S-DSS-01470	The SDSRV CI shall validate Subscription Requests for receipt of data type events.
	S-DSS-01482	The SDSRV CI shall validate Subscription Requests for send notification actions.
	S-DSS-01530	The SDSRV CI shall provide the capability for Subscriptions to notify users via email or directly to a program interface.
	S-DSS-01570	The SDSRV CI shall provide the capability for operations staff to view the stored Subscriptions.
TS025.003	S-DSS-01600	The SDSRV CI shall provide the capability for operations staff to delete any stored Subscription.

TS025.004	S-DSS-01610	The SDSRV CI shall provide the capability for a user to delete their own stored Subscription.
TS025.005	S-DSS-01482	The SDSRV CI shall validate Subscription Requests for send notification actions.
	S-DSS-01490	The SDSRV CI shall process Subscription Requests at the occurrence of the specified event.
TS025.006	S-DSS-01482	The SDSRV CI shall validate Subscription Requests for send notification actions.
	S-DSS-01490	The SDSRV CI shall process Subscription Requests at the occurrence of the specified event.
	S-DSS-01488	The SDSRV CI shall validate Subscription Requests for a Data Request action.
TS025.010	S-DSS-01550	The SDSRV CI shall provide the capability for a user to request notification of data arrival.
TS026.001	S-DSS-00065	The SDSRV CI shall accept Service Requests from the Data Processing subsystem and, as a result, provide access to Data for the purpose of standard processing.
	S-DSS-00650	The SDSRV CI shall expect an acknowledgment for all messages sent to internal components of ECS
	S-DSS-00660	The SDSRV CI shall acknowledge all messages from internal components of ECS
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-03860	The SDSRV CI shall be capable of receiving status from the PRONG CI.
	S-DSS-03862	The SDSRV CI shall be capable of sending status to the PRONG CI.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20475	The STMGT CI shall provide the capability to retrieve non-EOS data to be used for standard product production.
	S-DSS-20620	The STMGT CI shall provide the capability to retrieve each individual data granule that is stored.
TS026.002	S-DSS-00650	The SDSRV CI shall expect an acknowledgment for all messages sent to internal components of ECS
	S-DSS-00660	The SDSRV CI shall acknowledge all messages from internal components of ECS
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-01510	The SDSRV CI shall provide the capability to notify users when data has been archived and is available for access.
	S-DSS-01530	The SDSRV CI shall provide the capability for Subscriptions to notify users via email or directly to a program interface.
	S-DSS-03630	The SDSRV CI shall provide storage for Metadata associated with QA Statistics.
	S-DSS-03860	The SDSRV CI shall be capable of receiving status from the PRONG CI.
	S-DSS-03862	The SDSRV CI shall be capable of sending status to the PRONG CI.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
TS026.003	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.

	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00650	The SDSRV CI shall expect an acknowledgment for all messages sent to internal components of ECS
	S-DSS-00660	The SDSRV CI shall acknowledge all messages from internal components of ECS
	S-DSS-00670	The SDSRV CI shall be capable of receiving data from the PRONG CI.
	S-DSS-00694	The SDSRV CI shall be capable of receiving data from the STMGT CI.
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03210	The SDSRV CI shall be capable of receiving Production History and its associated metadata.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03412	The SDSRV CI shall interface with the STMGT CI to provide storage for L0 - L4 Data.
	S-DSS-03580	The SDSRV CI shall interface with the STMGT CI to provide storage for Production History.
	S-DSS-03860	The SDSRV CI shall be capable of receiving status from the PRONG CI.
	S-DSS-03862	The SDSRV CI shall be capable of sending status to the PRONG CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04450	The SDSRV CI shall have the ability to store references to Production History data as Metadata for science data.
	S-DSS-04475	The STMGT CI shall have the ability to store documents and/or data.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-21365(p)	The STMGT CI shall provide storage for the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-21366(p)	The STMGT CI shall provide storage for the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-30840	The Data Distribution within the Data Server shall support distributing product QA data produced at the collocated Data Processing Subsystem within 1 hour from the time it is ready.

	S-DSS-03745	The SDSRV CI shall interface with the STMGT CI to provide storage for File Format Descriptions (e.g., HDF Spec.).
	S-DSS-04440	The SDSRV CI shall have the ability to store references to data generation software as Metadata for science data.
	S-DSS-04480	The SDSRV CI shall have the ability to store references to QA Statistics as Metadata for science data.
	S-DSS-20880	The STMGT CI shall maintain an Intermediate Activity Log. It shall include date/time stamp, operation id (file space alloc./dealloc., media mount/dismount/loads/unload, file read/write/delete), affiliated Request Identifier and associated staging resources.
TS026.004	S-DSS-00650	The SDSRV CI shall expect an acknowledgment for all messages sent to internal components of ECS
	S-DSS-00660	The SDSRV CI shall acknowledge all messages from internal components of ECS
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-01510	The SDSRV CI shall provide the capability to notify users when data has been archived and is available for access.
	S-DSS-01525	The SDSRV CI shall accept Subscriptions for Data Availability Schedules from the PLANG CI.
	S-DSS-01530	The SDSRV CI shall provide the capability for Subscriptions to notify users via email or directly to a program interface.
	S-DSS-03864	The SDSRV CI shall be capable of receiving status from the PLANG CI.
	S-DSS-03866	The SDSRV CI shall be capable of sending status to the PLANG CI.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
TS026.005	S-DSS-00650	The SDSRV CI shall expect an acknowledgment for all messages sent to internal components of ECS
	S-DSS-00660	The SDSRV CI shall acknowledge all messages from internal components of ECS
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-03864	The SDSRV CI shall be capable of receiving status from the PLANG CI.
	S-DSS-03866	The SDSRV CI shall be capable of sending status to the PLANG CI.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20444	The STMGT CI shall provide the capability to retrieve Data Availability Schedules.
	S-DSS-20620	The STMGT CI shall provide the capability to retrieve each individual data granule that is stored.
TS026.006	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00650	The SDSRV CI shall expect an acknowledgment for all messages sent to internal components of ECS
	S-DSS-00660	The SDSRV CI shall acknowledge all messages from internal components of ECS

	S-DSS-00690	The SDSRV CI shall be capable of receiving data from the PLANG CI.
	S-DSS-00694	The SDSRV CI shall be capable of receiving data from the STMGT CI.
	S-DSS-00734	The SDSRV CI shall provide the capability to store Data Availability Schedules.
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03864	The SDSRV CI shall be capable of receiving status from the PLANG CI.
	S-DSS-03865	The SDSRV CI shall be capable of receiving scheduling data from the PLANG CI.
	S-DSS-03866	The SDSRV CI shall be capable of sending status to the PLANG CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04475	The STMGT CI shall have the ability to store documents and/or data.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20442	The STMGT CI shall provide the capability to archive Data Availability Schedules.
	S-DSS-21365(p)	The STMGT CI shall provide storage for the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-21366(p)	The STMGT CI shall provide storage for the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005.
TS026.007	S-DSS-10238	The DDSRV CI shall provide storage for production plan data.
	S-DPS-40720	The data visualization capability of the AITTL CI shall include the capability to display data as a two- or three-dimensional plot.
	S-DPS-40780	The data visualization capability of the AITTL CI shall include providing the user with the option to specify the axis limits for new or existing plot displays.
	S-DPS-40790	The data visualization capability of the AITTL CI shall include providing the operations staff with the option to specify the parameter assigned to each axis in new or existing plot or image displays.
	S-DPS-40810	The data visualization capability of the AITTL CI shall include the capability to save any plot, image, or hex/decimal/octal/ASCII dump to a file.

	S-DPS-40840	The data visualization capability of the AITTL CI shall include the capability to allow the operations staff to specify a custom input data format.
TS034.001	S-INS-00180	The INGST CI shall interactively accept Network Ingest Requests from authorized science users for electronic network ingest of a collection of Data from a location accessible via the ESN. The collection of Data shall describe one or more Data Granules.
	S-INS-00190	The INGST CI shall check the Network Ingest Request to verify that the date/time prior to which the data will remain available is a valid date/time in a Network Ingest Request entered interactively by a science user.
	S-INS-00205	The INGST CI shall determine the External Data Provider for a Network Ingest Request entered interactively by a science user.
	S-INS-00208	The INGST CI shall authenticate that the interactive science user entering a Network Ingest Request is authorized to request ingest of data.
	S-INS-00220	The INGST CI shall report status to the interactive submitter of a Network Ingest Request for the following: a. File transfer failure b. File size discrepancies c. Invalid Data Type Identifier d. Missing required metadata e. Metadata parameters out of range f. Data conversion failure g. Failure to archive data h. Inability to transfer data within the specified time window i. Unautorized science user j. Missing required request information k. Successful archive of the data
	S-INS-00222	The INGST CI shall check the Document Ingest Request to verify that the date/time prior to which the data will remain available is a valid date/time in a Document Ingest Request entered interactively by a science user.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00330	The INGST CI shall determine the Data Type Identifier for a set of ingested files, whenever the identifier was not provided in the Ingest Request. - CCR for deletion is pending
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request:
	S-INS-00680	The INGST CI shall ingest Data, provided by an SCF, from the ESN into the LaRC DAAC using a file transfer protocol.
	S-DSS-03070	The SDSRV CI shall process Data Insert Requests that request the storage of TAR Files, containing PGE Binaries and scripts, with associated metadata.
	S-DSS-03075	The SDSRV CI shall process Data Requests that request the staging of TAR Files, containing PGE Binaries and scripts, to a specified location.
	S-DSS-03712	The SDSRV CI shall interface with the STMGT CI to provide storage for Research results (articles, algorithms, data sets, software).

	S-DSS-05000	The SDSRV CI shall manage algorithm packages as defined in the ECS Core Metadata Model, and provide interfaces for storing and accessing them.
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.
	S-DSS-20030	The STMGT CI shall check each Insert Request it receives for the correct type of data in all fields. Fields that shall be checked include Request Identifier, date of request, Priority Information, data type and original identifier.
	S-DSS-20600	The STMGT CI shall provide the capability to uniquely identify each data granule that is archived.
	S-DSS-03440	The SDSRV CI shall interface with the STMGT CI to provide storage for Science Software Archive Packages.
	S-DSS-03450	The SDSRV CI shall provide storage for Metadata associated with Science Software Archive Packages.
	S-DSS-04430	The SDSRV CI shall have the ability to store references to Science Software Archive Packages as Metadata for science data.
	S-DSS-04490	The SDSRV CI shall have the ability to store references to reference documentation as Metadata for science data.
TS034.002	S-INS-00180	The INGST CI shall interactively accept Network Ingest Requests from authorized science users for electronic network ingest of a collection of Data from a location accessible via the ESN. The collection of Data shall describe one or more Data Granules.
	S-INS-00205	The INGST CI shall determine the External Data Provider for a Network Ingest Request entered interactively by a science user.
	S-INS-00208	The INGST CI shall authenticate that the interactive science user entering a Network Ingest Request is authorized to request ingest of data.
	S-INS-00209	The INGST CI shall report to the Error Log an unauthorized attempt to interactively request ingest of data.
	S-INS-00220	The INGST CI shall report status to the interactive submitter of a Network Ingest Request for the following: a. File transfer failure b. File size discrepancies c. Invalid Data Type Identifier d. Missing required metadata e. Metadata parameters out of range f. Data conversion failure g. Failure to archive data h. Inability to transfer data within the specified time window i. Unautorized science user j. Missing required request information k. Successful archive of the data
	S-INS-00222	The INGST CI shall check the Document Ingest Request to verify that the date/time prior to which the data will remain available is a valid date/time in a Document Ingest Request entered interactively by a science user.

	S-INS-00340	The INGST CI shall report status on processing of an Ingest Request to the Error Log for the following: a. File transfer failure (2) b. File size discrepancies (2) c. Invalid Data Type Identifier (1) d. Missing required metadata (2, 3) e. Metadata parameters out of range (2, 3) f. Metadata extraction failure (2) g. Data conversion failure (3) h. Data reformatting failure (3) i. Failure to archive data (1) j. Inability to transfer data within the specified time window (2) k. Missing required request information (1) l. Unauthorized Ingest request submitter (1) m. Successful archive of the data (1)
	S-INS-00680	The INGST CI shall ingest Data, provided by an SCF, from the ESN into the LaRC DAAC using a file transfer protocol.
TS034.003	S-INS-00180	The INGST CI shall interactively accept Network Ingest Requests from authorized science users for electronic network ingest of a collection of Data from a location accessible via the ESN. The collection of Data shall describe one or more Data Granules.
	S-INS-00190	The INGST CI shall check the Network Ingest Request to verify that the date/time prior to which the data will remain available is a valid date/time in a Network Ingest Request entered interactively by a science user.
	S-INS-00205	The INGST CI shall determine the External Data Provider for a Network Ingest Request entered interactively by a science user.
	S-INS-00208	The INGST CI shall authenticate that the interactive science user entering a Network Ingest Request is authorized to request ingest of data.
	S-INS-00220	The INGST CI shall report status to the interactive submitter of a Network Ingest Request for the following: a. File transfer failure b. File size discrepancies c. Invalid Data Type Identifier d. Missing required metadata e. Metadata parameters out of range f. Data conversion failure g. Failure to archive data h. Inability to transfer data within the specified time window i. Unautorized science user j. Missing required request information k. Successful archive of the data
	S-INS-00222	The INGST CI shall check the Document Ingest Request to verify that the date/time prior to which the data will remain available is a valid date/time in a Document Ingest Request entered interactively by a science user.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00330	The INGST CI shall determine the Data Type Identifier for a set of ingested files, whenever the identifier was not provided in the Ingest Request. - CCR for deletion is pending

	S-INS-00680	The INGST CI shall ingest Data, provided by an SCF, from the ESN into the LaRC DAAC using a file transfer protocol.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request:
	S-DSS-03030	The SDSRV CI shall be capable of receiving Science Software Archive Packages.
	S-DSS-03040	The SDSRV CI shall be capable of receiving Metadata associated with Science Software Archive Packages.
	S-DSS-03712	The SDSRV CI shall interface with the STMGT CI to provide storage for Research results (articles, algorithms, data sets, software).
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04520	The SDSRV CI shall provide the capability to validate metadata before insertion into the Inventory.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.
	S-DSS-20030	The STMGT CI shall check each Insert Request it receives for the correct type of data in all fields. Fields that shall be checked include Request Identifier, date of request, Priority Information, data type and original identifier.
	S-DSS-20060	The STMGT CI shall accept Archive Status Requests for the status of ongoing Insert and Retrieve Requests.
TS034.004	S-INS-00180	The INGST CI shall interactively accept Network Ingest Requests from authorized science users for electronic network ingest of a collection of Data from a location accessible via the ESN. The collection of Data shall describe one or more Data Granules.
	S-INS-00205	The INGST CI shall determine the External Data Provider for a Network Ingest Request entered interactively by a science user.
	S-INS-00208	The INGST CI shall authenticate that the interactive science user entering a Network Ingest Request is authorized to request ingest of data.
	S-INS-00220	The INGST CI shall report status to the interactive submitter of a Network Ingest Request for the following: a. File transfer failure b. File size discrepancies c. Invalid Data Type Identifier d. Missing required metadata e. Metadata parameters out of range f. Data conversion failure g. Failure to archive data h. Inability to transfer data within the specified time window i. Unautorized science user j. Missing required request information k. Successful archive of the data

	S-INS-00235	The INGST CI shall accept ingest Status Requests from science users to determine the status of: a: a specified ongoing ingest request, previously submitted by the science user who is requesting status and identified by the ingest Request Identifier b: all of the user's ongoing Ingest Requests
	S-INS-00240	The INGST CI shall determine the User Identifier for a science user submitting an ingest Status Request.
	S-INS-00250	The INGST CI shall update status on a science user's ongoing Network Ingest Requests, based on User Identifier, to the user.
	S-INS-00260	The INGST CI shall provide science users the capability to display the status of the user's ongoing request processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00222	The INGST CI shall check the Document Ingest Request to verify that the date/time prior to which the data will remain available is a valid date/time in a Document Ingest Request entered interactively by a science user.
	S-INS-00270	The INGST CI shall accept ingest Status Requests from authorized operations staff to determine the status of: a: a specified ongoing Ingest Request identitifed by ingest Request Identifier b: all ongoing Ingest Requests associated with a specified User Identifier c: all ongoing Ingest Requests
	S-INS-00280	The INGST CI shall determine the User Identifier for an operations staff member submitting an ingest Status Request.
	S-INS-00290	The INGST CI shall authenticate the User Identifier of operations staff requesting status on all ongoing Ingest Requests.
	S-INS-00300	The INGST CI shall return status on ongoing Ingest Requests to an authorized operations staff member.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00315	The INGST CI shall provide the capability for authorized operations staff to select status of ongoing Ingest Request processing for viewing by means of the External Data Provider.

	S-INS-00340	The INGST CI shall report status on processing of an Ingest Request to the Error Log for the following: a. File transfer failure (2) b. File size discrepancies (2) c. Invalid Data Type Identifier (1) d. Missing required metadata (2, 3) e. Metadata parameters out of range (2, 3) f. Metadata extraction failure (2) g. Data conversion failure (3) h. Data reformatting failure (3) i. Failure to archive data (1) j. Inability to transfer data within the specified time window (2) k. Missing required request information (1) l. Unauthorized Ingest request submitter (1) m. Successful archive of the data (1)
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request:
	S-INS-00680	The INGST CI shall ingest Data, provided by an SCF, from the ESN into the LaRC DAAC using a file transfer protocol.
TS035.001	S-INS-00010	The INGST CI shall accept Network Ingest Requests to request automated electronic network ingest of a collection of Data. The collection of Data shall describe one or more Data Granules.
	S-INS-00020	The INGST CI shall check the Network Ingest Request to verify that the date/time prior to which the data will remain available is a valid date/time.
	S-INS-00050	The INGST CI shall report the following to the MSS event log services: a. Receipt of a network ingest request; b. Response to a network ingest request.
	S-INS-00060	The INGST CI shall report status to the provider of a Network Ingest Request for the following: a. File transfer failure(2) b. File size discrepancies(2) c. Invalid Data Type Identifier(1) d. Missing required metadata(2,3) e. Metadata parameters out of range(2) f. Data conversion failure(3) g. Failure to archive data(3) h. Inability to transfer data within the specified time window i. Missing required request information j. Successful archive of the data
	S-INS-00316	The INGST CI shall accept an Ingest Request from authorized applications.
	S-INS-00317	The INGST CI shall authenticate the User Identifier of an application submitting an Ingest Request.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00330	The INGST CI shall determine the Data Type Identifier for a set of ingested files, whenever the identifier was not provided in the Ingest Request. - CCR for deletion is pending

	S-INS-00340	The INGST CI shall report status on processing of an Ingest Request to the Error Log for the following: a. File transfer failure (2) b. File size discrepancies (2) c. Invalid Data Type Identifier (1) d. Missing required metadata (2, 3) e. Metadata parameters out of range (2, 3) f. Metadata extraction failure (2) g. Data conversion failure (3) h. Data reformatting failure (3) i. Failure to archive data (1) j. Inability to transfer data within the specified time window (2) k. Missing required request information (1) l. Unauthorized Ingest request submitter (1) m. Successful archive of the data (1)
	S-INS-00408	For each data granule specified in an Ingest Request the INGST CI shall determine by means of an Advertisement the appropriate ~~SDSRV CI~~/DDSRV CI in which to store the data granule.
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/~~DDSRV CI~~ associated with the type of the data granule.
	S-INS-00410	The INGST CI shall provide the capability to electronically transfer data to be ingested via the ESN into a specified ECS storage location.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00460	The INGST CI shall determine the size of each file transferred to ECS whenever file sizes are specified in the corresponding Ingest Request.
	S-INS-00470	The INGST CI shall compare the size of each file after data transfer to ECS with file sizes specified in the corresponding Ingest Request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request:
	S-INS-00500	For each data granule specified in an Ingest Request the INGST CI shall determine by means of an Advertisement the appropriate ~~SDSRV CI~~/DDSRV CI in which to store the data granule.
	S-INS-00510	The INGST CI shall provide the capability to select Ingest History Log entries for viewing by the following parameters: ... e. Test or operational mode.
	S-INS-00560	The INGST CI shall ingest Data, provided by the TSDIS, from the ESN into the GSFC DAAC using a file transfer protocol.
	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.

	S-DSS-00520	The SDSRV CI shall return a successful completion status to the provider of data only after all data and associated Metadata has been successfully stored.
	S-DSS-01820	The SDSRV CI shall support TRMM end to end testing
	S-DSS-03010	The SDSRV CI shall be capable of receiving Calibration Data.
	S-DSS-03020	The SDSRV CI shall be capable of receiving Metadata associated with Calibration Data.
	S-DSS-03110	The SDSRV CI shall be capable of receiving Instrument Calibration Data.
	S-DSS-03120	The SDSRV CI shall be capable of receiving Metadata associated with Instrument Calibration Data.
	S-DSS-03130	The SDSRV CI shall be capable of receiving Instrument Characterization Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03350	The SDSRV CI shall be capable of receiving V0 Migration Data in native format
	S-DSS-03360	The SDSRV CI shall be capable of receiving Metadata associated with V0 Migration Data in native format
	S-DSS-03366	The SDSRV CI shall be capable of receiving inventory characteristic data.
	S-DSS-03367	The SDSRV CI shall be capable of receiving File Format Descriptions (e.g. HDF Spec.).
	S-DSS-03369	The SDSRV CI shall be capable of receiving expedited data from instruments.
	S-DSS-03370	Upon receipt of data types the SDSRV CI shall perform data type specific checking.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03480	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument calibration data.
	S-DSS-03500	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument characterization data.
	S-DSS-03560	The SDSRV CI shall interface with the STMGT CI to provide storage for Orbit/Attitude data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04520	The SDSRV CI shall provide the capability to validate metadata before insertion into the Inventory.
	S-DSS-04530	The SDSRV CI shall provide the capability to validate updated metadata before insertion into the Inventory.

	S-DSS-01820	The SDSRV CI shall support TRMM end to end testing
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.
	S-DSS-20030	The STMGT CI shall check each Insert Request it receives for the correct type of data in all fields. Fields that shall be checked include Request Identifier, date of request, Priority Information, data type and original identifier.
	S-DSS-20600	The STMGT CI shall provide the capability to uniquely identify each data granule that is archived.
	S-DSS-20620	The STMGT CI shall provide the capability to retrieve each individual data granule that is stored.
	S-DSS-20621	The STMGT CI shall calculate a checksum for each file associated with each data granule stored in the archive.
	S-DSS-20622	The STMGT CI shall provide to the SDSRV CI's MD Component a copy of the checksum value calculated upon initial receipt of each file in each data granule stored in the archive.
TS035.002	S-INS-00010	The INGST CI shall accept Network Ingest Requests to request automated electronic network ingest of a collection of Data. The collection of Data shall describe one or more Data Granules.
	S-INS-00020	The INGST CI shall check the Network Ingest Request to verify that the date/time prior to which the data will remain available is a valid date/time.
	S-INS-00060	The INGST CI shall report status to the provider of a Network Ingest Request for the following: a. File transfer failure(2) b. File size discrepancies(2) c. Invalid Data Type Identifier(1) d. Missing required metadata(2,3) e. Metadata parameters out of range(2) f. Data conversion failure(3) g. Failure to archive data(3) h. Inability to transfer data within the specified time window i. Missing required request information j. Successful archive of the data
	S-INS-00316	The INGST CI shall accept an Ingest Request from authorized applications.

	S-INS-00340	The INGST CI shall report status on processing of an Ingest Request to the Error Log for the following: a. File transfer failure (2) b. File size discrepancies (2) c. Invalid Data Type Identifier (1) d. Missing required metadata (2, 3) e. Metadata parameters out of range (2, 3) f. Metadata extraction failure (2) g. Data conversion failure (3) h. Data reformatting failure (3) i. Failure to archive data (1) j. Inability to transfer data within the specified time window (2) k. Missing required request information (1) l. Unauthorized Ingest request submitter (1) m. Successful archive of the data (1)
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request:
	S-DSS-04520	The SDSRV CI shall provide the capability to validate metadata before insertion into the Inventory.
	S-DSS-04530	The SDSRV CI shall provide the capability to validate updated metadata before insertion into the Inventory.
	S-DSS-04540	The SDSRV CI shall reject metadata which fails one or more validations constraints.
	S-DSS-20030	The STMGT CI shall check each Insert Request it receives for the correct type of data in all fields. Fields that shall be checked include Request Identifier, date of request, Priority Information, data type and original identifier.
TS035.003	S-INS-00010	The INGST CI shall accept Network Ingest Requests to request automated electronic network ingest of a collection of Data. The collection of Data shall describe one or more Data Granules.
	S-INS-00030	The INGST CI shall authenticate the provider of a Network Ingest Request as an authorized provider of data to be ingested.
	S-INS-00040	The INGST CI shall report status to the provider of a Network Ingest Request and to the Error Log indicating successful or unsuccessful authentication of the provider as authorized to submit the request.
TS035.004	S-INS-00030	The INGST CI shall authenticate the provider of a Network Ingest Request as an authorized provider of data to be ingested.
	S-INS-00040	The INGST CI shall report status to the provider of a Network Ingest Request and to the Error Log indicating successful or unsuccessful authentication of the provider as authorized to submit the request.
TS036.001	S-INS-00403(a)	The INGST CI shall perform the following metadata conversions: a. PB5 time into ECS standard date / time format; b. Binary integer values into ASCII integer format; c. Binary floating point values into ASCII floating point format.
TS036.002	S-INS-00403(b)	The INGST CI shall perform the following metadata conversions: a. PB5 time into ECS standard date / time format; b. Binary integer values into ASCII integer format; c. Binary floating point values into ASCII floating point format.

TS036.003	S-INS-00403(c)	The INGST CI shall perform the following metadata conversions: a. PB5 time into ECS standard date / time format; b. Binary integer values into ASCII integer format; c. Binary floating point values into ASCII floating point format.
TS036.004	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00694	The SDSRV CI shall be capable of receiving data from the STMGT CI.
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-03004	The SDSRV CI shall be capable of receiving Ancillary Data.
	S-DSS-03006	The SDSRV CI shall be capable of receiving Metadata associated with Ancillary Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03414	The SDSRV CI shall interface with the STMGT CI to provide storage for Ancillary Data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04475	The STMGT CI shall have the ability to store documents and/or data.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.
	S-DSS-21365(p)	The STMGT CI shall provide storage for the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-21366(p)	The STMGT CI shall provide storage for the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-INS-00100	The INGST CI shall provide the capability to periodically check a location accessible to the ESN for the presence of data granule files.
	S-INS-00110	The INGST CI shall submit an Polling Ingest Request after detecting the presence of data granule files in a location accessible to the ESN. The request shall contain the file location.

	S-INS-00300	The INGST CI shall return status on ongoing Ingest Requests to an authorized operations staff member.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00315	The INGST CI shall provide the capability for authorized operations staff to select status of ongoing Ingest Request processing for viewing by means of the External Data Provider.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00330	The INGST CI shall determine the Data Type Identifier for a set of ingested files, whenever the identifier was not provided in the Ingest Request.
	S-INS-00402	The INGST CI shall reformat ingested data into a form accepted by the SDSRV CI/DDSRV CI as needed.
	S-INS-00404(a)	The INGST CI shall extract metadata from ingested data into a form accepted by the Science Data Server / Document Data Server, as needed, for the following categories of data: a. Metadata parameters stored by parameter byte order and parameter byte length; b. Metadata parameters stored in PVL format; c. Metadata parameters stored in HDF format; d. Dataset-specific metadata formats
	S-INS-00405	The INGST CI shall append the following ingest-specific metadata to metadata corresponding to ingested data: a. ingest start date and time b. ingest stop date and time c. total data volume
	S-INS-00408	For each data granule specified in an Ingest Request the INGST CI shall determine by means of an Advertisement the appropriate SDSRV CI/DDSRV CI in which to store the data granule.
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/DDSRV CI associated with the type of the data granule.
	S-INS-00410	The INGST CI shall provide the capability to electronically transfer data to be ingested via the ESN into a specified ECS storage location.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request: a. Ingest start/stop dates and times; b. Ingest Request Identifier; c. External Data Provider; d. Final Service Request Status; e. Data Type Identifiers; f. Ingest data volume; g. # of data sets and h. # of data files.
	S-INS-00500	The INGST CI shall provide operations staff the capability to view selected entries from the Ingest History Log.

	S-INS-00510	The INGST CI shall provide the capability to select Ingest History Log entries for viewing by the following parameters: ... e. Test or operational mode.
	S-INS-00630	The INGST CI shall ingest data, provided by NESDIS, from the ESN into the LaRC DAAC using a file transfer protocol.
TS036.005	S-DSS-04520	The SDSRV CI shall provide the capability to validate metadata before insertion into the Inventory.
	S-DSS-04540	The SDSRV CI shall reject metadata which fails one or more validations constraints.
	S-INS-00085 (a-g)	The INGST CI shall report status to the provider of a polling ingest request (delivery record file) for the following: a. File transfer failure; b. File size discrepancies; c. Invalid data type identifier; d. Missing required metadata; e. Metadata parameters out of range; f. Failure to archive data; g. Missing required request information; h. Successful archive of the data.
TS036.006	S-INS-00090	The INGST CI shall provide the capability for authorized operations staff to set the period between checking for the presence of Delivery Record files.
	S-INS-00120	The INGST CI shall provide the capability for authorized operations staff to set the period between checking for the presence of external data granule files.
TS036.007	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00694	The SDSRV CI shall be capable of receiving data from the STMGT CI.
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-03004	The SDSRV CI shall be capable of receiving Ancillary Data.
	S-DSS-03006	The SDSRV CI shall be capable of receiving Metadata associated with Ancillary Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03361	The SDSRV CI shall be capable of receiving NMC data.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03414	The SDSRV CI shall interface with the STMGT CI to provide storage for Ancillary Data.
	S-DSS-03741	The SDSRV CI shall interface with the STMGT CI to provide storage for NMC data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.

	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04475	The STMGT CI shall have the ability to store documents and/or data.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.
	S-DSS-21365(p)	The STMGT CI shall provide storage for the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-21366(p)	The STMGT CI shall provide storage for the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-INS-00070	The INGST CI shall provide the capability to periodically check a location accessible to the ESN for the presence of a Delivery Record file describing data to be ingested. The Delivery Record file shall contain the same information as a Network Ingest Request.
	S-INS-00080	The INGST CI shall read a Delivery Record file describing data to be ingested at a location accessible to the ESN and submit a corresponding Network Ingest Request to be processed.
	S-INS-00085(h)	The INGST CI shall report status to the provider of a polling ingest request (delivery record file) for the following: a. File transfer failure; b. File size discrepancies; c. Invalid data type identifier; d. Missing required metadata; e. Metadata parameters out of range; f. Failure to archive data; g. Missing required request information; h. Successful archive of the data.
	S-INS-00300	The INGST CI shall return status on ongoing Ingest Requests to an authorized operations staff member.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00315	The INGST CI shall provide the capability for authorized operations staff to select status of ongoing Ingest Request processing for viewing by means of the External Data Provider.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00330	The INGST CI shall determine the Data Type Identifier for a set of ingested files, whenever the identifier was not provided in the Ingest Request.
	S-INS-00400	The INGST CI shall convert ingested data into a form accepted by the SDSRV CI / DDSRV CI, for following data types: a. NMC GRIB data.
	S-INS-00402	The INGST CI shall reformat ingested data into a form accepted by the SDSRV CI/DDSRV CI as needed.

	S-INS-00404(a)	The INGST CI shall extract metadata from ingested data into a form accepted by the Science Data Server / Document Data Server, as needed, for the following categories of data: a. Metadata parameters stored by parameter byte order and parameter byte length; b. Metadata parameters stored in PVL format; c. Metadata parameters stored in HDF format; d. Dataset-specific metadata formats
	S-INS-00405	The INGST CI shall append the following ingest-specific metadata to metadata corresponding to ingested data: a. ingest start date and time b. ingest stop date and time c. total data volume
	S-INS-00408	For each data granule specified in an Ingest Request the INGST CI shall determine by means of an Advertisement the appropriate SDSRV CI/DDSRV CI in which to store the data granule.
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/DDSRV CI associated with the type of the data granule.
	S-INS-00410	The INGST CI shall provide the capability to electronically transfer data to be ingested via the ESN into a specified ECS storage location.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00460	The INGST CI shall determine the size of each file transferred to ECS whenever file sizes are specified in the corresponding Ingest Request.
	S-INS-00470	The INGST CI shall compare the size of each file after data transfer to ECS with file sizes specified in the corresponding Ingest Request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request: a. Ingest start/stop dates and times; b. Ingest Request Identifier; c. External Data Provider; d. Final Service Request Status; e. Data Type Identifiers; f. Ingest data volume; g. # of data sets and h. # of data files.
	S-INS-00500	The INGST CI shall provide operations staff the capability to view selected entries from the Ingest History Log.
	S-INS-00510	The INGST CI shall provide the capability to select Ingest History Log entries for viewing by the following parameters: ... e. Test or operational mode.
	S-INS-00620	The INGST CI shall ingest data, provided by the DAO, from the ESN into the LaRC DAAC using a file transfer protocol.
	S-INS-00640	The INGST CI shall ingest data, provided by the DAO, from the ESN into the GSFC DAAC using a file transfer protocol.
TS037.001	S-INS-00010	The INGST CI shall accept Network Ingest Requests to request automated electronic network ingest of a collection of Data. The collection of Data shall describe one or more Data Granules.

	S-INS-00060	The INGST CI shall report status to the provider of a Network Ingest Request for the following: a. File transfer failure(2) b. File size discrepancies(2) c. Invalid Data Type Identifier(1) d. Missing required metadata(2,3) e. Metadata parameters out of range(2) f. Data conversion failure(3) g. Failure to archive data(3) h. Inability to transfer data within the specified time window i. Missing required request information j. Successful archive of the data
	S-INS-00404	The INGST CI shall extract metadata from ingested data into a form accepted by the Science Data Server / Document Data Server, as needed, for the following categories of data: a. Metadata parameters stored by parameter byte order and parameter byte length; b. Metadata parameters stored in PVL format; c. Metadata parameters stored in HDF format; d. Dataset-specific metadata formats
	S-INS-00405	The INGST CI shall append the following ingest-specific metadata to metadata corresponding to ingested data: a. ingest start date and time b. ingest stop date and time c. total data volume
	S-INS-00408	For each data granule specified in an Ingest Request the INGST CI shall determine by means of an Advertisement the appropriate SDSRV CI/DDSRV CI in which to store the data granule.
	S-DSS-04520	The SDSRV CI shall provide the capability to validate metadata before insertion into the Inventory.
	S-DSS-04530	The SDSRV CI shall provide the capability to validate updated metadata before insertion into the Inventory.
TS038.001	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.
	S-DSS-20030	The STMGT CI shall check each Insert Request it receives for the correct type of data in all fields. Fields that shall be checked include Request Identifier, date of request, Priority Information, data type and original identifier.
	S-DSS-20600	The STMGT CI shall provide the capability to uniquely identify each data granule that is archived.
	S-INS-00010	The DPREP CI shall accept binary format of FDF-generated Definitive Orbit Data (EPHEM) for TRMM preprocessing.

	S-INS-00060	The INGST CI shall report status to the provider of a Network Ingest Request for the following: a. File transfer failure(2) b. File size discrepancies(2) c. Invalid Data Type Identifier(1) d. Missing required metadata(2,3) e. Metadata parameters out of range(2) f. Data conversion failure(3) g. Failure to archive data(3) h. Inability to transfer data within the specified time window i. Missing required request information j. Successful archive of the data
	S-INS-00404	The INGST CI shall extract metadata from ingested data into a form accepted by the Science Data Server Document Data Server, as needed, for the following categories of data: a. Metadata parameters stored by parameter byte order and parameter byte length; b. Metadata parameters stored in PVL format; c. Metadata parameters stored in HDF format; d. Dataset-specific metadata formats
	S-INS-00405	The INGST CI shall append the following ingest-specific metadata to metadata corresponding to ingested data: a. ingest start date and time b. ingest stop date and time c. total data volume
	S-INS-00406	The INGST CI shall check selected parameters from extracted metadata to verify: a. Metadata parameters stored in a dataset specific format, ... f. That date / time values include a valid month, day of month, hour, minute, and second; g. That date / time values include a year value within a range specific for that date / time value.
TS038.002	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.
	S-DSS-20030	The STMGT CI shall check each Insert Request it receives for the correct type of data in all fields. Fields that shall be checked include Request Identifier, date of request, Priority Information, data type and original identifier.
	S-DSS-20060	The STMGT CI shall accept Archive Status Requests for the status of ongoing Insert and Retrieve Requests.

	S-INS-00060	The INGST CI shall report status to the provider of a Network Ingest Request for the following: a. File transfer failure(2) b. File size discrepancies(2) c. Invalid Data Type Identifier(1) d. Missing required metadata(2,3) e. Metadata parameters out of range(2) f. Data conversion failure(3) g. Failure to archive data(3) h. Inability to transfer data within the specified time window i. Missing required request information j. Successful archive of the data
	S-INS-00404	The INGST CI shall extract metadata from ingested data into a form accepted by the Science Data Server / Document Data Server, as needed, for the following categories of data: a. Metadata parameters stored by parameter byte order and parameter byte length; b. Metadata parameters stored in PVL format; c. Metadata parameters stored in HDF format; d. Dataset-specific metadata formats
	S-INS-00405	The INGST CI shall append the following ingest-specific metadata to metadata corresponding to ingested data: a. ingest start date and time b. ingest stop date and time c. total data volume
	S-INS-00406	The INGST CI shall check selected parameters from extracted metadata to verify: a. Metadata parameters stored in a dataset specific format, ... f. That date / time values include a valid month, day of month, hour, minute, and second; g. That date / time values include a year value within a range specific for that date / time value.
TS039.001	S-DSS-04476	The DDSRV CI shall provide the ability to store documents and/or data.
	S-DSS-10030	The DDSRV CI shall support storage, retrieval and searching of documents in HTML format.
	S-DSS-10040	The DDSRV CI shall accept Documents from the INGST CI.
	S-DSS-10170	The DDSRV CI shall store, maintain and provide data management services for ECS guide (documentation/reference material).
	S-DSS-10204	The DDSRV CI shall provide the capability to ingest documentation in HTML format.
	S-INS-00180	The INGST CI shall interactively accept Network Ingest Requests from authorized science users for electronic network ingest of a collection of Data from a location accessible via the ESN. The collection of Data shall describe one or more Data Granules.
	S-INS-00205	The INGST CI shall determine the External Data Provider for a Network Ingest Request entered interactively by a science user.
	S-INS-00208	The INGST CI shall authenticate that the interactive science user entering a Network Ingest Request is authorized to request ingest of data.

	S-INS-00220	The INGST CI shall report status to the interactive submitter of a Network Ingest Request for the following: a. File transfer failure b. File size discrepancies c. Invalid Data Type Identifier d. Missing required metadata e. Metadata parameters out of range f. Data conversion failure g. Failure to archive data h. Inability to transfer data within the specified time window i. Unautorized science user j. Missing required request information k. Successful archive of the data
	S-INS-00221	The INGST CI shall interactively accept Document Ingest Requests from authorized science users for ingest of a single collection of document Data from a location accessible via the ESN. The collection of document Data shall describe one or more document Data Granules.
	S-INS-00225	The INGST CI shall determine the data provider and assign the Priority Information for a Document Ingest Request entered interactively by a science user.
	S-INS-00227	The INGST CI shall authenticate that the interactive science user entering a Document Ingest Request is authorized to request ingest of data.
	S-INS-00230	The INGST CI shall report status to the interactive submitter of a Document Ingest Request for the following: a. file transfer failure b. file size diacrepancy c. invalid data type identifier d. missing required metadata e. metadata parameter out of range f. data conversion failure g. failure to archive data h. inability to transfer data within the specified time window i. unauthorized science user j. missing required request information k. successful archive of data
TS039.002	S-DSS-04476	The DDSRV CI shall provide the ability to store documents and/or data.
	S-DSS-10030	The DDSRV CI shall support storage, retrieval and searching of documents in HTML format.
	S-DSS-10040	The DDSRV CI shall accept Documents from the INGST CI.
	S-DSS-10170	The DDSRV CI shall receive user supplied documents in HTML & ASCII
	S-DSS-10204	The DDSRV CI shall provide the capability to ingest documentation in HTML format.
	S-INS-00180	The INGST CI shall interactively accept Network Ingest Requests from authorized science users for electronic network ingest of a collection of Data from a location accessible via the ESN. The collection of Data shall describe one or more Data Granules.

	S-INS-00205	The INGST CI shall determine the External Data Provider for a Network Ingest Request entered interactively by a science user.
	S-INS-00208	The INGST CI shall authenticate that the interactive science user entering a Network Ingest Request is authorized to request ingest of data.
	S-INS-00208	The INGST CI shall authenticate that the interactive science user entering a Network Ingest Request is authorized to request ingest of data.
	S-INS-00220	The INGST CI shall report status to the interactive submitter of a Network Ingest Request for the following: a. File transfer failure b. File size discrepancies c. Invalid Data Type Identifier d. Missing required metadata e. Metadata parameters out of range f. Data conversion failure g. Failure to archive data h. Inability to transfer data within the specified time window i. Unautorized science user j. Missing required request information k. Successful archive of the data
	S-INS-00221	The INGST CI shall interactively accept Document Ingest Requests from authorized science users for ingest of a single collection of document Data from a location accessible via the ESN. The collection of document Data shall describe one or more document Data Granules.
	S-INS-00225	The INGST CI shall determine the data provider and assign the Priority Information for a Document Ingest Request entered interactively by a science user.
	S-INS-00227	The INGST CI shall authenticate that the interactive science user entering a Document Ingest Request is authorized to request ingest of data.
TS039.003	S-DSS-10095	The DDSRV CI shall be capable of receiving data from the PLANG CI.
	S-DSS-10238	The DDSRV CI shall provide storage for production plan data.
TS039.004	S-DSS-04476	The DDSRV CI shall provide the ability to store documents and/or data.
	S-DSS-10030	The DDSRV CI shall support storage, retrieval and searching of documents in HTML format.
	S-DSS-10040	The DDSRV CI shall accept Documents from the INGST CI.
	S-DSS-10170	The DDSRV CI shall store, maintain and provide data management services for ECS guide (documentation/reference material).
	S-DSS-10204	The DDSRV CI shall provide the capability to ingest documentation in HTML format.
	S-INS-00180	The INGST CI shall interactively accept Network Ingest Requests from authorized science users for electronic network ingest of a collection of Data from a location accessible via the ESN. The collection of Data shall describe one or more Data Granules.
	S-INS-00205	The INGST CI shall determine the External Data Provider for a Network Ingest Request entered interactively by a science user.

	S-INS-00208	The INGST CI shall authenticate that the interactive science user entering a Network Ingest Request is authorized to request ingest of data.
	S-INS-00220	The INGST CI shall report status to the interactive submitter of a Network Ingest Request for the following: a. File transfer failure b. File size discrepancies c. Invalid Data Type Identifier d. Missing required metadata e. Metadata parameters out of range f. Data conversion failure g. Failure to archive data h. Inability to transfer data within the specified time window i. Unautorized science user j. Missing required request information k. Successful archive of the data
	S-INS-00221	The INGST CI shall interactively accept Document Ingest Requests from authorized science users for ingest of a single collection of document Data from a location accessible via the ESN. The collection of document Data shall describe one or more document Data Granules.
	S-INS-00225	The INGST CI shall determine the data provider and assign the Priority Information for a Document Ingest Request entered interactively by a science user.
	S-INS-00227	The INGST CI shall authenticate that the interactive science user entering a Document Ingest Request is authorized to request ingest of data.
	S-INS-00230	The INGST CI shall report status to the interactive submitter of a Document Ingest Request for the following: a. file transfer failure b. file size diacrepancy c. invalid data type identifier d. missing required metadata e. metadata parameter out of range f. data conversion failure g. failure to archive data h. inability to transfer data within the specified time window i. unauthorized science user j. missing required request information k. successful archive of data
TS040.001	S-INS-00010	The INGST CI shall accept Network Ingest Requests to request automated electronic network ingest of a collection of Data. The collection of Data shall describe one or more Data Granules.
	S-INS-00300	The INGST CI shall authenticate the provider of a Network Ingest Request as an authorized provider of data to be ingested.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.

	S-INS-00380	The INGST CI shall provide authorized operations staff the capability to set thresholds for: a. total number of ingest requests to process concurrently b. number of ingest requests for each External Data Provider to process concurrently c. total volume of data to ingest concurrently d. volume of data for each External Data PRovider to ingest concurrently e. number of data transfer retry attempts for each external interface to ECS
	S-INS-00390	The INGST CI shall authenticate the User Identifier of operations staff requesting to set thresholds for concurrent ingest processing.
	S-INS-00395	The INGST CI shall report status on ingest threshold setup Requests to the requesting operations staff and to the Error Log for the following: a. unauthorized requester b. invalid ingest Request Identifier c. Unable to suspend specified Ingest Request
TS040.002	S-INS-00010	The INGST CI shall accept Network Ingest Requests to request automated electronic network ingest of a collection of Data. The collection of Data shall describe one or more Data Granules.
	S-INS-00380	The INGST CI shall provide authorized operations staff the capability to set thresholds for: a. total number of ingest requests to process concurrently b. number of ingest requests for each External Data Provider to process concurrently c. total volume of data to ingest concurrently d. volume of data for each External Data PRovider to ingest concurrently e. number of data transfer retry attempts for each external interface to ECS
	S-INS-00390	The INGST CI shall authenticate the User Identifier of operations staff requesting to set thresholds for concurrent ingest processing.
TS040.003	S-INS-00010	The INGST CI shall accept Network Ingest Requests to request automated electronic network ingest of a collection of Data. The collection of Data shall describe one or more Data Granules.
	S-INS-00300	The INGST CI shall return status on ongoing Ingest Requests to an authorized operations staff member.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00350	The INGST CI shall accept an ingest Cancellation Request from authorized operations staff to cancel an ongoing ingest request, specifying the ingest Request Identifier.
	S-INS-00360	The INGST CI shall authenticate the User Identifier of operations staff submitting an ingest Cancellation Request.
TS045.005	S-DPS-21790	The operations staff shall have the capability of viewing a Data Product.

	S-DPS-40740	The data visualization capability of the AITTL CI shall include the capability to produce and play a "movie loop" of data in two- or three-dimensional image or plot form.
	S-DPS-40830	The data visualization capability of the AITTL CI shall include the capability to read ASCII, binary, or HDF files.
TS045.006	S-DPS-21790	The operations staff shall have the capability of viewing a Data Product.
	S-DPS-40810	The data visualization capability of the AITTL CI shall include the capability to save any plot, image, or hex/decimal/octal/ASCII dump to a file.
	S-DPS-40830	The data visualization capability of the AITTL CI shall include the capability to read ASCII, binary, or HDF files.
TS045.007	S-DPS-21790	The operations staff shall have the capability of viewing a Data Product.
	S-DPS-40720	The data visualization capability of the AITTL CI shall include the capability to display data as a two- or three-dimensional plot.
	S-DPS-40750	The data visualization capability of the AITTL CI shall include the capability to display an arbitrary two-dimensional slice of a three-dimensional image or plot.
TS046.001	S-DPS-41910	The AITTL CI shall provide to the operations staff the capability to retrieve a copy of a specific Science Software Archive Package.
TS046.002	S-DPS-41900	The AITTL CI shall provide to the operations staff, via a GUI, the capability to retrieve a specified data file from a specified Data Server.
TS046.003	S-DPS-41920	The AITTL CI shall provide to the operations staff the capability to store a Science Software Archive Package to the Data Server.
TS047.001	S-DPS-41330	The AITTL CI shall provide to the operations staff, via a GUI, the capability to add a new PGE Database Entry.
	S-DPS-42610	The operations staff shall enter new PGEs into the PGE Database, along with their performance and resource utilization information.
TS047.002	S-DPS-41300	The AITTL CI shall provide to the operations staff, via a GUI, the capabilityto display a list of PGE Database Entries.
	S-DPS-41310	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display a specific PGE Database Entry.
	S-DPS-41320	The AITTL CI shall provide to the operations staff, via a GUI, the capability to modify a specific PGE Database Entry.
	S-DPS-41350	The AITTL CI shall provide to the operations staff, via a GUI, cut, copy, and paste capability for a PGE Database Entry.
	S-DPS-41900	The AITTL CI shall provide an HTML page describing the ECS instruments and providing hyperlinks to the PGE Listing Page for each team.
	S-DPS-41901	The AITTL CI shall provide an HTML PGE Listing Page for each instrument team, identifying each PGE for which a software package is available, with references to its Software Version Page (if it exists) or else to its Software Listing Page.
	S-DPS-41902	The AITTL CI shall provide an HTML Software Version Page for each PGE, if multiple baseline software versions for that PGE are available, identifying the instrument and PGE, the version number and date, and provide a reference to the Software Listing Page.

	S-DPS-41903	The AITTL CI shall provide an HTML Software Listing Page for each baselined PGE version, identifying each existing component of the PGE software package (as defined in the ECS Core Metadata Model) and provide a hyperlink that can be used to retrieve that component.
	S-DPS-42610	The operations staff shall enter new PGEs into the PGE Database, along with their performance and resource utilization information.
	S-DPS-42620	The operations staff shall update information the PGE Database as necessary to reflect changes in performance and resource utilization resulting from a modification to a PGE.
TS047.003	S-DPS-41300	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display a list of PGE Database Entries.
	S-DPS-41310	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display a specific PGE Database Entry.
	S-DPS-41340	The AITTL CI shall provide to the operations staff, via a GUI, the capability to remove a specific PGE Database Entry.
	S-DPS-41901	The AITTL CI shall provide an HTML PGE Listing Page for each instrument team, identifying each PGE for which a software package is available, with references to its Software Version Page (if it exists) or else to its Software Listing Page.
	S-DPS-41902	The AITTL CI shall provide an HTML Software Version Page for each PGE, if multiple baseline software versions for that PGE are available, identifying the instrument and PGE, the version number and date, and provide a reference to the Software Listing Page.
TS048.001	S-DPS-20850	The PRONG CI shall destage Intermediate Data Products to the SDSRV CI.
	S-DPS-20860	The PRONG CI shall destage ECS
	S-DPS-21540	The PRONG CI shall destage all output data generated by a PGE to the SDSRV CI. (SEE Data Staging and Destaging Reqs for more details).
	S-DPS-21550	The PRONG CI shall not delete the output data generated by a PGE until the Data Request Status message is received from the SDSRV CI indicating that the output data was successfully copied to the SDSRV CI resources.
	S-DPS-21590	Upon the completion of destaging, the PRONG CI shall send a Complete Notification Status message to the source of the Data Processing Request.
	S-DPS-60020	The SPRHW CI shall support the capability to stage and destage data
TS048.002	S-DPS-20470	The PRONG CI shall take a pre-determined error recovery action if the resource identified as the recipient of the Output Data is not available for data destaging.
	S-DPS-20830	The PRONG CI shall send a Data Insert Request message to the SDSRV CI to initiate the destaging of data.
	S-DPS-20840	The Data Request Status message shall inform the PRONG CI on the success or failure of data destaging.
	S-DPS-20870	The PRONG CI shall send a Complete Notification Status message to the source of the Data Processing Request if the data destaging process was not completed successfully for the Data Processing Request.

	S-DPS-20880	The Complete Notification Status message shall contain error information if the message was sent as a result of the failure of data destaging.
	S-DPS-21940	The PRONG CI shall update the Processing Queue Display information with an alert message when a fault has occurred during the data destaging process.
	S-DPS-21950	The PRONG CI shall log all alert messages which are used to update the Processing Queue display
TS048.003	S-DPS-20735	The PRONG CI shall provide the capability to terminate the data destaging process.
	S-DPS-20745	The PRONG CI shall notify the SDSRV CI of the termination of the data destaging process.
	S-DPS-21540	The PRONG CI shall destage all output data generated by a PGE to the SDSRV CI. (SEE Data Staging and Destaging Reqs for more details).
	S-DPS-21930	The PRONG CI shall update the Processing Queue Display information with an alert message when a fault has occurred during the execution of a PGE.
	S-DPS-22530	The PRONG CI shall terminate data destaging if in progress when the Data Processing is canceled.
TS049.001	S-PLS-00800	The PLANG CI shall provide to the operations staff the capability to enter, via GUI, a "plan activation request" that identifies which Candidate Plan is to be activated.
TS049.003	S-PLS-00760	The PLANG CI shall send electronic copies of the Candidate Plans and corresponding metadata to the designated local Data Server for storage and distribution.
	S-PLS-00840	The PLANG CI shall send electronic copies of the Active Plan and corresponding metadata to the designated local Data Server for storage and distribution.
	S-PLS-01245	The PLANG CI shall provide capability to make available (for review by all affected instrument teams) information related to product generation delays and production faults.
TS050.001	S-PLS-00440	The PLANG CI shall maintain Production Rules that define the production strategy (rules defining production priorities and preferences) to be used when preparing a Production Plan.
	S-PLS-00450	The PLANG CI shall support the capability that allows the operations staff to update (enter/ modify/ delete) the Production Rules (via GUI).
	S-PLS-00475	The PLANG CI shall maintain information on all Candidate and Active Plans generated.
	S-PLS-00670	The PLANG CI shall provide (to the operations staff) the capability to enter, via GUI, "plan creation requests" that initiate creation of Candidate Plans.
	S-PLS-00680	The PLANG CI shall provide the capability to generate multiple Candidate Plans.
	S-PLS-00690	The PLANG CI shall create a Candidate Plan specifying a timeline for PGE execution that will satisfy Production Requests for Standard Products.

	S-PLS-00710	The PLANG CI shall create a Candidate Plan based on the following: 1. Outstanding production requests, their priorities and estimated runtimes, 2. Ground events, their priority and estimated duration, 3. Planning production rules, 4. Mutual PGE accessibility of shared data, 5. Completion notification status messages from Data Processing.
	S-PLS-00770	The PLANG CI shall provide (to the operations staff) the capability to enter, via GUI, a "Plan cancellation" request, indicating cancellation of the currently Active Plan.
	S-PLS-01200	The PLANG CI shall provide the operations staff with the capability to perform the following on-line functions, via GUI: a. Entry of product requests for standard products, b. Query / update / cancellation of production requests for standard products, c. Query status of production requests, d. Query / update of production rules and PGE information, e. Entry of plan creation requests, f. Entry of plan activation requests, g. Entry of plan cancellation requests, h. Query candidate / active plans and corresponding status, i. Entry of requests for processing log reports / production and data processing request status reports / resource utilization reports / planning workload status reports / management reports, j. Entry of ground events, k. Query / update of ground events.
TS050.002	S-PLS-00400	The PLANG CI shall maintain Product Generation Executives (PGEs) information that identifies the Science Software, the order of execution, the conditions for execution, the processing environment, and the input / output data types and locations.
	S-PLS-00710	The PLANG CI shall create a Candidate Plan based on the following: 1. Outstanding production requests, their priorities and estimated runtimes, 2. Ground events, their priority and estimated duration, 3. Planning production rules, 4. Mutual PGE accessibility of shared data, 5. Completion notification status messages from Data Processing.
	S-PLS-01000	The PLANG CI shall receive a Data Processing Request Response message, acknowledging acceptance of the Data Processing Request forwarded to the PRONG CI.
	S-PLS-01010	The PLANG CI shall receive "Complete Notification" status messages, indicating the completion status of Data Processing Requests.
	S-PLS-01020	The PLANG CI shall receive responses to Data Processing Request cancellations indicating the completion status of the cancellation requests.
	S-PLS-01030	The PLANG CI shall update the Active Plan with the current processing status of each Data Processing Request listed.

	S-PLS-01200	The PLANG CI shall provide the operations staff with the capability to perform the following on-line functions, via GUI: a. Entry of product requests for standard products, b. Query / update / cancellation of production requests for standard products, c. Query status of production requests, d. Query / update of production rules and PGE information, e. Entry of plan creation requests, f. Entry of plan activation requests, g. Entry of plan cancellation requests, h. Query candidate / active plans and corresponding status, i. Entry of requests for processing log reports / production and data processing request status reports / resource utilization reports / planning workload status reports / management reports, j. Entry of ground events, k. Query / update of ground events.
TS051.001	S-PLS-00300	The PLANG CI shall accept ground events to describe the allocation of data processing resources to non-production tasks.
	S-PLS-00305	The PLANG CI shall provide the capability to display a site resources plan covering an operator specified time interval, in text report and timeline display format, to a resolution of one minute which describes the exclusive allocation of planned site resources to default activities and ground events.
	S-PLS-00307	The PLANG CI shall, when a ground event is scheduled, identify and display (via GUI) conflicts with previously scheduled ground events.
	S-PLS-00310	The PLANG CI specification of ground events shall include priorities, dependencies, and estimated duration.
	S-PLS-00325	The PLANG CI shall provide the capability to enter, via GUIs, site resource requests, to support ground events.
	S-PLS-01200	The PLANG CI shall provide the operations staff with the capability to perform the following on-line functions, via GUI: a. Entry of product requests for standard products, b. Query / update / cancellation of production requests for standard products, c. Query status of production requests, d. Query / update of production rules and PGE information, e. Entry of plan creation requests, f. Entry of plan activation requests, g. Entry of plan cancellation requests, h. Query candidate / active plans and corresponding status, i. Entry of requests for processing log reports / production and data processing request status reports / resource utilization reports / planning workload status reports / management reports, j. Entry of ground events, k. Query / update of ground events.

TS052.001	S-DPS-21000	The PRONG CI shall initiate execution of a PGE when the following is true: a. When all input data required to execute the PGE is available on local Data Processing subsystem storage resources. b. When the computer hardware resources are available to support execution of a PGE based on the computer hardware resource information associated with the Data Processing Request. c. When the Priority Information associated with the Data Processing Request has been fulfilled. d. When the maximum disk space requirements defined for the PGE are available to support the successful execution of the PGE e. When the maximum memory resources defined for the PGE are available to support the successful execution of the PGE f. When the CPU resources defined for the PGE are available to support the successful execution of the PGE
TS052.002	S-DPS-21160	The PRONG CI shall create a Status Message File to be used by the SDP Toolkit CI to collect Toolkit status and error information about the execution of a PGE.
TS052.003	S-DPS-21000	The PRONG CI shall initiate execution of a PGE when the following is true: a. When all input data required to execute the PGE is available on local Data Processing subsystem storage resources. b. When the computer hardware resources are available to support execution of a PGE based on the computer hardware resource information associated with the Data Processing Request. c. When the Priority Information associated with the Data Processing Request has been fulfilled. d. When the maximum disk space requirements defined for the PGE are available to support the successful execution of the PGE e. When the maximum memory resources defined for the PGE are available to support the successful execution of the PGE f. When the CPU resources defined for the PGE are available to support the successful execution of the PGE
	S-DPS-21210	The PRONG CI shall monitor the use of disk space by a PGE during execution.
	S-DPS-21220	The PRONG CI shall take a predetermined error recovery action if the maximum disk space requirements defined for that PGE has been exceeded by an adaptable percentage value.
	S-DPS-21230	The PRONG CI shall take a predetermined error recovery action if the maximum CPU time requirements defined for that PGE has been exceeded by an adaptable percentage value.
	S-DPS-21240	The PRONG CI shall take a predetermined error recovery action if the maximum memory usage requirements defined for that PGE has been exceeded by an adaptable percentage value.
TS052.005	S-DPS-21320	The PRONG CI shall use a SDP Toolkit API to associate Processing-Specific Metadata with each Granule of a generated Data Product.
	S-DPS-21330	The PRONG CI shall provide Processing-Specific Metadata to the SDP Toolkit to be associated with each Granule of a generated Data Product.
TS052.006	S-DPS-20430	The PRONG CI shall take a pre-determined error recovery action if the PGE identified in the Data Processing Request is not available for execution

	S-DPS-21560	If the resource fails during the execution of a PGE, the PRONG CI shall be capable of initiating the execution of the PGE without having to regenerate that PGE's input data.
	S-DPS-21580	The PRONG CI shall send a Complete Notification Status message to the source of the Data Processing Request at the completion of PGE execution if the execution was terminated by the PRONG CI or the outputs of the PGE did not require destaging.
TS052.007	S-DPS-22520	The PRONG CI shall terminate the execution of the PGE if in progress when the Data Processing Request is canceled.
TS053.001	S-DSS-00023	The SDSRV CI shall perform services specified by Service Requests.
	S-DSS-00030	The SDSRV CI shall provide the capability to queue Service Requests prior to their execution.
	S-DSS-00040	The SDSRV CI shall provide operations staff the capability to view queued Service Requests.
	S-DSS-00050	The SDSRV CI shall process each Service Request on the basis of Priority Information specified in the Service Request.
	S-DSS-00120	The SDSRV CI shall accept Status Requests from clients and, if requested, provide Service Request Status for any specifed pending Service Requests, in return.
	S-DSS-01090	The SDSRV CI shall maintain a list of all active Service Requests within the Data Server. The list shall include Request Priorities, Distribution Instructions, and all information necessary to process each request.
	S-DSS-01100	The SDSRV CI shall provide the capability for operations staff to view the list of active Service Requests within the Data Server.
	S-DSS-01130	The SDSRV CI shall provide the capability to process Service Requests asynchronously.
	S-DSS-01140	The SDSRV CI shall provide the capability to list and status, Service Requests initiated by aclient.
	S-DSS-30090	The DDIST CI shall provide the capability to prioritize requests for data based on whether the request is an Electronic Distribution Request or a Media Distribution Request.
	S-DSS-30180	The DDIST CI shall process queued Distribution Requests in prioritized order.
TS053.002	S-DSS-00050	The SDSRV CI shall process each Service Request on the basis of Priority Information specified in the Service Request.
	S-DSS-00051	The SDSRV CI shall verify that each Service Request has valid Priority Information.
	S-DSS-30100	The DDIST CI shall provide operations staff the capability to change the Priority Information for a Distribution Request before the processing of the request has begun.
TS053.003	S-DSS-00023	The SDSRV CI shall perform services specified by Service Requests.
	S-DSS-00190	The SDSRV CI shall provide the capability for operations staff to delete a queued Data Request.
	S-DSS-00191	The SDSRV CI shall notify the client whenever operations staff deletes a queued Data Request.
	S-DSS-00216	The SDSRV CI shall provide the capability for operations staff to submit Service Requests under that user's User Identifier.
	S-DSS-00220	The SDSRV CI shall provide operations staff the capability to cancel any Service Request.

	S-DSS-00950	The SDSRV CI shall support the processing of Data Requests subject to access controls of read, write, update and delete, singly or in a any combination, based on data types.
	S-DSS-00960	The SDSRV CI shall support the processing of Data Requests subject to access controls of read, write, update and delete, singly or in a any combination, based on data ownership.
	S-DSS-01780	The SDSRV CI shall be capable of canceling the execution of a Service Request.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-30045	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Retrieve Request.
	S-DSS-30046	The DDIST CI shall send Notifications to the user's desktop application in the event that the request is canceled by operations staff and the user has an active session.
	S-DSS-30130	The DDIST CI shall provide the capability for operations staff to cancel the processing of Electronic Distribution Requests prior to the start of the transmission of the data.
	S-DSS-30140	The DDIST CI shall provide the capability for operations staff to cancel the data transmission initiated by the processing of an Electronic Distribution Request.
	S-DSS-30150	The DDIST CI shall provide the capability for operations staff to cancel the processing of a Media Distribution Request prior to the shipment of the media.
	S-DSS-30160	The DDIST CI shall send a Notification to the originator of a Distribution Request in the event that the request is canceled by operations staff.
	S-DSS-30163	The DDIST CI shall authenticate the User Identifier of operations staff submitting an Distribution Cancellation Request.
	S-DSS-30165	The DDIST CI shall log a Distribution Request Cancellation Message whenever a Distribution Request is cancelled by the operations staff.
	S-DSS-30167	The DDIST CI shall log a Distribution Request Cancellation Message whenever a Distribution Request is cancelled by the science user.
TS053.004	S-DSS-00023	The SDSRV CI shall perform services specified by Service Requests.
	S-DSS-00110	The SDSRV CI shall provide operations staff the capability to determine the status of any or all existing Service Requests.
	S-DSS-00120	The SDSRV CI shall accept Status Requests from clients and, if requested, provide Service Request Status for any specifed pending Service Requests, in return.
	S-DSS-00130	The SDSRV CI shall accept Status Requests from clients and, if requested, provide Service Request Status for all pending Service Requests submitted by a specified user, in return.
	S-DSS-00140	The SDSRV CI shall validate that a Status Request specifies either a valid pending Request Identifier or a valid User Identifier.
	S-DSS-01090	The SDSRV CI shall maintain a list of all active Service Requests within the Data Server. The list shall include Request Priorities, Distribution Instructions, and all information necessary to process each request.
	S-DSS-01100	The SDSRV CI shall provide the capability for operations staff to view the list of active Service Requests within the Data Server.
	S-DSS-01140	The SDSRV CI shall provide the capability to list and status, Service Requests initiated by aclient.

	S-DSS-01210	The SDSRV CI shall provide Request Status to a client, concerning pending Service Requests, as specified in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.
	S-DSS-20060	The STMGT CI shall accept Archive Status Requests for the status of ongoing Insert and Retrieve Requests.
	S-DSS-20065	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Archive Status Request.
	S-DSS-20070	The STMGT CI shall check each Archive Status Request it receives for the correct type of data in all fields. Fields that shall be checked include Current Request Identifier and Request Identifier of previous Insert or Retrieve Requests to be statused.
	S-DSS-30171	The DDIST CI shall respond to Status Requests from operations staff with a Request State indicating that the specified Distribution Request is "pending", "staging", "transferring" or "not found".
	S-DSS-30431	The DDIST CI shall log a physical media shipment using the following categories: pending, active, waiting for shipment.
TS053.005	S-DSS-00023	The SDSRV CI shall perform services specified by Service Requests.
TS054.001	S-DSS-00023	The SDSRV CI shall perform services specified by Service Requests.
	S-DSS-00050	The SDSRV CI shall process each Service Request on the basis of Priority Information specified in the Service Request.
	S-DSS-00055	The SDSRV CI shall initiate the processing of Service Requests of equal priority in the order in which they are received.
	S-DSS-01090	The SDSRV CI shall maintain a list of all active Service Requests within the Data Server. The list shall include Request Priorities, Distribution Instructions, and all information necessary to process each request.
	S-DSS-30110	The DDIST CI shall provide the capability for operations staff to list Distribution Requests according to whether the request is an Electronic Distribution Request or a Media Distribution Request.
	S-DSS-30115	The DDIST CI shall provide the capability for operations staff to list Distribution Requests according to Request Identifier and status.
	S-DSS-30180	The DDIST CI shall process queued Distribution Requests in prioritized order.
	S-DSS-30300	The DDIST CI shall provide the capability to view entries according to type of distribution, by time period or by Request Identifier (i.e., source of request).
TS054.002	S-DSS-30350	The DDIST CI shall provide the capability to generate reports on the distribution activity for a period specified by operations staff.
	S-DSS-30355	The DDIST CI shall provide the capability to generate reports on the distribution backlog.
TS054.003	S-DSS-00640	The SDSRV CI shall report to operations staff all errors involving file accesses.
	S-DSS-00620	The SDSRV CI shall provide the capability to categorize messages to operations staff into informational, warnings or error categories.
	S-DSS-01770	The SDSRV CI shall log all reported warning conditions.
TS054.004	S-DSS-00850	The SDSRV CI shall provide the capability to control access to Data Server services.
	S-DSS-00860	The SDSRV CI shall inform a client that a requested service is not accessible if the client attempts to access services outside their access level.

	S-DSS-00870	The SDSRV CI shall allow Data Access Privileges to be configurable by User Identifier and Data Type for read, write, update, delete, and any combination thereof.
TS054.005	S-DSS-00880	The SDSRV CI shall use the User Identifier of the user on whose behalf a Service Request is issued as the basis for access control decisions
	S-DSS-30540	The DDIST CI shall monitor the percentage of space utilized in the user pull area.
	S-DSS-30550	The DDIST CI shall provide a mechanism for operations staff to view/display the percentage of space utilized in the user pull area.
	S-DSS-30750	The DDIST CI shall provide the capability for the operations staff to specify a percent utilization threshold for the user pull area above which operations staff will be notified.
	S-DSS-30560	The DDIST CI shall notify operations staff if the percent utilization in the user pull area exceeds a specified threshold.
	S-DSS-21100	The STMGT CI shall provide the SDSRV CI the capability to rename files on staging devices in the WKSHW CI.
	S-DSS-21200	The STMGT CI shall provide operations staff a mechanism to display/view storage system data storing operations by ECS element.
	S-DSS-21210	The STMGT CI shall provide operations staff a mechanism to display/view storage system data retrieval operations by ECS element.
	S-DSS-21230	The STMGT CI shall provide operations staff a mechanism to display/view storage system storage allocations by ECS element.
	S-DSS-21311	The STMGT CI custom GUIs shall conform to the guidelines in Version 5.1 of the ECS User Interface Style Guide.
TS055.001	S-DSS-00015	The SDSRV CI shall insure that each Data Request includes a User Identifer, a Request Priority, and a Data Identifier.
	S-DSS-00023	The SDSRV CI shall perform services specified by Service Requests.
	S-DSS-00025	The SDSRV CI shall insure that each Service Request includes a User Identifer, a Request Priority, and all other parameters required for that request.
	S-DSS-00694	The SDSRV CI shall be capable of receiving data from the STMGT CI.
	S-DSS-00702	The SDSRV CI shall be capable of sending management directives to DDSRV CI.
	S-DSS-04037	The SDSRV CI shall supply the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005 to the DDIST CI.
	S-DSS-04120	The SDSRV CI shall supply instrument characterization data to the DDIST CI.
	S-DSS-04140	The SDSRV CI shall supply instrument historical data to the DDIST CI.
	S-DSS-04160	The SDSRV CI shall supply inventory characteristic data to the DDIST CI.
	S-DSS-04200	The SDSRV CI shall supply Production History data to the DDIST CI.
	S-DSS-04240	The SDSRV CI shall supply QA Statistics to the DDIST CI.
	S-DSS-04260	The SDSRV CI shall supply scientific calibration data to the DDIST CI.
	S-DSS-04300	The SDSRV CI shall supply correlative data to the DDIST CI.

	S-DSS-20050	The STMGT CI shall check each Retrieve Request it receives for correct type of data in all fields. Fields that shall be checked include Request Identifier, date of request, date and time for requested data, Priority Information, and data type.
	S-DSS-30010	The DDIST CI shall accept Electronic Distribution Requests or Media Distribution Requests.
	S-DSS-30020	Distribution Requests shall have the format described in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.
	S-DSS-30060	The DDIST CI shall validate each Media Distribution Request and verify that it conforms to the format specified in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.
	S-DSS-30070	The DDIST CI shall log a Distribution Failure Message whenever a Media Distribution Request fails validation.
	S-DSS-30080	The DDIST CI shall send a Notification to the source of the request if a Media Distribution Request fails validation.
	S-DSS-30260	The DDIST CI shall log the receipt of a Data Distribution Request in the Distribution Activity Log.
	S-DSS-30320	The DDIST CI shall record in the Distribution Activity Log the occurrence of correctable errors.
	S-DSS-30400	The DDIST CI shall log the User Identifier for the user that originated the Data Distribution Request.
	S-DSS-20490	The STMGT CI shall control access to archived data to prevent unauthorized access.
	S-DSS-20500	The STMGT CI shall report unauthorized attempts to access archived data when detected to operations staff.
TS055.002	S-DSS-00692	The SDSRV CI shall be capable of receiving data from the DDSRV CI.
	S-DSS-00696	The SDSRV CI shall be capable of receiving data from the DDIST CI.
	S-DSS-03150	The SDSRV CI shall be capable of receiving Instrument Historical Data.
	S-DSS-03160	The SDSRV CI shall be capable of receiving Metadata associated with Instrument Historical Data.
	S-DSS-03310	The SDSRV CI shall be capable of receiving correlative data.
	S-DSS-03320	The SDSRV CI shall be capable of receiving Metadata associated with correlative data.
	S-DSS-03520	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument historical data.
	S-DSS-03680	The SDSRV CI shall interface with the STMGT CI to provide storage for correlative data.
	S-DSS-04035	The SDSRV CI shall supply the Data Products listed in Appendix F of the current version of 304-CD-005 to the DDIST CI.
	S-DSS-04090	The SDSRV CI shall supply Metadata associated with FDF orbit data for AM-1 instruments to the DDIST CI.
	S-DSS-04100	The SDSRV CI shall supply instrument calibration data to the DDIST CI.
	S-DSS-04150	The SDSRV CI shall supply Metadata associated with instrument historical data to the DDIST CI.

	S-DSS-04230	The SDSRV CI shall supply Metadata associated with production plan data to the DDIST CI.
	S-DSS-04270	The SDSRV CI shall supply Metadata associated with scientific calibration data to the DDIST CI.
	S-DSS-04310	The SDSRV CI shall supply Metadata associated with correlative data to the DDIST CI.
	S-DSS-10210	The DDSRV CI shall receive information that describes spacecraft-housekeeping and Ancillary Data parameters stored in the Science Data Server.
	S-DSS-10290	The DDSRV CI shall supply documents to the DDIST CI.
	S-DSS-10292	The DDSRV CI shall receive management directives from the SDSRV CI.
	S-DSS-20040	The STMGT CI shall accept Retrieve Requests for data. Each Retrieve Request shall include the granule id(s) for the data. Granule id was assigned when granule was originally archived. The granule id serves as a unique data identifier.
	S-DSS-20045	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Retrieve Request.
	S-DSS-20095	The STGMT CI shall have the capability to mount archival media via automated means.
	S-DSS-21370	The STMGT CI shall use, where appropriate, a hierarchy of disk and/or tape storage devices and associated storage media to retrieve data.
	S-DSS-30270	The DDIST CI shall log the following to the Distribution Activity Log, for each Media Distribution Request: User Identifier, Media Identifiers, Media Type/Form Factor, and the Distribution Size.
	S-DSS-30370	The DDIST CI shall log the number of physical media that is created during distribution.
	S-DSS-30380	The DDIST CI shall log the Media Destination and the number of data items distributed in a physical media distribution.
	S-DSS-30440	The DDIST CI shall provide the capability to distribute on 8mm tape.
	S-DSS-30490	If an uncorrectable error occurs while writing to distribution media, the operation shall be aborted and a new piece of media automatically requested from operations staff.
	S-DSS-30515	The Data Server shall distribute data in the approved ECS standard format in which it is stored. (i.e., HDF-EOS, V0 native, or Landsat 7 standard format.)
	S-DSS-30660	In the event of media failure (i.e., tape breaks), the DDIST CI shall provide the capability to restart the distribution on a new piece of media.
	S-DSS-30705	For physical media distributions, DDIST CI shall generate a packing list describing the data on the media.
	S-DSS-30730	The DDIST CI shall provide the capability for operations staff to manually load media into the peripheral devices.
	S-DSS-30740	The DDIST CI shall provide the capability for operations staff to manually unload media from the peripheral devices.
	S-DSS-30797	The DDIST CI shall receive management directives from the SDSRV CI.
	S-DSS-00692	The SDSRV CI shall be capable of receiving data from the DDSRV CI.

	S-DSS-30640	The DDIST CI shall provide the capability for operations staff to change the state (on-line vs. off-line) of a peripheral device that is used for distribution.
	S-DSS-30650	The DDIST CI shall provide the capability for operations staff to display the state (on-line vs. off-line) of peripheral distribution devices.
	S-DSS-01190	The SDSRV CI shall provide the capability for operations staff to view the resources used and allocated by a client.
	S-DSS-21160	The STMGT CI shall provide operations staff the capability to set the operational state (UP or DOWN) of storage devices.
	S-DSS-21170	The STMGT CI shall provide operations staff the capability to query the operational state (UP or DOWN) of storage devices.
	S-DSS-21311	The STMGT CI custom GUIs shall conform to the guidelines in Version 5.1 of the ECS User Interface Style Guide.
TS055.003	S-DSS-00696	The SDSRV CI shall be capable of receiving data from the DDIST CI.
	S-DSS-03150	The SDSRV CI shall be capable of receiving Instrument Historical Data.
	S-DSS-03160	The SDSRV CI shall be capable of receiving Metadata associated with Instrument Historical Data.
	S-DSS-03310	The SDSRV CI shall be capable of receiving correlative data.
	S-DSS-03320	The SDSRV CI shall be capable of receiving Metadata associated with correlative data.
	S-DSS-03520	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument historical data.
	S-DSS-03680	The SDSRV CI shall interface with the STMGT CI to provide storage for correlative data.
	S-DSS-04035	The SDSRV CI shall supply the Data Products listed in Appendix F of the current version of 304-CD-005 to the DDIST CI.
	S-DSS-04090	The SDSRV CI shall supply Metadata associated with FDF orbit data for AM-1 instruments to the DDIST CI.
	S-DSS-04100	The SDSRV CI shall supply instrument calibration data to the DDIST CI.
	S-DSS-04150	The SDSRV CI shall supply Metadata associated with instrument historical data to the DDIST CI.
	S-DSS-04230	The SDSRV CI shall supply Metadata associated with production plan data to the DDIST CI.
	S-DSS-04270	The SDSRV CI shall supply Metadata associated with scientific calibration data to the DDIST CI.
	S-DSS-04310	The SDSRV CI shall supply Metadata associated with correlative data to the DDIST CI.
	S-DSS-10210	The DDSRV CI shall receive information that describes spacecraft-housekeeping and Ancillary Data parameters stored in the Science Data Server.
	S-DSS-10290	The DDSRV CI shall supply documents to the DDIST CI.
	S-DSS-10292	The DDSRV CI shall receive management directives from the SDSRV CI.
	S-DSS-20040	The STMGT CI shall accept Retrieve Requests for data. Each Retrieve Request shall include the granule id(s) for the data. Granule id was assigned when granule was originally archived. The granule id serves as a unique data identifier.

	S-DSS-20045	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Retrieve Request.
	S-DSS-20095	The STGMT CI shall have the capability to mount archival media via automated means.
	S-DSS-21370	The STMGT CI shall use, where appropriate, a hierarchy of disk and/or tape storage devices and associated storage media to retrieve data.
	S-DSS-30270	The DDIST CI shall log the following to the Distribution Activity Log, for each Media Distribution Request: User Identifier, Media Identifiers, Media Type/Form Factor, and the Distribution Size.
	S-DSS-30370	The DDIST CI shall log the number of physical media that is created during distribution.
	S-DSS-30380	The DDIST CI shall log the Media Destination and the number of data items distributed in a physical media distribution.
	S-DSS-30440	The DDIST CI shall provide the capability to distribute on 8mm tape.
	S-DSS-30490	If an uncorrectable error occurs while writing to distribution media, the operation shall be aborted and a new piece of media automatically requested from operations staff.
	S-DSS-30515	The Data Server shall distribute data in the approved ECS standard format in which it is stored. (i.e., HDF-EOS, V0 native, or Landsat 7 standard format.)
	S-DSS-30660	In the event of media failure (i.e., tape breaks), the DDIST CI shall provide the capability to restart the distribution on a new piece of media.
	S-DSS-30705	For physical media distributions, DDIST CI shall generate a packing list describing the data on the media.
	S-DSS-30710	The DDIST CI shall provide the capability to distribute any Data , or appropriate subset, listed in the Inventory. Note: The appropriate subset of a data item is determined by and depends on the subject data type.
	S-DSS-30730	The DDIST CI shall provide the capability for operations staff to manually load media into the peripheral devices.
	S-DSS-30740	The DDIST CI shall provide the capability for operations staff to manually unload media from the peripheral devices.
	S-DSS-30797	The DDIST CI shall receive management directives from the SDSRV CI.
	S-DSS-30162	The DDIST CI custom GUIs shall conform to the guidelines in Version 5.1 of the ECS User Interface Style Guide.
	S-DSS-30305	The DDIST CI shall provide the capability to view entries according to type of distribution, by time period or by data type (i.e., source of request).
	S-DSS-20880	The STMGT CI shall maintain an Intermediate Activity Log. It shall include date/time stamp, operation id (file space alloc./dealloc., media mount/dismount/loads/unload, file read/write/delete), affiliated Request Identifier and associated staging resources.
TS055.004	S-DSS-00692	The SDSRV CI shall be capable of receiving data from the DDSRV CI.
	S-DSS-00696	The SDSRV CI shall be capable of receiving data from the DDIST CI.
	S-DSS-03580	The SDSRV CI shall interface with the STMGT CI to provide storage for Production History.
	S-DSS-04040	The SDSRV CI shall supply calibration data to the DDIST CI.

	S-DSS-04110	The SDSRV CI shall supply Metadata associated with instrument calibration data to the DDIST CI.
	S-DSS-04210	The SDSRV CI shall supply Metadata associated with Production History data to the DDIST CI.
	S-DSS-04230	The SDSRV CI shall supply Metadata associated with production plan data to the DDIST CI.
	S-DSS-04310	The SDSRV CI shall supply Metadata associated with correlative data to the DDIST CI.
	S-DSS-04640	The SDSRV CI shall provide services to retrieve Metadata from the Inventory.
	S-DSS-10210	The DDSRV CI shall receive information that describes spacecraft-housekeeping and Ancillary Data parameters stored in the Science Data Server.
	S-DSS-10290	The DDSRV CI shall supply documents to the DDIST CI.
	S-DSS-10292	The DDSRV CI shall receive management directives from the SDSRV CI.
	S-DSS-20623	The STMGT CI shall provide the capability to retrieve each individual data granule that is stored.
	S-DSS-30175	Status Requests shall have the format given in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.
	S-DSS-30270	The DDIST CI shall log the following to the Distribution Activity Log, for each Media Distribution Request: User Identifier, Media Identifiers, Media Type/Form Factor, and the Distribution Size.
	S-DSS-30370	The DDIST CI shall log the number of physical media that is created during distribution.
	S-DSS-30380	The DDIST CI shall log the Media Destination and the number of data items distributed in a physical media distribution.
	S-DSS-30470	The DDIST CI shall provide the capability to distribute on CD ROM.
	S-DSS-30490	If an uncorrectable error occurs while writing to distribution media, the operation shall be aborted and a new piece of media automatically requested from operations staff.
	S-DSS-30515	The Data Server shall distribute data in the approved ECS standard format in which it is stored. (i.e., HDF-EOS, V0 native, or Landsat 7 standard format.)
	S-DSS-30660	In the event of media failure (i.e., tape breaks), the DDIST CI shall provide the capability to restart the distribution on a new piece of media.
	S-DSS-30705	For physical media distributions, DDIST CI shall generate a packing list describing the data on the media.
	S-DSS-30710	The DDIST CI shall provide the capability to distribute any Data , or appropriate subset, listed in the Inventory. Note: The appropriate subset of a data item is determined by and depends on the subject data type.
	S-DSS-30730	The DDIST CI shall provide the capability for operations staff to manually load media into the peripheral devices.
	S-DSS-30740	The DDIST CI shall provide the capability for operations staff to manually unload media from the peripheral devices.
	S-DSS-30797	The DDIST CI shall receive management directives from the SDSRV CI.

	S-DSS-30305	The DDIST CI shall provide the capability to view entries according to type of distribution, by time period or by data type (i.e., source of request).
	S-DSS-20880	The STMGT CI shall maintain an Intermediate Activity Log. It shall include date/time stamp, operation id (file space alloc./dealloc., media mount/dismount/loads/unload, file read/write/delete), affiliated Request Identifier and associated staging resources.
TS055.005	S-DSS-01060	The SDSRV CI shall send a Notification to a client that issued a Data Request once the Data Product has been produced or when the STMGT CI has made the Data available.
	S-DSS-03250	Upon the receipt of a status request, DDIST shall validate and provide the status of previously submitted distribution request.
	S-DSS-03260	The SDSRV CI shall be capable of receiving Metadata associated with QA Statistics.
	S-DSS-03620	The SDSRV CI shall interface with the STMGT CI to provide storage for QA Statistics.
	S-DSS-04037	The SDSRV CI shall supply the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005 to the DDIST CI.
	S-DSS-04050	The SDSRV CI shall supply Metadata associated with calibration data to the DDIST CI.
	S-DSS-04150	The SDSRV CI shall supply Metadata associated with instrument historical data to the DDIST CI.
	S-DSS-04230	The SDSRV CI shall supply Metadata associated with production plan data to the DDIST CI.
	S-DSS-04250	The SDSRV CI shall supply Metadata associated with QA Statistics to the DDIST CI.
	S-DSS-10210	The DDSRV CI shall receive information that describes spacecraft-housekeeping and Ancillary Data parameters stored in the Science Data Server.
	S-DSS-10290	The DDSRV CI shall supply documents to the DDIST CI.
	S-DSS-10292	The DDSRV CI shall receive management directives from the SDSRV CI.
	S-DSS-20095	The STGMT CI shall have the capability to mount archival media via automated means.
	S-DSS-20740	The STMGT CI shall provide operations staff the capability to retrieve data that has been safe-stored at an external facility.
	S-DSS-30270	The DDIST CI shall log the following to the Distribution Activity Log, for each Media Distribution Request: User Identifier, Media Identifiers, Media Type/Form Factor, and the Distribution Size.
	S-DSS-30370	The DDIST CI shall log the number of physical media that is created during distribution.
	S-DSS-30380	The DDIST CI shall log the Media Destination and the number of data items distributed in a physical media distribution.
	S-DSS-30450	The DDIST CI shall provide the capability to distribute on 4mm tape.
	S-DSS-30450	The DDIST CI shall provide the capability to distribute on 4mm tape.
	S-DSS-30490	If an uncorrectable error occurs while writing to distribution media, the operation shall be aborted and a new piece of media automatically requested from operations staff.

	S-DSS-30515	The Data Server shall distribute data in the approved ECS standard format in which it is stored. (i.e., HDF-EOS, V0 native, or Landsat 7 standard format.)
	S-DSS-30660	In the event of media failure (i.e., tape breaks), the DDIST CI shall provide the capability to restart the distribution on a new piece of media.
	S-DSS-30705	For physical media distributions, DDIST CI shall generate a packing list describing the data on the media.
	S-DSS-30710	The DDIST CI shall provide the capability to distribute any Data , or appropriate subset, listed in the Inventory. Note: The appropriate subset of a data item is determined by and depends on the subject data type.
	S-DSS-30730	The DDIST CI shall provide the capability for operations staff to manually load media into the peripheral devices.
	S-DSS-30740	The DDIST CI shall provide the capability for operations staff to manually unload media from the peripheral devices.
	S-DSS-30797	The DDIST CI shall receive management directives from the SDSRV CI.
	S-DSS-30305	The DDIST CI shall provide the capability to view entries according to type of distribution, by time period or by data type (i.e., source of request).
	S-DSS-20880	The STMGT CI shall maintain an Intermediate Activity Log. It shall include date/time stamp, operation id (file space alloc./dealloc., media mount/dismount/loads/unload, file read/write/delete), affiliated Request Identifier and associated staging resources.
TS055.006	S-DSS-00692	The SDSRV CI shall be capable of receiving data from the DDSRV CI.
	S-DSS-00696	The SDSRV CI shall be capable of receiving data from the DDIST CI.
	S-DSS-03270	The SDSRV CI shall be capable of receiving scientific calibration data.
	S-DSS-03280	The SDSRV CI shall be capable of receiving Metadata associated with scientific calibration data.
	S-DSS-03420	The SDSRV CI shall interface with the STMGT CI to provide storage for calibration data.
	S-DSS-03430	The SDSRV CI shall provide storage for Metadata associated with calibration data.
	S-DSS-03640	The SDSRV CI shall interface with the STMGT CI to provide storage for scientific calibration data.
	S-DSS-04060	The SDSRV CI shall supply Science Software Archive Packages to the DDIST CI.
	S-DSS-04070	The SDSRV CI shall supply Metadata associated with Science Software Archive Packages to the DDIST CI.
	S-DSS-04210	The SDSRV CI shall supply Metadata associated with Production History data to the DDIST CI.
	S-DSS-04230	The SDSRV CI shall supply Metadata associated with production plan data to the DDIST CI.
	S-DSS-04270	The SDSRV CI shall supply Metadata associated with scientific calibration data to the DDIST CI.
	S-DSS-10210	The DDSRV CI shall receive information that describes spacecraft-housekeeping and Ancillary Data parameters stored in the Science Data Server.

	S-DSS-10290	The DDSRV CI shall supply documents to the DDIST CI.
	S-DSS-10292	The DDSRV CI shall receive management directives from the SDSRV CI.
	S-DSS-20095	The STGMT CI shall have the capability to mount archival media via automated means.
	S-DSS-21500	The Science Management within the Data Server shall support making stored Data Products available on physical media within 24 hours
	S-DSS-30270	The DDIST CI shall log the following to the Distribution Activity Log, for each Media Distribution Request: User Identifier, Media Identifiers, Media Type/Form Factor, and the Distribution Size.
	S-DSS-30370	The DDIST CI shall log the number of physical media that is created during distribution.
	S-DSS-30380	The DDIST CI shall log the Media Destination and the number of data items distributed in a physical media distribution.
	S-DSS-30480	The DDIST CI shall provide the capability to distribute on 6250 tape.
	S-DSS-30490	If an uncorrectable error occurs while writing to distribution media, the operation shall be aborted and a new piece of media automatically requested from operations staff.
	S-DSS-30515	The Data Server shall distribute data in the approved ECS standard format in which it is stored. (i.e., HDF-EOS, V0 native, or Landsat 7 standard format.)
	S-DSS-30660	In the event of media failure (i.e., tape breaks), the DDIST CI shall provide the capability to restart the distribution on a new piece of media.
	S-DSS-30705	For physical media distributions, DDIST CI shall generate a packing list describing the data on the media.
	S-DSS-30710	The DDIST CI shall provide the capability to distribute any Data , or appropriate subset, listed in the Inventory. Note: The appropriate subset of a data item is determined by and depends on the subject data type.
	S-DSS-30730	The DDIST CI shall provide the capability for operations staff to manually load media into the peripheral devices.
	S-DSS-30740	The DDIST CI shall provide the capability for operations staff to manually unload media from the peripheral devices.
	S-DSS-30797	The DDIST CI shall receive management directives from the SDSRV CI.
	S-DSS-30305	The DDIST CI shall provide the capability to view entries according to type of distribution, by time period or by data type (i.e., source of request).
	S-DSS-20880	The STMGT CI shall maintain an Intermediate Activity Log. It shall include date/time stamp, operation id (file space alloc./dealloc., media mount/dismount/loads/unload, file read/write/delete), affiliated Request Identifier and associated staging resources.
TS055.007	S-DSS-30430	The DDIST CI shall provide the capability for the operations staff to manually enter the status of a physical media shipment. Status will be updated from "waiting for shipment" to "shipped".
TS059.001	S-CLS-00010	The DESKT CI shall provide a GUI Interface with a multiple window display.
	S-CLS-00090	The DESKT CI shall provide a GUI interface with random movement of a cursor through the screen.

	S-CLS-01600	The DESKT CI shall provide users the capability to resize windows.
	S-CLS-00020	The DESKT CI shall provide a GUI interface with buttons and pull down menus.
	S-CLS-00080	The DESKT CI shall provide a GUI interface with self-explanatory error messages either through Message/Error Dialogs or through message area.
	S-CLS-00130	The DESKT CI shall provide for a standard ordering of menu items for the user interface.
	S-CLS-00140	The DESKT CI shall provide a standard widget set for building a user interface.
	S-CLS-00400	The DESKT CI shall provide the capability to textually represent desktop objects.
	S-CLS-00390	The DESKT CI shall provide the capability to iconically represent desktop objects.
	S-CLS-01480	The DESKT CI shall utilize a X-windows windowing interface for the GUI.
	S-CLS-01500	The DESKT CI user interface shall conform to guidelines of the ECS User Interface Style Guide.
	S-CLS-01550	The DESKT CI shall provide the user the capability to copy ECS services onto his desktop, iconize them, and save them as desktop objects.
TS059.002	S-CLS-00210	The DESKT CI shall provide users the capability to open desktop objects.
	S-CLS-00250	The DESKT CI shall provide users the capability to move desktop objects.
	S-CLS-00150	The DESKT CI shall provide container desktop objects.
	S-CLS-00160	The DESKT CI shall provide document desktop objects.
	S-CLS-00170	The DESKT CI shall provide application desktop objects.
	S-CLS-00180	The DESKT CI shall provide users the capability to execute software associated with a desktop object.
TS059.003	S-CLS-00190	The DESKT CI shall provide users the capability to create desktop objects.
	S-CLS-00200	The DESKT CI shall provide users the capability to destroy desktop objects.
TS059.004		
TS059.005	S-CLS-00330	The DESKT CI shall provide users the capability to add desktop objects to container objects.
	S-CLS-00370	The DESKT CI shall provide users the capability to browse the objects contained in container objects.
	S-CLS-00380	The DESKT CI shall provide users the capability to display the objects contained in container objects.
	S-CLS-00340	The DESKT CI shall provide users the capability to remove desktop objects from container objects.
TS059.006	S-CLS-00290	The DESKT CI shall provide users the capability to bind a service to a desktop object.
	S-CLS-00300	The DESKT CI shall provide users the capability to invoke any service bound to a desktop object.
TS060.001	S-DPS-21120	The PRONG CI shall create a Process Control File to provide information to the SDP Toolkit CI about the input data required to execute a PGE.

	S-DPS-21130	The PRONG CI shall create a Process Control File to provide information to the SDP Toolkit CI about the output data generated from the executing PGE.
TS060.002	S-DPS-21120	The PRONG CI shall create a Process Control File to provide information to the SDP Toolkit CI about the input data required to execute a PGE.
	S-DPS-21130	The PRONG CI shall create a Process Control File to provide information to the SDP Toolkit CI about the output data generated from the executing PGE.
TS063.001	S-CLS-01615	The DESKT CI shall provide users the capability to set preferences (e.g. desired view, mode of opening container objects, sorting, size of icon)
TS063.002	S-CLS-00030	The DESKT CI shall provide a GUI interface with consistent use of non-standard keys.
	S-CLS-00040	The DESKT CI shall provide a GUI interface with minimal use of non-standard keys
	S-CLS-00050	The DESKT CI shall provide a GUI interface with standardized use of commands and terminology across screens.
	S-CLS-00080	The DESKT CI shall provide a GUI interface with self-explanatory error messages either through Message/Error Dialogs or through message area.
TS063.003	S-CLS-00230	The DESKT CI shall provide users the capability to copy a desktop object.
TS063.004	S-CLS-00120	The DESKT CI shall provide for a common default color scheme for the user interface which may be customized by the user.
	S-CLS-01605	The DESKT CI shall provide users the capability to select different default screen font sizes.
TS063.005		
TS064.001	S-PLS-00870	The operations staff shall manually submit Data Subscriptions for PGE input data to the appropriate Data Servers.
	S-PLS-00872	The operations staff shall manually submit Data Subscriptions for L0 data to the Ingest Subsystem.
TS064.003	S-PLS-00880	The operations staff shall manually cancel Data Subscriptions for input data to PGEs that are no longer used, once they determine that the input data is not required by any other PGE.
TS066.001	S-DPS-30700	The PRONG CI shall provide to the SDP Toolkit, at a minimum, the following metadata with the ephemeris data files for TRMM processing: a. Time range b. Orbit number range c. Platform
	S-DPS-30740	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in the native format of the host hardware for TRMM processing.
	S-DPS-30760	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for TRMM processing
	DADS0770#A	The DADS shall reformat data sets in one of the approved standard formats including HDF.
	DADS0780#A	Each DADS shall have the capability to incorporate additional ingest

		and data distribution formats and conversion software.
	DADS0800#A	Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.
TS066.002	S-DPS-30700	The PRONG CI shall provide to the SDP Toolkit, at a minimum, the following metadata with the ephemeris data files for TRMM processing: a. Time range b. Orbit number range c. Platform
	S-DPS-30740	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in the native format of the host hardware for TRMM processing.
	S-DPS-30760	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for TRMM processing
	DADS0770#A	The DADS shall reformat data sets in one of the approved standard formats including HDF.
	DADS0780#A	Each DADS shall have the capability to incorporate additional ingest and data distribution formats and conversion software.
	DADS0800#A	Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.
TS066.003	S-DPS-30700	The PRONG CI shall provide to the SDP Toolkit, at a minimum, the following metadata with the ephemeris data files for TRMM processing: a. Time range b. Orbit number range c. Platform
	S-DPS-30740	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in the native format of the host hardware for TRMM processing.
	S-DPS-30760	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for TRMM processing
	S-DPS-31020	The PRONG CI shall provide, at a minimum, the following metadata information to the SDP Toolkit with SDPF-generated L0 data a. Actual start time of staged L0 data b. Actual end time of staged L0 data c. Number of physical L0 data files staged d. Start time of L0 data as requested by EOS investigators through the planning/processing system e. End time of L0 data as requested by EOS investigators through the planning/processing system f. APID of each L0 data file g. Orbit number or orbit number range of the staged L0 data file
	DADS0770#A	The DADS shall reformat data sets in one of the approved standard formats including HDF.
	DADS0780#A	Each DADS shall have the capability to incorporate additional ingest and data distribution formats and conversion software.
	DADS0800#A	Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.

TS066.004	S-DPS-30610	The PRONG CI shall process the TRMM spacecraft ancillary data to assess the quality of onboard attitude data to detect and note in metadata the following conditions: a. missing data b. erroneous data (i.e. invalid Euler angle, invalid Euler angle rate)
	S-DPS-30740	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in the native format of the host hardware for TRMM processing.
	S-DPS-30760	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for TRMM processing
	DADS0770#A	The DADS shall reformat data sets in one of the approved standard formats including HDF.
	DADS0780#A	Each DADS shall have the capability to incorporate additional ingest and data distribution formats and conversion software.
	DADS0800#A	Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.
TS066.005	S-DPS-30610	The PRONG CI shall process the TRMM spacecraft ancillary data to assess the quality of onboard attitude data to detect and note in metadata the following conditions: a. missing data b. erroneous data (i.e. invalid Euler angle, invalid Euler angle rate)
	S-DPS-30740	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in the native format of the host hardware for TRMM processing.
	S-DPS-30760	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for TRMM processing
	DADS0770#A	The DADS shall reformat data sets in one of the approved standard formats including HDF.
	DADS0780#A	Each DADS shall have the capability to incorporate additional ingest and data distribution formats and conversion software.
	DADS0800#A	Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.
TS066.006	S-DPS-30610	The PRONG CI shall process the TRMM spacecraft ancillary data to assess the quality of onboard attitude data to detect and note in metadata the following conditions: a. missing data b. erroneous data (i.e. invalid Euler angle, invalid Euler angle rate)
	S-DPS-30740	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in the native format of the host hardware for TRMM processing.
	S-DPS-30760	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for TRMM processing
	S-DPS-21540	The PRONG CI shall destage all output data generated by a PGE to the SDSRV CI. (SEE Data Staging and Destaging Reqs for more details).

	DADS0770#A	The DADS shall reformat data sets in one of the approved standard formats including HDF.
	DADS0780#A	Each DADS shall have the capability to incorporate additional ingest and data distribution formats and conversion software.
	DADS0800#A	Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.
TS067.008	S-DPS-20700	The PRONG CI shall request data staging by sending a Data Request to the SDSRV CI .
	S-DPS-20710	The PRONG CI shall accept a Data Request Status message in response to the Data Request Message.
	S-DPS-20720	The Data Request Status message shall inform the PRONG CI on the success or failure of data staging.
	S-DPS-20770	The PRONG CI shall accept ECS Data Products from the SDSRV CI.
	S-DPS-20780	The PRONG CI shall accept metadata from the SDSRV CI.
	S-DPS-20800	The PRONG CI shall accept Calibration Coefficient data from the SDSRV CI.
	S-DPS-20810	The PRONG CI shall accept Special Data Products from the SDSRV CI.
	S-DPS-20820	The PRONG CI shall accept Ancillary Data Products from the SDSRV CI.
TS067.009	S-DPS-20680	The PRONG CI shall support the movement of data from one Data Processing subsystem controlled storage resource to another Data Processing subsystem controlled storage resource.
	S-DPS-20790	The PRONG CI shall request staging of TAR files of binaries as required from the SDSRV CI.
TS067.010	S-DPS-20690	The PRONG CI shall initiate the data staging process when the disk space required to support successful data staging is available.
	S-DPS-20730	The PRONG CI shall provide the capability to terminate the data staging process.
	S-DPS-20740	The PRONG CI shall send an Data Request message to the SDSRV CI to terminate the data staging process.
	S-DPS-60020	The SPRHW CI shall support the capability to stage and destage data
TS067.011	S-DPS-20460	The PRONG CI shall take a pre-determined error recovery action if the resource which maintains the input data is not available for data staging.
	S-DPS-20750	The PRONG CI shall send a Complete Notification Status message to the source of the Data Processing Request if the data staging process was not completed successfully for the Data Processing Request.
	S-DPS-20760	The Complete Notification Status message shall contain error information if the message was sent as a result of the failure of data staging.
	S-DPS-21920	The PRONG CI shall update the Processing Queue Display information with an alert message when a fault has occurred during the data staging process.
	S-DPS-21180	The PRONG CI shall allocate 1 shared memory attachment to a PGE to support access to internal memory during execution.

TS068.002	S-DPS-21000	The PRONG CI shall initiate execution of a PGE when the following is true: a. When all input data required to execute the PGE is available on local Data Processing subsystem storage resources. b. When the computer hardware resources are available to support execution of a PGE based on the computer hardware resource information associated with the Data Processing Request. c. When the Priority Information associated with the Data Processing Request has been fulfilled. d. When the maximum disk space requirements defined for the PGE are available to support the successful execution of the PGE e. When the maximum memory resources defined for the PGE are available to support the successful execution of the PGE f. When the CPU resources defined for the PGE are available to support the successful execution of the PGE
TS0068.002	S-DPS-21070	The PRONG CI shall allocate disk space to support the execution of a PGE.
	S-DPS-21080	The PRONG CI shall allocate memory to support the execution of a PGE.
	S-DPS-21090	The PRONG CI shall allocate CPU to support the execution of a PGE.
TS0068.005	S-DPS-21560	If the resource fails during the execution of a PGE, the PRONG CI shall be capable of initiating the execution of the PGE without having to regenerate that PGE's input data.
	S-DPS-20480	The PRONG CI shall take a pre-determined error recovery action if the computer resource required to execute the PGE is not available.
	S-DPS-21560	If the resource fails during the execution of a PGE, the PRONG CI shall be capable of initiating the execution of the PGE without having to regenerate that PGE's input data.
TS0068.006	S-DPS-22490	The PRONG CI shall deallocate the memory which was allocated to the executing PGE associated with the canceled Data Processing Request.
	S-DPS-22500	The PRONG CI shall deallocate the disk storage which was allocated to the executing PGE associated with the canceled Data Processing Request.
	S-DPS-22510	The PRONG CI shall deallocate the CPU which was allocated to the executing PGE associated with the canceled Data Processing Request.
TS070.001	S-DPS-20400	The PRONG CI shall accept a Data Processing Request (DPR) that requests the execution of a PGE.
	S-DPS-20490	The PRONG CI shall queue only validated Data Processing Requests
	S-DPS-20500	The Processing shall queue the Data Processing Request using the Priority Information associated with the Data Processing Request.
TS070.002	S-DPS-20400	The PRONG CI shall accept a Data Processing Request (DPR) that requests the execution of a PGE.
TS070.003	S-DPS-20330	The PRONG CI shall accept a Cancel Data Processing Request message to delete a Data Processing Request from the Processing Queue.
	S-DPS-22540	The PRONG CI shall send a Complete Notification Status message to the source of the Data Processing Request when the Data Processing Request is canceled.

TS071.001	S-PLS-01200	The PLANG CI shall provide the operations staff with the capability to perform the following on-line functions, via GUI: a. Entry of product requests for standard products, b. Query / update / cancellation of production requests for standard products, c. Query status of production requests, d. Query / update of production rules and PGE information, e. Entry of plan creation requests, f. Entry of plan activation requests, g. Entry of plan cancellation requests, h. Query candidate / active plans and corresponding status, i. Entry of requests for processing log reports / production and data processing request status reports / resource utilization reports / planning workload status reports / management reports, j. Entry of ground events, k. Query / update of ground events.
	S-PLS-01245	The PLANG CI shall provide capability to make available (for review by all affected instrument teams) information related to product generation delays and production faults.
	S-PLS-01250	The PLANG CI shall record detected hardware and software errors in a Planning processing log.
	S-PLS-01260	The PLANG CI shall support the capability to generate Planning processing log reports (periodically and on request) for a specified time period.
	S-PLS-01270	The PLANG CI shall support the generation of Data Processing Request Status reports (upon request) that will provide Data Processing Request information based on the report generation parameters and the time period specified.
	S-PLS-01280	The PLANG CI shall support the generation of Production Request Status reports (upon request) that will provide Production Request information based on the report generation parameters and the time period specified.
	S-PLS-01290	The PLANG CI shall support the generation of resource utilization reports (periodically and on request).
	S-PLS-01320	The PLANG CI shall make all reports generated available for review.
	S-PLS-01336	The PLANG CI Production Status Report shall list for each production request which is active or had Data Processing Requests (DPRs) run during the reporting period: a.) the number of planned DPRs b.) the number of successfully completed DPRs c.) the number of failed DPRs d.) the number of DPRs awaiting processing
	S-PLS-01338	The PLANG CI Production Error Report shall list each failed Data Processing Request (DPR), the failure condition, the associated message, and an indication if the DPR has been successfully re-run.
	S-PLS-01340	The PLANG CI shall provide the capability to generate daily PGE Resource Reports which summarize resource usage for the day and for each PGE successfully run.
	S-PLS-01341	The PLANG CI generated PGE Resource Report shall include average resource usage for successfully run Data Processing Requests (DPRs) for the preceding 7 and 30 days and the resource predictions established at PGE AI&T.

	S-PLS-01342	The PLANG CI shall store an ASCII format copy of each Product Error Report to the DAACÕs DDSRV.
	S-PLS-01343	The PLANG CI shall store an ASCII format copy of each Product Status Report to the DAACÕs DDSRV.
	S-PLS-01344	The PLANG CI shall store an ASCII format copy of each PGE Resource Report to the DAACÕs DDSRV.
TS071.002	S-PLS-00490	The PLANG CI shall log Planning subsystem faults to MSS.
	S-PLS-01300	The PLANG CI shall support the capability to generate PLANG CI processing workload and processing turnaround time reports (periodically and on request).
	S-PLS-01335	The PLANG CI shall provide the capability to generate daily Product Status Reports, covering the last 1, 3, 7, 30, and 90 days.
	S-PLS-01337	The PLANG CI shall provide the capability to generate daily Production Error Reports, covering the last 1, 3, 7, 30, and 90 days.
	S-PLS-01339	The PLANG CI Production Error Report shall include an error history summary indicating the types of failures and the number of each which occurred in the last 1, 3, 7, 30, and 90 days.
	S-PLS-01410	The PLANG CI shall report PLANG error/fault events to MSS.
	S-PLS-01430	The PLANG CI shall report PLANG performance events to the MSS.
	S-PLS-01440	The PLANG CI shall collect Fault Management Data and provide it to the MSS.
	S-PLS-01470	The PLANG CI shall report PLANG Accountability events to the MSS.
	S-PLS-01480	The PLANG CI shall collect Performance Management Data and provide it to the MSS.
	S-PLS-01490	The PLANG CI shall collect Security Management Data and provide it to the MSS.
	S-PLS-01500	The PLANG CI shall report scheduling events to the MSS.
TS071.003	S-PLS-01240	The PLANG CI shall support the display (via GUI) of Planning software detected faults to the operations staff.
TS072.001	S-INS-04000	The INGST CI shall provide a restart capability to restore previously established ingest sessions after a system failure.
	S-INS-04010	The INGST CI shall provide a restart capability to restore the interface with the external data providers after a system failure.
	S-INS-04020	The INGST CI shall provide a restart capability to restore previously Accepted Ingest Requests after a system failure. An Accepted Ingest Request is defined as a request for which an acknowledgment of receipt has been returned to the external data provider.
	S-INS-04030	The INGST CI shall provide a restart capability, after a system failure, to resume request processing for previously Accepted Ingest Requests.
TS072.002	None.	
TS072.003	S-INS-04000	The INGST CI shall provide a restart capability to restore previously established ingest sessions after a system failure.
	S-INS-04010	The INGST CI shall provide a restart capability to restore the interface with the external data providers after a system failure.
	S-INS-04020	The INGST CI shall provide a restart capability to restore previously Accepted Ingest Requests after a system failure. An Accepted Ingest Request is defined as a request for which an acknowledgment of receipt has been returned to the external data provider.

	S-INS-04030	The INGST CI shall provide a restart capability, after a system failure, to resume request processing for previously Accepted Ingest Requests.
TS075.001	S-PLS-00312	The PLANG CI shall provide the capability to receive MSS site configuration management information for resource planning.
	S-PLS-00315	The PLANG CI shall provide the capability to maintain a list of planned site resources, via GUIs, with the specific capabilities to add, update, delete, and query on site resources.
	S-PLS-00320	The PLANG CI shall provide the capability to associate a default activity to a planned site resource.
	S-PLS-00330	The PLANG CI shall provide the capability to maintain site resource requests, via GUIs, with the specific capabilities to add, update, delete, and query on site resource requests.
	S-PLS-00335	The PLANG CI shall provide the capability to review site resource requests, via GUIs, for the purpose of validation and to set or update the site resource request validation status field.
	S-PLS-00340	The PLANG CI shall provide the capability to review site resource requests, via GUIs, and to set the status of the site resource requests in one of the following states: 1) New 2) Validated 3) Approved 4) Rejected
TS075.002	S-PLS-00345	The PLANG CI shall provide the capability to generate a planned site resource report.
	S-PLS-00350	The PLANG CI shall provide the capability to generate site resource request reports.
BS003.001	IMS-0220	The IMS shall store, maintain and provide data management services for ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases.
	IMS-0430	The IMS shall maintain an on-line inventory with information that individually describes each granule of EOSDIS data, where granule refers to the minimum traceable logical unit of data stored in the archives, as defined by the instrument science team.
	IMS-0550	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats
	IMS-0610	The IMS shall provide the capability to search the data inventory which describes each granule of EOSDIS data.
	IMS-0625	The IMS shall provide bi-directional interoperability between ECS and V0 for access to the inventory metadata, guide information, and browse products via level III catalog interoperability as specified in ICDs
	IMS-0780(P)	The IMS shall accept and validate from the ECS users, IPs, ADCs, and ODCs requests for ECS archival data products.
BS003.002	IMS-0220	The IMS shall store, maintain and provide data management services for ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases.

	IMS-0430	The IMS shall maintain an on-line inventory with information that individually describes each granule of EOSDIS data, where granule refers to the minimum traceable logical unit of data stored in the archives, as defined by the instrument science team.
	IMS-0550	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats
	IMS-0610	The IMS shall provide the capability to search the data inventory which describes each granule of EOSDIS data.
	IMS-0625	The IMS shall provide bi-directional interoperability between ECS and V0 for access to the inventory metadata, guide information, and browse products via level III catalog interoperability as specified in ICDs
	IMS-0780(P)	The IMS shall accept and validate from the ECS users, IPs, ADCs, and ODCs requests for ECS archival data products.
BS003.003	IMS-0220	The IMS shall store, maintain and provide data management services for ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases.
	IMS-0430	The IMS shall maintain an on-line inventory with information that individually describes each granule of EOSDIS data, where granule refers to the minimum traceable logical unit of data stored in the archives, as defined by the instrument science team.
	IMS-0550	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats
	IMS-0610	The IMS shall provide the capability to search the data inventory which describes each granule of EOSDIS data.
	IMS-0625	The IMS shall provide bi-directional interoperability between ECS and V0 for access to the inventory metadata, guide information, and browse products via level III catalog interoperability as specified in ICDs
	IMS-0780(P)	The IMS shall accept and validate from the ECS users, IPs, ADCs, and ODCs requests for ECS archival data products.
BS003.004	IMS-0220	The IMS shall store, maintain and provide data management services for ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases.
	IMS-0550	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats

	IMS-0600	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
	IMS-0625	The IMS shall provide bi-directional interoperability between ECS and V0 for access to the inventory metadata, guide information, and browse products via level III catalog interoperability as specified in ICDs
	IMS-0780(P)	The IMS shall accept and validate from the ECS users, IPs, ADCs, and ODCs requests for ECS archival data products.
BS003.005	IMS-0220	The IMS shall store, maintain and provide data management services for ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases.
	IMS-0550	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats
	IMS-0600	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
	IMS-0625	The IMS shall provide bi-directional interoperability between ECS and V0 for access to the inventory metadata, guide information, and browse products via level III catalog interoperability as specified in ICDs
	IMS-0780(P)	The IMS shall accept and validate from the ECS users, IPs, ADCs, and ODCs requests for ECS archival data products.
BS003.006	IMS-0220	The IMS shall store, maintain and provide data management services for ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases.
	IMS-0550	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats
	IMS-0600	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
	IMS-0625	The IMS shall provide bi-directional interoperability between ECS and V0 for access to the inventory metadata, guide information, and browse products via level III catalog interoperability as specified in ICDs
	IMS-0780(P)	The IMS shall accept and validate from the ECS users, IPs, ADCs, and ODCs requests for ECS archival data products.
BS004.001	N/A	No requirements
BS006.001	IMS-0100	The IMS shall support, at a minimum: a. Interactive sessions b. Non-interactive remote sessions c. Client-server interface

	IMS-0120	The IMS shall provide, dependent upon the user's display device capabilities, a user-friendly interface with the following features at a minimum: a. Multiple window display b. Buttons and pull down menus c. Valid lists for all variables d. An information base of associations between variables (e.g., between instruments and geophysical parameters) f. Context-sensitive help g. Minimal and consistent use of non-standard keys h. Random movement through fields j. Standardized use of commands and terminology across screens k. Self-explanatory, meaningful error messages l. Automatic acronym expansion, which can be enabled and disabled interactively m. Availability of a menu tree diagram n. Command language
	IMS-0150	The IMS shall supply a uniform user interface for access to the following at a minimum: a. Heterogeneous data sets b. Communications networks c. Data bases that are geographically dispersed d. Multi-disciplined directories and inventories
	IMS-1380	The IMS shall provide the capability to integrate the element toolkits with a common user interface.
	IMS-0030	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
	IMS-0550	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats
	IMS-0600	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
BS006.002	IMS-0100	The IMS shall support, at a minimum: a. Interactive sessions b. Non-interactive remote sessions c. Client-server interface

	IMS-0120	The IMS shall provide, dependent upon the user's display device capabilities, a user-friendly interface with the following features at a minimum: a. Multiple window display b. Buttons and pull down menus c. Valid lists for all variables d. An information base of associations between variables (e.g., between instruments and geophysical parameters) f. Context-sensitive help g. Minimal and consistent use of non-standard keys h. Random movement through fields j. Standardized use of commands and terminology across screens k. Self-explanatory, meaningful error messages l. Automatic acronym expansion, which can be enabled and disabled interactively m. Availability of a menu tree diagram n. Command language
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	IMS-1380	The IMS shall provide the capability to integrate the element toolkits with a common user interface.
	IMS-0030	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
	IMS-0550	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats
	IMS-0600	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
BS006.003	IMS-0100	The IMS shall support, at a minimum: a. Interactive sessions b. Non-interactive remote sessions c. Client-server interface

	IMS-0120	The IMS shall provide, dependent upon the user's display device capabilities, a user-friendly interface with the following features at a minimum: a. Multiple window display b. Buttons and pull down menus c. Valid lists for all variables d. An information base of associations between variables (e.g., between instruments and geophysical parameters) f. Context-sensitive help g. Minimal and consistent use of non-standard keys h. Random movement through fields j. Standardized use of commands and terminology across screens k. Self-explanatory, meaningful error messages l. Automatic acronym expansion, which can be enabled and disabled interactively m. Availability of a menu tree diagram n. Command language
	IMS-0150	The IMS shall supply a uniform user interface for access to the following at a minimum: a. Heterogeneous data sets b. Communications networks c. Data bases that are geographically dispersed d. Multi-disciplined directories and inventories
	IMS-1380	The IMS shall provide the capability to integrate the element toolkits with a common user interface.
BS008.001	S-DSS-21540	The Science Management within the Data Server shall support distributing product QA data produced at the collocated Data Processing Subsystem within 1 hour from the time it is ready.
BS009.001	PGS-0250#A	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithm(s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
	PGS-0285#A	The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.
BS009.002	S-DPS-21070	The PRONG CI shall allocate disk space to support the execution of a PGE.
	S-DPS-21080	The PRONG CI shall allocate memory to support the execution of a PGE.
	S-DPS-21090	The PRONG CI shall allocate CPU to support the execution of a PGE.
	PGS-0480#A	The PGS shall have the capability to perform all its processing based on priority.
BS009.003	S-DPS-20600	The PRONG CI shall be able to determine what data required for PGE execution needs to be staged.
	S-DPS-20610	The PRONG CI shall be able to determine that an ECS Data Product required for PGE execution requires staging.

	S-DPS-20690	The PRONG CI shall initiate the data staging process when the disk space required to support successful data staging is available.
BS012.001	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00520	The SDSRV CI shall return a successful completion status to the provider of data only after all data and associated Metadata has been successfully stored.
	S-DSS-00650	The SDSRV CI shall expect an acknowledgment for all messages sent to internal components of ECS
	S-DSS-00660	The SDSRV CI shall acknowledge all messages from internal components of ECS
	S-DSS-00694	The SDSRV CI shall be capable of receiving data from the STMGT CI.
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-03002	The SDSRV CI shall be capable of receiving L0 - L4 Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03412	The SDSRV CI shall interface with the STMGT CI to provide storage for L0 - L4 Data.
	S-DSS-03560	The SDSRV CI shall interface with the STMGT CI to provide storage for Orbit/Attitude data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04475	The STMGT CI shall have the ability to store documents and/or data.
	S-DSS-03740	The SDSRV CI shall provide storage for validated Inventory data.
	S-DSS-03746	The SDSRV CI's MD Component shall provide storage for checksum metadata value associated with each file of each data granule stored in the STMGT CI.
	S-DSS-04370	The SDSRV CI shall have the ability to store product specific Metadata.
	S-DSS-04460	The SDSRV CI shall have the ability to store references to data recipients as Metadata for science data.
	S-DSS-20670	For each data item archived, the STMGT CI shall record the event in the Inventory Update Log.

	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.
	S-DSS-20621	The STMGT CI shall calculate a checksum for each file associated with each data granule stored in the archive.
	S-DSS-20622	The STMGT CI shall provide to the SDSRV CI's MD Component a copy of the checksum value calculated upon initial receipt of each file in each data granule stored in the archive.
	S-DSS-21365(p)	The STMGT CI shall provide storage for the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-21366(p)	The STMGT CI shall provide storage for the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-INS-00010	The INGST CI shall accept Network Ingest Requests to request automated electronic network ingest of a collection of Data. The collection of Data shall describe one or more Data Granules.
	S-INS-00050	The INGST CI shall report the following to the MSS event log services: a. Receipt of a network ingest request; b. Response to a network ingest request.
	S-INS-00300	The INGST CI shall return status on ongoing Ingest Requests to an authorized operations staff member.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00315	The INGST CI shall provide the capability for authorized operations staff to select status of ongoing Ingest Request processing for viewing by means of the External Data Provider.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00330	The INGST CI shall determine the Data Type Identifier for a set of ingested files, whenever the identifier was not provided in the Ingest Request.
	S-INS-00404(b)	The INGST CI shall extract metadata from ingested data into a form accepted by the Science Data Server / Document Data Server, as needed, for the following categories of data: a. Metadata parameters stored by parameter byte order and parameter byte length; b. Metadata parameters stored in PVL format; c. Metadata parameters stored in HDF format; d. Dataset-specific metadata formats
	S-INS-00405	The INGST CI shall append the following ingest-specific metadata to metadata corresponding to ingested data: a. ingest start date and time b. ingest stop date and time c. total data volume
	S-INS-00408	For each data granule specified in an Ingest Request the INGST CI shall determine by means of an Advertisement the appropriate SDSRV CI/DDSRV CI in which to store the data granule.

	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/DDSRV CI associated with the type of the data granule.
	S-INS-00410	The INGST CI shall provide the capability to electronically transfer data to be ingested via the ESN into a specified ECS storage location.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00460	The INGST CI shall determine the size of each file transferred to ECS whenever file sizes are specified in the corresponding Ingest Request.
	S-INS-00470	The INGST CI shall compare the size of each file after data transfer to ECS with file sizes specified in the corresponding Ingest Request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request: a. Ingest start/stop dates and times; b. Ingest Request Identifier; c. External Data Provider; d. Final Service Request Status; e. Data Type Identifiers; f. Ingest data volume; g. # of data sets and h. # of data files.
	S-INS-00500	The INGST CI shall provide operations staff the capability to view selected entries from the Ingest History Log.
	S-INS-00510	The INGST CI shall provide the capability to select Ingest History Log entries for viewing by the following parameters: ... e. Test or operational mode.
	S-INS-00520	The INGST CI shall ingest data, provided by the SDPF, from the ESN into the LaRC DAAC, using a file transfer protocol.
	DADS0010#A	Each DADS shall receive from the EDOS and SDPF, at a minimum, the following: a. Production data (L0) b. Expedited data
	DADS0130#A	Each DADS shall receive from the EDOS and SDPF, at a minimum, the following: a. Production data (L0) b. Expedited data
	DADS0190#A	Each DADS shall receive from the SCF, at a minimum, the following: a. Special products (L1-L4) b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	DADS0250#A	Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications network c. Hardcopy media

	DADS0290#A	Each DADS shall check all metadata and data it receives. For each type of data described by the metadata, the data shall be checked for the presence of required fields, and correctness of the data set granule size.
	DADS0300#A	Each DADS shall generate status indicating the success or failure of metadata and data consistency checks.
	DADS0310#A	Each DADS shall verify that data received came from an approved/authorized source.
	DADS0350#A	Each DADS shall generate the following metadata items, at a minimum: a. Unique Granule Id for L0 b. Date and time of storage c. Physical location d. Data check status e. Unique format identifiers
	DADS0360#A	Each DADS shall augment PGS-generated metadata with DADS-generated metadata.
	DADS0440#A	Each DADS shall provide storage, at a minimum, for the following EOS data: a. Standard Products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms h. Format descriptions (e.g., HDF spec.)
	DADS0465#A	The DADS shall provide storage for the following Version 0 data: a. Standard products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms.
	DADS1070#A	The DADS shall send data check and storage status to the provider of ingest data.
	DADS1080#A	Each DADS shall maintain a data receipt log.
	DADS1100#A	Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.
	DADS1380#A	Each DADS shall monitor data transfer between external (non-ECS) elements and the DADS.
	DADS1390#A	Each DADS shall monitor data transfer between elements of the ECS and the DADS.
	DADS1400#A	Each DADS shall notify the originating source of the need to retransmit data in the event of transmission difficulties.
	DADS1780#A	Each DADS shall provide the capability to store as a single entity logically grouped sets of data.
	DADS1795#A	Each DADS shall update internal file directories with the unique Data set ID.

	DADS1800#A	Each DADS shall maintain data storage inventories defining the physical location of files.
	DADS1805#A	The DADS shall provide an inventory system capable, at a minimum, of the following: a. Accepting the number of new inventory entries, one per granule, for the number of granules per day as specified in Appendix C b. Uniquely identifying each data granule c. Tracking the physical location of each data granule.
	DADS1980#A	Each DADS shall receive from the SMC scheduling directives for system level, site/element-to-site/element, testing, and simulation activities.
	DADS2000#A	Each DADS shall receive from the SMC scheduling directives in response to emergency situations.
	DADS2020#A	Each DADS shall have the capability to receive data availability schedules at a minimum, from: a. c. ADCs e. Other DADS f. TRMM (SDPF)
	DADS2040#A	Each DADS shall insure that data sent by EDOS and SDPF has been received and validated.
	DADS2210#A	Each DADS shall receive from the SMC scheduling directives in response to emergency situations.
	DADS2220#A	Each DADS shall provide tools for manually overriding any of its schedules with other elements.
	DADS2315#A	Each DADS shall be capable of providing access to data to support the instrument science team(s) in: a. Pre-launch checkout of their instruments b. Pre-launch science checkout c. Development of initial calibration information.
	DADS2340#A	Each DADS shall send to remote DAACs, at a minimum, the following: a. L0-L4 b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	DADS3140#A	The DADS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development of DAAC-unique data ingest services operated independently of the delivered ECS DADS services.
	IMS-0430#A	The IMS shall maintain an on-line inventory with information that individually describes each granule of EOSDIS data, where granule refers to the minimum traceable logical unit of data stored in the archives, as defined by the instrument science team.
	IMS-0450#A	The IMS shall accept and validate new and updated metadata for all ECS archive data which has been ingested at the DADS.
	C-ISS-01040	
	S-INS-00187	
	S-INS-00321	

BS012.002	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00520	The SDSRV CI shall return a successful completion status to the provider of data only after all data and associated Metadata has been successfully stored.
	S-DSS-00650	The SDSRV CI shall expect an acknowledgment for all messages sent to internal components of ECS
	S-DSS-00660	The SDSRV CI shall acknowledge all messages from internal components of ECS
	S-DSS-00694	The SDSRV CI shall be capable of receiving data from the STMGT CI.
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-03002	The SDSRV CI shall be capable of receiving L0 - L4 Data.
	S-DSS-03010	The SDSRV CI shall be capable of receiving Calibration Data.
	S-DSS-03020	The SDSRV CI shall be capable of receiving Metadata associated with Calibration Data.
	S-DSS-03110	The SDSRV CI shall be capable of receiving Instrument Calibration Data.
	S-DSS-03120	The SDSRV CI shall be capable of receiving Metadata associated with Instrument Calibration Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03412	The SDSRV CI shall interface with the STMGT CI to provide storage for L0 - L4 Data.
	S-DSS-03480	The SDSRV CI shall interface with the STMGT CI to provide storage for instrument calibration data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04475	The STMGT CI shall have the ability to store documents and/or data.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.

	S-DSS-20621	The STMGT CI shall calculate a checksum for each file associated with each data granule stored in the archive.
	S-DSS-20622	The STMGT CI shall provide to the SDSRV CI's MD Component a copy of the checksum value calculated upon initial receipt of each file in each data granule stored in the archive.
	S-DSS-21365(p)	The STMGT CI shall provide storage for the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-21366(p)	The STMGT CI shall provide storage for the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-03490	The SDSRV CI shall provide storage for Metadata associated with instrument calibration data.
	S-DSS-03522	The SDSRV CI shall provide storage for Metadata associated with Instrument Historical Data.
	S-DSS-03540	The SDSRV CI shall provide storage for inventory characteristic data.
	S-DSS-03570	The SDSRV CI shall provide storage for Metadata associated with Orbit/Attitude data.
	S-DSS-03650	The SDSRV CI shall provide storage for Metadata associated with scientific calibration data.
	S-DSS-03690	The SDSRV CI shall provide storage for Metadata associated with correlative data.
	S-DSS-03740	The SDSRV CI shall provide storage for validated Inventory data.
	S-DSS-03746	The SDSRV CI's MD Component shall provide storage for checksum metadata value associated with each file of each data granule stored in the STMGT CI.
	S-DSS-04370	The SDSRV CI shall have the ability to store product specific Metadata.
	S-DSS-04400	The SDSRV CI shall have the ability to store references to calibration data as Metadata for science data.
	S-DSS-04420	The SDSRV CI shall have the ability to store references to instrument engineering data as Metadata for science data.
	S-DSS-04460	The SDSRV CI shall have the ability to store references to data recipients as Metadata for science data.
	S-DSS-04470	The SDSRV CI shall have the ability to store references to the data production facility as Metadata for science data.
	S-DSS-20670	For each data item archived, the STMGT CI shall record the event in the Inventory Update Log.
	S-INS-00010	The INGST CI shall accept Network Ingest Requests to request automated electronic network ingest of a collection of Data. The collection of Data shall describe one or more Data Granules.
	S-INS-00050	The INGST CI shall report the following to the MSS event log services: a. Receipt of a network ingest request; b. Response to a network ingest request.
	S-INS-00300	The INGST CI shall return status on ongoing Ingest Requests to an authorized operations staff member.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.

	S-INS-00315	The INGST CI shall provide the capability for authorized operations staff to select status of ongoing Ingest Request processing for viewing by means of the External Data Provider.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00330	The INGST CI shall determine the Data Type Identifier for a set of ingested files, whenever the identifier was not provided in the Ingest Request.
	S-INS-00404(c)	The INGST CI shall extract metadata from ingested data into a form accepted by the Science Data Server / Document Data Server, as needed, for the following categories of data: a. Metadata parameters stored by parameter byte order and parameter byte length; b. Metadata parameters stored in PVL format; c. Metadata parameters stored in HDF format; d. Dataset-specific metadata formats
	S-INS-00405	The INGST CI shall append the following ingest-specific metadata to metadata corresponding to ingested data: a. ingest start date and time b. ingest stop date and time c. total data volume
	S-INS-00408	For each data granule specified in an Ingest Request the INGST CI shall determine by means of an Advertisement the appropriate SDSRV CI/DDSRV CI in which to store the data granule.
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/DDSRV CI associated with the type of the data granule.
	S-INS-00410	The INGST CI shall provide the capability to electronically transfer data to be ingested via the ESN into a specified ECS storage location.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00460	The INGST CI shall determine the size of each file transferred to ECS whenever file sizes are specified in the corresponding Ingest Request.
	S-INS-00470	The INGST CI shall compare the size of each file after data transfer to ECS with file sizes specified in the corresponding Ingest Request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request: a. Ingest start/stop dates and times; b. Ingest Request Identifier; c. External Data Provider; d. Final Service Request Status; e. Data Type Identifiers; f. Ingest data volume; g. # of data sets and h. # of data files.
	S-INS-00500	The INGST CI shall provide operations staff the capability to view selected entries from the Ingest History Log.
	S-INS-00510	The INGST CI shall provide the capability to select Ingest History Log entries for viewing by the following parameters: ... e. Test or operational mode.

	S-INS-00560	The INGST CI shall ingest Data, provided by the TSDIS, from the ESN into the GSFC DAAC using a file transfer protocol.
	DADS0010#A	Each DADS shall receive from the EDOS and SDPF, at a minimum, the following: a. Production data (L0) b. Expedited data
	DADS0170#A	Each DADS shall be capable of receiving from designated EPDSs and ODCs, at a minimum, the following: a. L0-L4 data sets b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	DADS0175#A	The GSFC DADS shall receive from FDF, at a minimum : a. Orbit data b. Attitude data c. Metadata
	DADS0190#A	Each DADS shall receive from the SCF, at a minimum, the following: a. Special products (L1-L4) b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	DADS0250#A	Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications network c. Hardcopy media
	DADS0290#A	Each DADS shall check all metadata and data it receives. For each type of data described by the metadata, the data shall be checked for the presence of required fields, and correctness of the data set granule size.
	DADS0300#A	Each DADS shall generate status indicating the success or failure of metadata and data consistency checks.
	DADS0310#A	Each DADS shall verify that data received came from an approved/authorized source.
	DADS0350#A	Each DADS shall generate the following metadata items, at a minimum: a. Unique Granule Id for L0 b. Date and time of storage c. Physical location d. Data check status e. Unique format identifiers
	DADS0360#A	Each DADS shall augment PGS-generated metadata with DADS-generated metadata.

	DADS0440#A	Each DADS shall provide storage, at a minimum, for the following EOS data: a. Standard Products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms h. Format descriptions (e.g., HDF spec.)
	DADS0465#A	The DADS shall provide storage for the following Version 0 data: a. Standard products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms.
	DADS0475#A	The DADS shall provide storage for the following TRMM data: a. L1A-L4 equivalent data products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms.
	DADS0490#A	Each DADS shall archive Level 1B - Level 4 data products.
	DADS1070#A	The DADS shall send data check and storage status to the provider of ingest data.
	DADS1080#A	Each DADS shall maintain a data receipt log.
	DADS1100#A	Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.
	DADS1235#A	Each DADS shall temporarily store expedited data received for 48 hours or until production data are available (whichever comes first).
	DADS1380#A	Each DADS shall monitor data transfer between external (non-ECS) elements and the DADS.
	DADS1805#A	
	DADS1980#A	Each DADS shall receive from the SMC scheduling directives for system level, site/element-to-site/element, testing, and simulation activities.
	DADS2000#A	Each DADS shall receive from the SMC scheduling directives in response to emergency situations.
	DADS2210#A	Each DADS shall receive from the SMC scheduling directives in response to emergency situations.
	DADS2220#A	Each DADS shall provide tools for manually overriding any of its schedules with other elements.
	DADS2315#A	

	DADS3140#A	The DADS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development of DAAC-unique data ingest services operated independently of the delivered ECS DADS services.
	IMS-0430#A	The IMS shall maintain an on-line inventory with information that individually describes each granule of EOSDIS data, where granule refers to the minimum traceable logical unit of data stored in the archives, as defined by the instrument science team.
	IMS-0450#A	The IMS shall accept and validate new and updated metadata for all ECS archive data which has been ingested at the DADS.
	S-INS-00187	
	S-INS-00321	
BS012.003	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00650	The SDSRV CI shall expect an acknowledgment for all messages sent to internal components of ECS
	S-DSS-00660	The SDSRV CI shall acknowledge all messages from internal components of ECS
	S-DSS-00694	The SDSRV CI shall be capable of receiving data from the STMGT CI.
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-03004	The SDSRV CI shall be capable of receiving Ancillary Data.
	S-DSS-03006	The SDSRV CI shall be capable of receiving Metadata associated with Ancillary Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03361	The SDSRV CI shall be capable of receiving NMC data.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03414	The SDSRV CI shall interface with the STMGT CI to provide storage for Ancillary Data.
	S-DSS-03741	The SDSRV CI shall interface with the STMGT CI to provide storage for NMC data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.

	S-DSS-04475	The STMGT CI shall have the ability to store documents and/or data.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.
	S-DSS-20621	The STMGT CI shall calculate a checksum for each file associated with each data granule stored in the archive.
	S-DSS-20622	The STMGT CI shall provide to the SDSRV CI's MD Component a copy of the checksum value calculated upon initial receipt of each file in each data granule stored in the archive.
	S-DSS-21365(p)	The STMGT CI shall provide storage for the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-21366(p)	The STMGT CI shall provide storage for the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-03740	The SDSRV CI shall provide storage for validated Inventory data.
	S-DSS-03746	The SDSRV CI's MD Component shall provide storage for checksum metadata value associated with each file of each data granule stored in the STMGT CI.
	S-DSS-04370	The SDSRV CI shall have the ability to store product specific Metadata.
	S-DSS-04460	The SDSRV CI shall have the ability to store references to data recipients as Metadata for science data.
	S-DSS-20670	For each data item archived, the STMGT CI shall record the event in the Inventory Update Log.
	S-INS-00070	The INGST CI shall provide the capability to periodically check a location accessible to the ESN for the presence of a Delivery Record file describing data to be ingested. The Delivery Record file shall contain the same information as a Network Ingest Request.
	S-INS-00080	The INGST CI shall read a Delivery Record file describing data to be ingested at a location accessible to the ESN and submit a corresponding Network Ingest Request to be processed.
	S-INS-00085(h)	The INGST CI shall report status to the provider of a polling ingest request (delivery record file) for the following: a. File transfer failure; b. File size discrepancies; c. Invalid data type identifier; d. Missing required metadata; e. Metadata parameters out of range; f. Failure to archive data; g. Missing required request information; h. Successful archive of the data.
	S-INS-00300	The INGST CI shall return status on ongoing Ingest Requests to an authorized operations staff member.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00315	The INGST CI shall provide the capability for authorized operations staff to select status of ongoing Ingest Request processing for viewing by means of the External Data Provider.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.

	S-INS-00330	The INGST CI shall determine the Data Type Identifier for a set of ingested files, whenever the identifier was not provided in the Ingest Request.
	S-INS-00400	The INGST CI shall convert ingested data into a form accepted by the SDSRV CI / DDSRV CI, for following data types: a. NMC GRIB data.
	S-INS-00402	The INGST CI shall reformat ingested data into a form accepted by the SDSRV CI/DDSRV CI as needed.
	S-INS-00404(a)	The INGST CI shall extract metadata from ingested data into a form accepted by the Science Data Server / Document Data Server, as needed, for the following categories of data: a. Metadata parameters stored by parameter byte order and parameter byte length; b. Metadata parameters stored in PVL format; c. Metadata parameters stored in HDF format; d. Dataset-specific metadata formats
	S-INS-00405	The INGST CI shall append the following ingest-specific metadata to metadata corresponding to ingested data: a. ingest start date and time b. ingest stop date and time c. total data volume
	S-INS-00408	For each data granule specified in an Ingest Request the INGST CI shall determine by means of an Advertisement the appropriate SDSRV CI/DDSRV CI in which to store the data granule.
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/DDSRV CI associated with the type of the data granule.
	S-INS-00410	The INGST CI shall provide the capability to electronically transfer data to be ingested via the ESN into a specified ECS storage location.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00460	The INGST CI shall determine the size of each file transferred to ECS whenever file sizes are specified in the corresponding Ingest Request.
	S-INS-00470	The INGST CI shall compare the size of each file after data transfer to ECS with file sizes specified in the corresponding Ingest Request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request: a. Ingest start/stop dates and times; b. Ingest Request Identifier; c. External Data Provider; d. Final Service Request Status; e. Data Type Identifiers; f. Ingest data volume; g. # of data sets and h. # of data files.
	S-INS-00500	The INGST CI shall provide operations staff the capability to view selected entries from the Ingest History Log.
	S-INS-00510	The INGST CI shall provide the capability to select Ingest History Log entries for viewing by the following parameters: ... e. Test or operational mode.

	S-INS-00620	The INGST CI shall ingest data, provided by the DAO, from the ESN into the LaRC DAAC using a file transfer protocol.
	S-INS-00640	The INGST CI shall ingest data, provided by the DAO, from the ESN into the GSFC DAAC using a file transfer protocol.
	DADS0010#A	Each DADS shall receive from the EDOS and SDPF, at a minimum, the following: a. Production data (L0) b. Expedited data
	DADS0145#A	Each DADS shall be capable of receiving from the ADCs, at a minimum, the following for the purpose of product generation: a. L0-L4 equivalent data sets b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	DADS0190#A	Each DADS shall receive from the SCF, at a minimum, the following: a. Special products (L1-L4) b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	DADS0250#A	Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications network c. Hardcopy media
	DADS0260#A	
	DADS0290#A	Each DADS shall check all metadata and data it receives. For each type of data described by the metadata, the data shall be checked for the presence of required fields, and correctness of the data set granule size.
	DADS0300#A	Each DADS shall generate status indicating the success or failure of metadata and data consistency checks.
	DADS0310#A	Each DADS shall verify that data received came from an approved/authorized source.
	DADS0350#A	Each DADS shall generate the following metadata items, at a minimum: a. Unique Granule Id for L0 b. Date and time of storage c. Physical location d. Data check status e. Unique format identifiers
	DADS0360#A	Each DADS shall augment PGS-generated metadata with DADS-generated metadata.

	DADS0440#A	Each DADS shall provide storage, at a minimum, for the following EOS data: a. Standard Products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms h. Format descriptions (e.g., HDF spec.)
	DADS0465#A	The DADS shall provide storage for the following Version 0 data: a. Standard products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms.
	DADS1070#A	The DADS shall send data check and storage status to the provider of ingest data.
	DADS1080#A	Each DADS shall maintain a data receipt log.
	DADS1100#A	Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.
	DADS1390#A	Each DADS shall monitor data transfer between elements of the ECS and the DADS.
	DADS1400#A	Each DADS shall notify the originating source of the need to retransmit data in the event of transmission difficulties.
	DADS1780#A	Each DADS shall provide the capability to store as a single entity logically grouped sets of data.
	DADS1795#A	Each DADS shall update internal file directories with the unique Data set ID.
	DADS1800#A	Each DADS shall maintain data storage inventories defining the physical location of files.
	DADS1980#A	Each DADS shall receive from the SMC scheduling directives for system level, site/element-to-site/element, testing, and simulation activities.
	DADS2000#A	Each DADS shall receive from the SMC scheduling directives in response to emergency situations.
	DADS2210#A	Each DADS shall receive from the SMC scheduling directives in response to emergency situations.
	DADS2220#A	Each DADS shall provide tools for manually overriding any of its schedules with other elements.
	DADS2345#A	Each DADS shall send to ADCs, at a minimum, the following: a. L0-L4 b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms

	DADS3140#A	The DADS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development of DAAC-unique data ingest services operated independently of the delivered ECS DADS services.
	IMS-0430#A	The IMS shall maintain an on-line inventory with information that individually describes each granule of EOSDIS data, where granule refers to the minimum traceable logical unit of data stored in the archives, as defined by the instrument science team.
	IMS-0450#A	The IMS shall accept and validate new and updated metadata for all ECS archive data which has been ingested at the DADS.
BS012.004	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.
	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00650	The SDSRV CI shall expect an acknowledgment for all messages sent to internal components of ECS
	S-DSS-00660	The SDSRV CI shall acknowledge all messages from internal components of ECS
	S-DSS-00694	The SDSRV CI shall be capable of receiving data from the STMGT CI.
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-03004	The SDSRV CI shall be capable of receiving Ancillary Data.
	S-DSS-03006	The SDSRV CI shall be capable of receiving Metadata associated with Ancillary Data.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03414	The SDSRV CI shall interface with the STMGT CI to provide storage for Ancillary Data.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04475	The STMGT CI shall have the ability to store documents and/or data.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.

	S-DSS-20621	The STMGT CI shall calculate a checksum for each file associated with each data granule stored in the archive.
	S-DSS-20622	The STMGT CI shall provide to the SDSRV CI's MD Component a copy of the checksum value calculated upon initial receipt of each file in each data granule stored in the archive.
	S-DSS-21365(p)	The STMGT CI shall provide storage for the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-21366(p)	The STMGT CI shall provide storage for the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-03740	The SDSRV CI shall provide storage for validated Inventory data.
	S-DSS-03746	The SDSRV CI's MD Component shall provide storage for checksum metadata value associated with each file of each data granule stored in the STMGT CI.
	S-DSS-04370	The SDSRV CI shall have the ability to store product specific Metadata.
	S-DSS-04460	The SDSRV CI shall have the ability to store references to data recipients as Metadata for science data.
	S-DSS-20670	For each data item archived, the STMGT CI shall record the event in the Inventory Update Log.
	S-INS-00100	The INGST CI shall provide the capability to periodically check a location accessible to the ESN for the presence of data granule files.
	S-INS-00110	The INGST CI shall submit an Polling Ingest Request after detecting the presence of data granule files in a location accessible to the ESN. The request shall contain the file location.
	S-INS-00300	The INGST CI shall return status on ongoing Ingest Requests to an authorized operations staff member.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00315	The INGST CI shall provide the capability for authorized operations staff to select status of ongoing Ingest Request processing for viewing by means of the External Data Provider.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00330	The INGST CI shall determine the Data Type Identifier for a set of ingested files, whenever the identifier was not provided in the Ingest Request.
	S-INS-00402	The INGST CI shall reformat ingested data into a form accepted by the SDSRV CI/DDSRV CI as needed.
	S-INS-00404(a)	The INGST CI shall extract metadata from ingested data into a form accepted by the Science Data Server / Document Data Server, as needed, for the following categories of data: a. Metadata parameters stored by parameter byte order and parameter byte length; b. Metadata parameters stored in PVL format; c. Metadata parameters stored in HDF format; d. Dataset-specific metadata formats

	S-INS-00405	The INGST CI shall append the following ingest-specific metadata to metadata corresponding to ingested data: a. ingest start date and time b. ingest stop date and time c. total data volume
	S-INS-00408	For each data granule specified in an Ingest Request the INGST CI shall determine by means of an Advertisement the appropriate SDSRV CI/DDSRV CI in which to store the data granule.
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/DDSRV CI associated with the type of the data granule.
	S-INS-00410	The INGST CI shall provide the capability to electronically transfer data to be ingested via the ESN into a specified ECS storage location.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request: a. Ingest start/stop dates and times; b. Ingest Request Identifier; c. External Data Provider; d. Final Service Request Status; e. Data Type Identifiers; f. Ingest data volume; g. # of data sets and h. # of data files.
	S-INS-00500	The INGST CI shall provide operations staff the capability to view selected entries from the Ingest History Log.
	S-INS-00510	The INGST CI shall provide the capability to select Ingest History Log entries for viewing by the following parameters: ... e. Test or operational mode.
	S-INS-00630	The INGST CI shall ingest data, provided by NESDIS, from the ESN into the LaRC DAAC using a file transfer protocol.
	DADS0010#A	Each DADS shall receive from the EDOS and SDPF, at a minimum, the following: a. Production data (L0) b. Expedited data
	DADS0145#A	Each DADS shall be capable of receiving from the ADCs, at a minimum, the following for the purpose of product generation: a. L0-L4 equivalent data sets b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms

	DADS0190#A	Each DADS shall receive from the SCF, at a minimum, the following: a. Special products (L1-L4) b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	DADS0250#A	Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications network c. Hardcopy media
	DADS0260#A	
	DADS0290#A	Each DADS shall check all metadata and data it receives. For each type of data described by the metadata, the data shall be checked for the presence of required fields, and correctness of the data set granule size.
	DADS0300#A	Each DADS shall generate status indicating the success or failure of metadata and data consistency checks.
	DADS0310#A	Each DADS shall verify that data received came from an approved/authorized source.
	DADS0320#A	
	DADS0350#A	Each DADS shall generate the following metadata items, at a minimum: a. Unique Granule Id for L0 b. Date and time of storage c. Physical location d. Data check status e. Unique format identifiers
	DADS0360#A	Each DADS shall augment PGS-generated metadata with DADS-generated metadata.
	DADS0440#A	Each DADS shall provide storage, at a minimum, for the following EOS data: a. Standard Products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms h. Format descriptions (e.g., HDF spec.)
	DADS0465#A	The DADS shall provide storage for the following Version 0 data: a. Standard products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms.
	DADS0770#A	The DADS shall reformat data sets in one of the approved standard formats including HDF.
	DADS0780#A	Each DADS shall have the capability to incorporate additional ingest and data distribution formats and conversion software.

	DADS0800#A	Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.
	DADS1070#A	The DADS shall send data check and storage status to the provider of ingest data.
	DADS1080#A	Each DADS shall maintain a data receipt log.
	DADS1100#A	Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.
	DADS1380#A	Each DADS shall monitor data transfer between external (non-ECS) elements and the DADS.
	DADS1390#A	Each DADS shall monitor data transfer between elements of the ECS and the DADS.
	DADS1400#A	Each DADS shall notify the originating source of the need to retransmit data in the event of transmission difficulties.
	DADS1780#A	Each DADS shall provide the capability to store as a single entity logically grouped sets of data.
	DADS1795#A	Each DADS shall update internal file directories with the unique Data set ID.
	DADS1800#A	Each DADS shall maintain data storage inventories defining the physical location of files.
	DADS1980#A	Each DADS shall receive from the SMC scheduling directives for system level, site/element-to-site/element, testing, and simulation activities.
	DADS2000#A	Each DADS shall receive from the SMC scheduling directives in response to emergency situations.
	DADS2210#A	Each DADS shall receive from the SMC scheduling directives in response to emergency situations.
	DADS2220#A	Each DADS shall provide tools for manually overriding any of its schedules with other elements.
	DADS2345#A	Each DADS shall send to ADCs, at a minimum, the following: a. L0-L4 b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	IMS-0430#A	The IMS shall maintain an on-line inventory with information that individually describes each granule of EOSDIS data, where granule refers to the minimum traceable logical unit of data stored in the archives, as defined by the instrument science team.
	IMS-0450#A	The IMS shall accept and validate new and updated metadata for all ECS archive data which has been ingested at the DADS.
	S-INS-00187	
	S-INS-00321	
BS012.005	S-DSS-00080	The SDSRV CI shall process Data Insert Requests that request the storage of Data Products and associated Metadata.
	S-DSS-00090	The SDSRV CI shall validate that each Data Insert Request contains a List of Data Files.

	S-DSS-00150	The SDSRV CI shall accept and process Insert Metadata Requests to insert Metadata into the Inventory.
	S-DSS-00650	The SDSRV CI shall expect an acknowledgment for all messages sent to internal components of ECS
	S-DSS-00660	The SDSRV CI shall acknowledge all messages from internal components of ECS
	S-DSS-00694	The SDSRV CI shall be capable of receiving data from the STMGT CI.
	S-DSS-01150	The SDSRV CI shall log all Service Requests entered during a client session.
	S-DSS-03030	The SDSRV CI shall be capable of receiving Science Software Archive Packages.
	S-DSS-03040	The SDSRV CI shall be capable of receiving Metadata associated with Science Software Archive Packages.
	S-DSS-03170	The SDSRV CI shall be capable of receiving validated Inventory Data.
	S-DSS-03380	Upon receipt of valid data types the SDSRV CI shall pass the data to the STMGT CI.
	S-DSS-03390	The SDSRV CI shall update the Inventory after the Data it received for insertion into its data holdings have passed the validity checks applicable to the respective data types.
	S-DSS-03870	The SDSRV CI shall be capable of receiving status from the INGST CI.
	S-DSS-03872	The SDSRV CI shall be capable of sending status to the INGST CI.
	S-DSS-04360	The SDSRV CI shall include granule-specific information as defined in the SDPS Core Metadata Baseline (194-00269TPW).
	S-DSS-04380	The STMGT CI shall provide the SDSRV CI the granule id, date and time of storage, data check status and data format type, for each data granule stored as a result of a Data Insert Request.
	S-DSS-04475	The STMGT CI shall have the ability to store documents and/or data.
	S-DSS-04476	The DDSRV CI shall provide the ability to store documents and/or data.
	S-DSS-10040	The DDSRV CI shall accept Documents from the INGST CI.
	S-DSS-20010	The STMGT CI shall validate all Service Requests.
	S-DSS-20020	The STMGT CI shall accept Insert Requests for insertion of data into the archive.
	S-DSS-20025	The STMGT CI shall place an entry in the Archive Activity Log corresponding to each Insert Request.
	S-DSS-20621	The STMGT CI shall calculate a checksum for each file associated with each data granule stored in the archive.
	S-DSS-20622	The STMGT CI shall provide to the SDSRV CI's MD Component a copy of the checksum value calculated upon initial receipt of each file in each data granule stored in the archive.
	S-DSS-21365(p)	The STMGT CI shall provide storage for the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-21366(p)	The STMGT CI shall provide storage for the Metadata associated with the Data Products listed in Appendix F of the current version of 304-CD-005.
	S-DSS-03740	The SDSRV CI shall provide storage for validated Inventory data.

	S-DSS-03746	The SDSRV CI's MD Component shall provide storage for checksum metadata value associated with each file of each data granule stored in the STMGT CI.
	S-DSS-04370	The SDSRV CI shall have the ability to store product specific Metadata.
	S-DSS-04460	The SDSRV CI shall have the ability to store references to data recipients as Metadata for science data.
	S-DSS-20670	For each data item archived, the STMGT CI shall record the event in the Inventory Update Log.
	S-INS-00180	The INGST CI shall interactively accept Network Ingest Requests from authorized science users for electronic network ingest of a collection of Data from a location accessible via the ESN. The collection of Data shall describe one or more Data Granules.
	S-INS-00205	The INGST CI shall determine the External Data Provider for a Network Ingest Request entered interactively by a science user.
	S-INS-00220(k)	The INGST CI shall report status to the interactive submitter of a Network Ingest Request for the following: The INGST CI shall report status to the provider of a Network Ingest Request for the following: a. File transfer failure b. File size discrepancies c. Invalid Data Type Identifier d. Missing required metadata e. Metadata parameters out of range f. Data conversion failure g. Failure to archive data h. Inability to transfer data within the specified time window i. Unauthorized science user j. Missing required request information k. Successful archive of the data
	S-INS-00221	The INGST CI shall interactively accept Document Ingest Requests from authorized science users for ingest of a single collection of document Data from a location accessible via the ESN. The collection of document Data shall describe one or more document Data Granules.
	S-INS-00230(k)	The INGST CI shall report status to the interactive submitter of a Document Ingest Request for the following: a. file transfer failure b. file size discrepancy c. invalid data type identifier d. missing required metadata e. metadata parameter out of range f. data conversion failure g. failure to archive data h. inability to transfer data within the specified time window i. unauthorized science user j. missing required request information k. successful archive of data

	S-INS-00235	The INGST CI shall accept ingest Status Requests from science users to determine the status of: a: a specified ongoing ingest request, previously submitted by the science user who is requesting status and identified by the ingest Request Identifier b: all of the user's ongoing Ingest Requests
	S-INS-00240	The INGST CI shall determine the User Identifier for a science user submitting an ingest Status Request.
	S-INS-00250	The INGST CI shall update status on a science user's ongoing Network Ingest Requests, based on User Identifier, to the user.
	S-INS-00260	The INGST CI shall provide science users the capability to display the status of the user's ongoing request processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00300	The INGST CI shall return status on ongoing Ingest Requests to an authorized operations staff member.
	S-INS-00310	The INGST CI shall provide authorized operations staff the capability to view the status of ongoing ingest processing. Displayed status shall include the External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
	S-INS-00315	The INGST CI shall provide the capability for authorized operations staff to select status of ongoing Ingest Request processing for viewing by means of the External Data Provider.
	S-INS-00325	The INGST CI shall determine the ingest start/stop dates and times for all ingested data.
	S-INS-00330	The INGST CI shall determine the Data Type Identifier for a set of ingested files, whenever the identifier was not provided in the Ingest Request.
	S-INS-00405	The INGST CI shall append the following ingest-specific metadata to metadata corresponding to ingested data: a. ingest start date and time b. ingest stop date and time c. total data volume
	S-INS-00408	For each data granule specified in an Ingest Request the INGST CI shall determine by means of an Advertisement the appropriate SDSRV CI/DDSRV CI in which to store the data granule.
	S-INS-00409	The INGST CI shall provide the capability to request storage of a data granule by means of a Data Insert Request to the SDSRV CI/DDSRV CI associated with the type of the data granule.
	S-INS-00410	The INGST CI shall provide the capability to electronically transfer data to be ingested via the ESN into a specified ECS storage location.
	S-INS-00420	The INGST CI shall provide the capability for an external application to transfer data to be ingested into a specific storage location.
	S-INS-00430	The INGST CI shall provide the capability by means of a Working Storage Allocation Request to the Data Server to allocate storage space for data to be transferred to satisfy an ingest request.
	S-INS-00440	The INGST CI shall estimate whether data may complete transfer before the date/time prior to which the data will remain available.

	S-INS-00460	The INGST CI shall determine the size of each file transferred to ECS whenever file sizes are specified in the corresponding Ingest Request.
	S-INS-00470	The INGST CI shall compare the size of each file after data transfer to ECS with file sizes specified in the corresponding Ingest Request.
	S-INS-00480	The INGST CI shall verify that all files specified in an Ingest Request are successfully transferred to ECS.
	S-INS-00490	The INGST CI shall log the following information in an Ingest History Log for each received Ingest Request: a. Ingest start/stop dates and times; b. Ingest Request Identifier; c. External Data Provider; d. Final Service Request Status; e. Data Type Identifiers; f. Ingest data volume; g. # of data sets and h. # of data files.
	S-INS-00500	The INGST CI shall provide operations staff the capability to view selected entries from the Ingest History Log.
	S-INS-00510	The INGST CI shall provide the capability to select Ingest History Log entries for viewing by the following parameters: ... e. Test or operational mode.
	DADS0010#A	Each DADS shall receive from the EDOS and SDPF, at a minimum, the following: a. Production data (L0) b. Expedited data
	DADS0110#A	Each DADS shall receive from the IMS, at a minimum, the following: a. Documents b. Product status dialog c. Product orders
	DADS0140#A	Each DADS shall receive from other DAACs, at a minimum, the following for the purpose of product generation: a. L0-L4 b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	DADS0190#A	Each DADS shall receive from the SCF, at a minimum, the following: a. Special products (L1-L4) b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	DADS0250#A	Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications network c. Hardcopy media
	DADS0290#A	Each DADS shall check all metadata and data it receives. For each type of data described by the metadata, the data shall be checked for the presence of required fields, and correctness of the data set granule size.
	DADS0300#A	Each DADS shall generate status indicating the success or failure of metadata and data consistency checks.

	DADS0310#A	Each DADS shall verify that data received came from an approved/authorized source.
	DADS0350#A	Each DADS shall generate the following metadata items, at a minimum: a. Unique Granule Id for L0 b. Date and time of storage c. Physical location d. Data check status e. Unique format identifiers
	DADS0360#A	Each DADS shall augment PGS-generated metadata with DADS-generated metadata.
	DADS0440#A	Each DADS shall provide storage, at a minimum, for the following EOS data: a. Standard Products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms h. Format descriptions (e.g., HDF spec.)
	DADS0465#A	The DADS shall provide storage for the following Version 0 data: a. Standard products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms.
	DADS1070#A	The DADS shall send data check and storage status to the provider of ingest data.
	DADS1080#A	Each DADS shall maintain a data receipt log.
	DADS1100#A	Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.
	DADS1390#A	Each DADS shall monitor data transfer between elements of the ECS and the DADS.
	DADS1400#A	Each DADS shall notify the originating source of the need to retransmit data in the event of transmission difficulties.
	DADS1780#A	Each DADS shall provide the capability to store as a single entity logically grouped sets of data.
	DADS1795#A	Each DADS shall update internal file directories with the unique Data set ID.
	DADS1800#A	Each DADS shall maintain data storage inventories defining the physical location of files.
	DADS1980#A	Each DADS shall receive from the SMC scheduling directives for system level, site/element-to-site/element, testing, and simulation activities.
	DADS2000#A	Each DADS shall receive from the SMC scheduling directives in response to emergency situations.

	DADS2210#A	Each DADS shall receive from the SMC scheduling directives in response to emergency situations.
	DADS2220#A	Each DADS shall provide tools for manually overriding any of its schedules with other elements.
	DADS3140#A	The DADS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development of DAAC-unique data ingest services operated independently of the delivered ECS DADS services.
	IMS-0430#A	The IMS shall maintain an on-line inventory with information that individually describes each granule of EOSDIS data, where granule refers to the minimum traceable logical unit of data stored in the archives, as defined by the instrument science team.
	IMS-0450#A	The IMS shall accept and validate new and updated metadata for all ECS archive data which has been ingested at the DADS.
	S-INS-00187	
	S-INS-00321	
BS012.007	S-INS-04000	The INGST CI shall provide a restart capability to restore previously established ingest sessions after a system failure.
	S-INS-04010	The INGST CI shall provide a restart capability to restore the interface with the external data providers after a system failure.
	S-INS-04020	The INGST CI shall provide a restart capability to restore previously Accepted Ingest Requests after a system failure. An Accepted Ingest Request is defined as a request for which an acknowledgment of receipt has been returned to the external data provider.
	S-INS-04030	The INGST CI shall provide a restart capability, after a system failure, to resume request processing for previously Accepted Ingest Requests.
	S-INS-60110	The ICLHW CI shall support the hardware resource requirements of the INGST CI and its interface requirements with the operations staff.
	S-INS-60140	The ICLHW CI shall have a fail-soft capability to meet RMA requirements.
	S-INS-60150	The ICLHW CI shall have provision for Initialization, Recovery, and an orderly shutdown.
	S-INS-60160	Startup and initialization of the ICLHW CI shall be completed within 30 minutes (TBR).
	S-INS-60170	Shutdown of the ICLHW CI shall be completed within 30 minutes (TBR).
	S-INS-60765	The ICLHW CI shall have a switchover time from the primary science data receipt capability to a backup capability of 15 minutes or less.
	DADS1340#A	Each DADS shall use tools to analyze system performance.
	DADS1472#A	Each DADS shall contain the appropriate capacity to respond to contingencies, scheduling problems, and peak loads.
BS012.008	S-INS-60810	The operating system for each UNIX platform in the ICLHW CI shall conform to the POSIX.2 standard.
	S-INS-60820	The ICLHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.
	S-INS-60830	The ICLHW CI POSIX.2 compliant platform shall have the following POSIX.2 user Portability Utilities installed at a minimum: man, vi.

	S-INS-60840	The ICLHW CI POSIX.2 compliant platform shall have the following POSIX.2 Software Development Utilities installed at a minimum: make.
	S-INS-60850	The ICLHW CI POSIX.2 compliant platform shall have the following POSIX.2 C-Language Development Utilities installed at a minimum: lex, yacc.
	S-INS-60860	The ICLHW CI POSIX.2 compliant platform shall have the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.
	S-INS-60870	The ICLHW CI POSIX.2 compliant platform shall have on-line documentation or printed documentation for each installed tool.
	S-INS-60880	The ICLHW CI POSIX.2 compliant platform shall have installed one or more development environment supporting the following languages:
	S-INS-60890	Each development environment associated with the POSIX.2 compliant platform in the ICLHW CI shall have the capability to compile and link strictly conformant POSIX-compliant source code.
	S-INS-60895	Each development environment associated with the POSIX.2 compliant platform in the ICLHWCI shall have an interactive source level debugger for ECS supported languages.
BS012.009	S-INS-60510	The electrical power requirements for ICLHW CI equipment shall be in accordance with and the ECS Facilities Plan (DID 302/DV2).
	S-INS-60540	The air conditioning requirements for ICLHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-INS-60550	The grounding requirements for ICLHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-INS-60560	The fire alarm requirements for ICLHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-INS-60570	The acoustical requirements for ICLHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-INS-60580	The physical interface requirements between ICLHW CI equipment and the facility shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-INS-60590	The footprint size and the physical layout of ICLHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
BS012.010	S-INS-60180	The ICLHW CI shall have provision for a fault detection/ fault isolation capability without interfering with operations.
	S-INS-60190	The ICLHW CI shall have a status monitoring capability.
	S-INS-60650	The ICLHW CI shall be capable of being monitored during testing.
BS012.011	S-INS-60725	The ICLHW CI at the LaRC DAAC shall be sized to support TBD bytes/second at the electronic data ingest interface to support the TRMM mission.
	S-INS-60740	The ICLHW CI at the LaRC DAAC shall be sized to store and maintain TBD bytes of data for a 1 year period of time.
	S-INS-60755	The ICLHW CI at the LaRC DAAC shall be sized to temporarily store TBD bytes of ingest data to support the TRMM mission.
	DADS2778#A	Each DADS shall be capable of receiving and archiving three days' worth of data (see Appendix C) in any given day.
BS012.012	S-INS-60720	The ICLHW CI at the GSFC DAAC shall be sized to support TBD bytes/second at the electronic data ingest interface to support the TRMM mission.

	S-INS-60735	The ICLHW CI at the GSFC DAAC shall be sized to store and maintain TBD bytes of data for a 1 year period of time.
	S-INS-60750	The ICLHW CI at the GSFC DAAC shall be sized to temporarily store TBD bytes of ingest data to support the TRMM mission.
	DADS2778#A	Each DADS shall be capable of receiving and archiving three days' worth of data (see Appendix C) in any given day.
BS012.013	S-DSS-61010	The ACMHW CI at the LaRC DAAC shall be capable of ingesting Version 0 data by network data transfer at the nominal rate specified in Section E.4 of Appendix E of the current version of 304-CD-002 for Release A.
	S-DSS-90320	The DIPHW CI at the LaRC DAAC shall be capable of ingesting Version 0 data from physical media agreed upon between ECS and Version 0, at the nominal rate specified in Section E.4 of Appendix E of the current version of 304-CD-002 for Release A.
	S-INS-00990	The ICLHW CI at the LaRC DAAC shall be capable of ingesting data from the SPDF at the nominal daily rate specified in Table E-3 of Appendix E.
	S-INS-01000	The ICLHW CI at the LaRC DAAC shall be capable of ingesting data from the SPDF at a maximum daily rate that is three times the nominal rate specified in Table E-3 of Appendix E.
	S-INS-01030	The ICLHW CI at the LaRC DAAC shall be capable of ingesting data, by network data transfer from the NESDIS, at the nominal daily rate specified in Table E-3 of Appendix E.
	S-INS-01040	The INGST CI at the LaRC DAAC shall be capable of receiving data from the SDPF once per day within 24 hours of the last acquisition Client Session.
	S-INS-60210	The ICLHW CI shall support TBD transactions per day, as specified for each release and corresponding DAAC sites.
BS012.014	S-DSS-60930	The ACMHW CI at the GSFC DAAC shall be capable of ingesting data from TSDIS at the nominal rate specified in Sections E.2 & E.3 of Appendix E of the current version of 304-CD-002.
	S-DSS-60940	The ACMHW CI at the GSFC DAAC shall be capable of ingesting data at a maximum rate that is three times the nominal rate specified in Sections E.2 & E.3 of Appendix E of the current version of 304-CD-002 for Release A.
	S-DSS-60950	The ACMHW CI at the GSFC DAAC shall be capable of ingesting Version 0 data at the nominal rate specified in Section E.4 of Appendix E of the current version of 304-CD-002 for Release A.
	S-DSS-60970	The ACMHW CI at the GSFC DAAC shall be capable of ingesting data at a nominal rate of TBD bytes per day from the DAO by network data transfer.
	S-DSS-90300	The DIPHW CI at the GSFC DAAC shall be capable of ingesting Version 0 data from physical media agreed upon between ECS and Version 0, at the nominal rate specified in Section E.5 of Appendix E of the current version of 304-CD-002 for Release A.
	S-INS-60210	The ICLHW CI shall support TBD transactions per day, as specified for each release and corresponding DAAC sites.
BS012.015	S-INS-60310	The ICLHW CI shall be capable of operating in a 24 hour per day, 7 days a week mode.
	S-INS-60320	The ICLHW CI shall be configured to support the receipt of science data function's Availability (A0) requirement of .99900 and Mean Down Time (MDT) requirement of 2 hours or less.

	S-INS-60330	The ICLHW CI shall be capable of supporting system maintenance without impact to normal operations.
BS012.016	S-INS-60610	The following testing shall be performed on the ICLHW CI: a. Unit Testing b. Subsystem testing c. Integration & Testing d. End-to-End testing
	S-INS-60620	Internal testing shall be performed on the ICLHW CI which includes tests of hardware functions, and integration testing with other SDPS subsystems.
	S-INS-60630	Internal testing shall be performed on the ICLHW CI to verify the internal interfaces to the Data Management, Client, Data Server, Planning, and Data Processing subsystems.
	S-INS-60640	Each ICLHW CI element shall be capable of supporting end-to-end test and verification activities of the EOS program including during the pre-launch, spacecraft verification, and instrument verification phases.
BS012.017	S-INS-60110	The ICLHW CI shall support the hardware resource requirements of the INGST CI and its interface requirements with the operations staff.
	S-INS-60410	The ICLHW CI shall provide maintenance interfaces to support the function of System Maintenance.
	S-INS-60420	The ICLHW CI shall provide operations interfaces to support the function of System Maintenance.
	S-INS-60430	The ICLHW CI platforms shall have provision for interfacing with one or more Local Area Networks (LANs).
	S-INS-60710	The ICLHW CI shall contain the storage and interface resources to support the ingest functions for the TRMM mission instruments of CERES and LIS.
BS013.001	IMS-0085#A	The IMS shall provide unregistered users access to ECS services as authorized by the SMC.
	IMS-0130#A	The IMS shall verify that a user is authorized to access a particular IMS service before providing the service to the user.
	IMS-0060#A	The IMS shall, when creating ECS user accounts, request registration approval, user account priorities, and authorized user services from the SMC.
	IMS-0050#A	The IMS shall provide the capability for users to define and modify user profile information, to include at a minimum: a. User electronic address b. Data distribution media c. Data distribution address d. User expertise level e. Default query parameters f. Terminal characteristics g. Technical specialty.
	IMS-0070#A	The IMS shall provide the user with initial system access procedures, priority information, and authorized services as maintained in the SMC.
	IMS-0180#A	The IMS shall extract relevant data from the user profile information and display as default values
	IMS-0040#A	The IMS shall verify user authorization by validation of inputs with information as supplied by the SMC.
	IMS-0480#A	The IMS shall allow the user to store documents in the ECS.

	IMS-0120#A	The IMS shall provide, dependent upon the user's display device capabilities, a user-friendly interface with the following features at a minimum: a. Multiple window display b. Buttons and pull down menus c. Valid lists for all variables d. An information base of associations between variables (e.g., between instruments and geophysical parameters) f. Context-sensitive help g. Minimal and consistent use of non-standard keys h. Random movement through fields j. Standardized use of commands and terminology across screens k. Self-explanatory, meaningful error messages l. Automatic acronym expansion, which can be enabled and disabled interactively m. Availability of a menu tree diagram n. Command language
	S-CLS-13100	The WKBCH CI shall provide the user with registration approval results when new ECS user accounts are requested.
	S-CLS-10645	The DESKT CI shall support logins by science users who do not have DCE on their workstations, as well as the operators who do have DCE.
	S-CLS-13450	Where the User Profile specifies defaults for parameters which are applicable to an ECS Service Request, the user interface shall employ these defaults to assist the user in the formulation of a new request (e.g., by displaying them as default values).
	S-CLS-13130	The WKBCH CI shall provide users Priority Information.
	S-CLS-12510	The WKBCH CI shall provide the user a capability to view their User Profile.
	S-CLS-13440	The WKBCH CI shall provide registered users access to ECS services based on their account priorities and authorized user services.
	S-CLS-13410	The WKBCH CI shall display the results of user validation to the user.
	S-CLS-13120	The WKBCH CI shall provide users with initial system access procedures.
	S-CLS-12900	The WKBCH CI shall provide users a capability to store documents at his local workstation.
	S-CLS-00370	The DESKT CI shall provide users the capability to browse the objects contained in container objects and view the objects by modification date and size.
	S-CLS-00340	The DESKT CI shall provide users the capability to remove desktop objects from container objects.
	S-CLS-00345	The DESKT CI shall provide users the capability to undo the last removal of desktop objects from container objects
	S-CLS-00330	The DESKT CI shall provide users the capability to add desktop objects to container objects.
	S-CLS-00180	The DESKT CI shall provide users the capability to execute software associated with a desktop object.
BS013.002	IMS-0290#A	IMS internal data base management queries shall be expressed in a standard query language.
	IMS-0085#A	The IMS shall provide unregistered users access to ECS services as authorized by the SMC.

	IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets
	IMS-0550#A	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats
	IMS-0030#A	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data
	IMS-1500#A	The IMS toolkit software shall provide the tools to support user preparation or automated generation of metadata, for example, directory, inventory, and guide (documentation/reference material) entries.
	IMS-0415#A	The IMS shall provide the ability to access and present (dependent on the user's display device capabilities) guide information which includes graphics and hypertext, derivable from suitably structured documents, as well as plain text documents.
	IMS-0510#A	The IMS shall provide tools for research planning and data search, to include at a minimum: a. Data acquisition schedules and plans b. The capability to map specified geophysical parameters to the appropriate instrument and/or Standard Product c. Descriptive information on instruments and geophysical parameters available in Standard Products d. Climatology information f. Geographic reference aids g. Spacecraft location projections.
	IMS-0500#A	The IMS shall provide access to information to include at a minimum: a. Metadata b. Spacecraft housekeeping and ancillary data information f. Processing schedules g. Documentation i. Science Processing Library software j. Documentation on data format and metadata standards
	IMS-0860#A	The IMS shall provide an interface to ADC and ODC data systems and archives that produce, process, and/or maintain Earth science data sets and that have agreed to make the information and services available to ECS.
	IMS-0780#A	The IMS shall accept and validate from the ECS users, IPs, ADCs, and ODCs requests for ECS archival data products.
	IMS-0480#A	The IMS shall allow the user to store documents in the ECS.
	IMS-0860#A	The IMS shall provide an interface to ADC and ODC data systems and archives that produce, process, and/or maintain Earth science data sets and that have agreed to make the information and services available to ECS.
	IMS-0590#A	The IMS shall provide the capability to distribute information: a. On-line (i.e., over a network) b. Off-line (hardcopy or offline data media).

	IMS-0810#A	The IMS shall prepare, for output to the DADS, product orders to retrieve specified data from the archive and distribute it, which contains the following information at a minimum: a. Requester identification b. Data type c. Data set identifier e. Data formats f. Distribution instructions, including media requirements g. Request priority h. Suggested earliest start time i. Suggested latest completion time
	S-CLS-13310	The WKBCH CI shall provide access to ESN file transfer communication services.
	S-CLS-13320	The WKBCH CI shall provide access to ESN remote log-on communication services.
	S-CLS-13330	The WKBCH CI shall provide access to ESN multi-media mail communication services.
	S-CLS-13340	The WKBCH CI shall provide access to ESN access to other networks.
	S-CLS-13350	The WKBCH CI shall provide access to an ESN Electronic Bulletin board.
	S-CLS-01510	The WKBCH CI interface to access communications networks shall conform to the ECS style guidelines.
	S-CLS-10650	The WKBCH CI shall provide the user the capability to identify Data and services provided by ECS.
	S-CLS-10660	The WKBCH CI shall provide users the capability to access Advertisements.
	S-CLS-10680	The WKBCH CI shall provide users the capability to access descriptions of providers in the advertising service.
	S-CLS-10700	The WKBCH CI shall provide the user the capability to locate non-ECS data and services interoperable with ECS.
	S-CLS-10690	The WKBCH CI shall provide users the capability to access Advertisements describing non-ECS data and services.
	S-CLS-10910	The WKBCH CI shall provide users the capability to transparently search across any combination of Data Servers for stored EOSDIS Data Granules.
	S-CLS-10670	The WKBCH CI shall provide unregistered users the capability to browse public Advertisements.
	S-CLS-11295	The WKBCH CI shall provide users the capability to create and submit Advertisements.
	S-CLS-13690	Users shall be able to navigate through guide documentation in a hyper-text fashion, where guide documentation has been created in the appropriate format.
	S-CLS-10840	The WKBCH CI shall provide the ability for terminals with HTML viewers to access guide information in HTML format which includes graphics and hypertext.
	S-CLS-15610	The WKBCH CI shall have the capability to send Requests for Guide data to the NOAA SAAs.
	S-CLS-15630	The WKBCH CI shall have the capability to send Requests for Guide data to the ESDIS V0 IMS.

	S-CLS-10990	The WKBCH CI shall provide users the capability to specify the content of Data Requests.
	S-CLS-10830	The WKBCH CI shall provide the capability to access and present guide information as ASCII text documents.
	S-CLS-15620	The WKBCH CI shall have the capability to receive Guide Request Results from the NOAA SAAs
	S-CLS-15640	The WKBCH CI shall have the capability to receive Guide Request Results from the ESDIS VO IMS.
	S-CLS-10800	The WKBCH CI shall provide users the capability to specify electronic distribution of data (i.e., over a network) in Electronic Distribution Requests.
	S-CLS-10810	The WKBCH CI shall provide users the capability to specify off-line distribution of data (i.e., hardcopy or off-line data media) in Media Distribution Requests, as available from specific Data Servers.
	S-IOS-00010	The ADSRV CI shall provide the capability for viewing Advertisements
	S-DSS-10010	The guide shall be maintained on-line by the DDSRV CI.
	S-DSS-10050	The DDSRV CI shall provide documents to requesting agencies.
	S-DSS-10250	Upon receipt and successful storage of all supported document formats and descriptive data, the DDSRV CI shall provide access to the document and/or data.
BS013.003	IMS-0290#A	IMS internal data base management queries shall be expressed in a standard query language.
	IMS-0020#A	The IMS shall always be accessible to users and an informational status message describing the current availability status of ECS services and the predicted time for resumption of services which are temporarily unavailable shall be provided.
	IMS-0030#A	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
	IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
	IMS-0356#A	The IMS shall provide a mechanism to create and update directory entries on EOSDIS data sets and forward directory entries in the appropriate format to the Global Change Master Directory.
	IMS-0390#A	The IMS shall maintain or provide access to directory entries for all data sets accessible through the IMS search and order service.
	IMS-0190#A	The IMS shall provide the capability to save information selected in prior metadata searches for use in subsequent IMS service requests, either in the current session or in future sessions.
	IMS-0220#A	The IMS shall store, maintain and provide data management services for ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases.
	IMS-0340#A	The metadata maintained by the IMS shall contain content-based summary information, including statistical summaries and granule features, for all ECS standard and special products.
	S-CLS-10710	The WKBCH CI shall provide the registered user the capability to obtain ECS data and services.

	S-CLS-10720	Registered users shall be able to obtain ECS data and services via their corresponding interfaces in the WKBCH CI, provided that the users are authorized for the specific services and/or data.
	S-CLS-10015	The WKBCH CI shall provide the capabiltity for users to compose Directory Searches based on core metadata attributes.
	S-CLS-10755	The WKBCH CI shall provide users a search and results interface to search for and view Directory information.
	S-CLS-12560	The WKBCH CI shall provide the capability to save information selected in prior Metadata searches for use in subsequent Service Requests.
	S-CLS-13480	Users shall be able to save Search Request parameters at any time during the formulation of the Search Request.
	S-CLS-13490	Users shall be able to retrieve any previously saved Search Request parameters into a new Search Request, edit the parameters, save the modified parameters, and/or submit the new Search Request.
	S-CLS-10910	The WKBCH CI shall provide users the capability to transparently search across any combination of Data Servers for stored EOSDIS Data Granules.
	S-DSS-04660	The SDSRV CI shall provide Result Sets to the client, in response to Search Requests
	S-DSS-00023	
	S-DSS-04670	The SDSRV CI shall support Inventory searches based on the Core Inventory Metadata.
	S-DSS-04680	The SDSRV CI shall support Inventory searches based on the Product Specific Metadata.
	S-DSS-04690	The SDSRV CI shall support Inventory searches based on a combination of the Core Inventory Metadata and Product Specific Metadata.
	S-DSS-10060	The DDSRV CI shall provide access to the ECS guide (documentation/reference material) and guide services.
	S-DSS-10220	The DDSRV CI shall receive Guide Data from Version 0.
BS014.001	PGS-0590	The PGS shall have the capability to indicate the temporary status of data stored in the DADS that is awaiting QA or human interaction in product production.
	PGS-1150	The PGS shall have the capability to accept the identification of products that are not to be stored in the DADS due to inferior quality or other reasons. The reason for all such actions shall also be specified.
BS014.002	PGS-0590	The PGS shall have the capability to indicate the temporary status of data stored in the DADS that is awaiting QA or human interaction in product production.
	PGS-1150	The PGS shall have the capability to accept the identification of products that are not to be stored in the DADS due to inferior quality or other reasons. The reason for all such actions shall also be specified.
	PGS-1140	The PGS shall have the capability to provide the data product quality staff with the Product QA data from the SCF.
BS015.001	S-DPS-40030	The AITTL CI shall provide the operations staff with the capability to register a Subscription with the Data Server to be notified when a new Science Software Delivery is received.

	PGS-0640#A	The PGS shall accept from the SCF new or modified Standard Product algorithms to be tested at the processing facility. This software shall be received into the test environment and shall contain the following information at a minimum : a. Algorithm identification b. Algorithm source code c. List of required inputs d. Processing dependencies e. Test data and procedures f. Algorithm documentation
BS015.002	S-DPS-20790	The PRONG CI shall request staging of TAR files of binaries as required from the SDSRV CI.
	S-DPS-40020	The AITTL CI shall have the capability to receive a Science Software Delivery from the Science Data Server.
	S-DPS-40040	The AITTL CI shall provide the operations staff with the capability to request transfer of the Science Software Delivery files from the Data Server to the local I&T area.
	S-DPS-41900	The AITTL CI shall provide to the operations staff, via a GUI, the capability to retrieve a specified data file from a specified Data Server.
	S-DPS-41920	The AITTL CI shall provide to the operations staff the capability to store a Science Software Archive Package to the Data Server.
	EOSD1750#A	ECS elements shall receive data including the following types of supporting information from the ECS science community (TLs, TMs, PIs, and Co-Is): a. Algorithms b. Software fixes c. Instrument calibration data d. Integration support requests e. Metadata for Special Products archiving f. Data transfer requests (inventories, directories, and browse) g. Data Quality/Instrument assessment h. Instrument operations information i. Ancillary data
	PGS-0610#A	The PGS shall accept from the SCFs new or modified calibration coefficients to be validated in the test environment. Calibration coefficients shall contain the following information at a minimum: a. Identification of coefficient data set b. Calibration coefficients values c. Author and version number d. Identification of related processing algorithm e. Start and stop date/time of applicability f. Date and time g. SCF identification h. Reasons for update

	PGS-0640#A	The PGS shall accept from the SCF new or modified Standard Product algorithms to be tested at the processing facility. This software shall be received into the test environment and shall contain the following information at a minimum : a. Algorithm identification b. Algorithm source code c. List of required inputs d. Processing dependencies e. Test data and procedures f. Algorithm documentation
BS015.003	S-DPS-41330	The AITTL CI shall provide to the operations staff, via a GUI, the capability to add a new PGE Database Entry.
BS015.004	PGS-0605	
	PGS-0620#A	The PGS shall have the capability to validate received calibration coefficients for completeness and correct format.
	PGS-0910#A	The PGS shall have the capability to support analysis of algorithm test results.
	PGS-0920#A	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.
	S-DPS-42340	The operations staff shall have the capability to perform dynamic analyses of source code for (at a minimum) memory leaks and distribution of resource demands.
	S-PLS-01610	The PLANG CI shall be developed with configuration controlled APIs that will be capable of supporting development and integration of new algorithms developed at DAACs to support DAAC value-added production.
BS015.005	S-DPS-41910	The AITTL CI shall provide to the operations staff the capability to retrieve a copy of a specific Science Software Archive Package.
	S-DPS-41920	The AITTL CI shall provide to the operations staff the capability to store a Science Software Archive Package to the Data Server.
	PGS-0960#A	The PGS shall send the DADS new or modified algorithms. This delivery shall contain the following information at a minimum: a. Source code including version number and author b. Benchmark test procedures, test data and results c. Date and time of operational installation d. Final algorithm documentation e. Calibration coefficient values
BS015.006	S-DPS-41300	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display a list of PGE Database Entries.
	S-DPS-41310	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display a specific PGE Database Entry.
	S-DPS-41320	The AITTL CI shall provide to the operations staff, via a GUI, the capability to modify a specific PGE Database Entry.
	S-DPS-41330	The AITTL CI shall provide to the operations staff, via a GUI, the capability to add a new PGE Database Entry.
	S-DPS-41340	The AITTL CI shall provide to the operations staff, via a GUI, the capability to remove a specific PGE Database Entry.

	S-DPS-41350	The AITTL CI shall provide to the operations staff, via a GUI, cut, copy, and paste capability for a PGE Database Entry.
	S-DPS-42330	
	S-DPS-42340	The operations staff shall have the capability to perform dynamic analyses of source code for (at a minimum) memory leaks and distribution of resource demands.
	S-DPS-42630	
	S-PLS-00740	
	PGS-0270#A	The PGS shall provide the capability to perform the following functions, at a minimum: a. Allocate tasks among processors b. Suspend execution of tasks c. Resume execution of a suspended task d. Cancel execution of tasks e. Request and verify the staging and/or destaging of data stored in the DADS
	PGS-0600#A	
	PGS-0920#A	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.
BS015.007	S-DPS-40050	
	S-DPS-41910	The AITTL CI shall provide to the operations staff the capability to retrieve a copy of a specific Science Software Archive Package.
	S-DPS-41920	The AITTL CI shall provide to the operations staff the capability to store a Science Software Archive Package to the Data Server.
	PGS-0930#A	The PGS shall have the capability to transfer validated algorithm software and calibration coefficients from the test environment to the operational environment to be used in the production of Standard Products.
	PGS-0960#A	The PGS shall send the DADS new or modified algorithms. This delivery shall contain the following information at a minimum: a. Source code including version number and author b. Benchmark test procedures, test data and results c. Date and time of operational installation d. Final algorithm documentation e. Calibration coefficient values
BS016.001	PGS-0290#A	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.
	PGS-0440#A	The PGS shall accept from the DADS L0-L4 data products. Received information shall contain at a minimum: a. Product identification b. L0-L4 data set c. Metadata required for processing d. Current date and time e. DADS identification

	PGS-0450#A	The PGS shall accept from the DADS ancillary data sets. Received information shall contain at a minimum: a. Product identification b. Ancillary data set c. Metadata required for processing d. Current date and time e. DADS identification
	PGS-0512#A	The PGS shall generate unique granule IDs for all products generated at the PGS.
	PGS-0520#A	The PGS shall have the capability to generate data products from any single data input or combination of data inputs according to the algorithms provided by the scientists.
	S-PLS-00875	The PLANG CI shall receive Subscription Notices indicating availability of subscribed data.
	S-PLS-61010	The PLNHW CI shall support test activities throughout the development phase.
	S-PLS-61040	Internal testing shall be performed on the PLNHW CI which includes tests of hardware functions, and integration testing with other SDPS subsystems.
	S-PLS-61050	Internal testing shall be performed on the PLNHW CI to verify the internal interfaces to the Data Server, and Ingest subsystems.
BS016.002	PGS-0310#A	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
	PGS-0330#A	The PGS shall report detected processing system faults to the SMC.
	PGS-0420#A	The PGS shall provide tools to analyze system performance.
	PGS-0430#A	The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements.
	S-PLS-01345	The PLANG CI shall produce a Processing Reports HTML page to be hosted by the DAACÕs DDSRV, describing the Product Status Report, Production Error Report, and the PGE Resource Report with an associated hyperlink to each stored report.
	S-PLS-20100	The PRONG CI shall request information about health and availability of a Hardware Resource by using a Systems Management Subsystem (MSS) provided Resource Management API (Application Program Interface).
	S-PLS-20120	The PRONG CI shall report PRONG error/fault events to MSS.
	S-PLS-20140	The PRONG CI shall report PRONG performance events to the MSS.
	S-PLS-20230	The PRONG CI shall report PRONG security events to the MSS.
	S-PLS-60160	The SPRHW CI shall support collection and maintenance for Fault Management, configuration, performance, accountability, and security of Processing CI hardware resources.
BS016.003	S-PLS-00260	For each Production Request being processed, the PLANG CI shall interact with the appropriate instance of the SDSRV CI to determine whether the Granules needed to satisfy the request exist.

BS016.004	S-PLS-01330	The PLANG CI shall restrict the functions available to operators depending on operations role, (e.g., to permit the resource manager role to enter ground events, but to restrict that role from being able to enter production requests).
BS017.001	S-DSS-00630	The SDSRV CI shall notify operations staff of any system error or fault.
	S-DSS-00821	The SDSRV CI shall collect and provide Fault Management data to the MSS using a MSS provided Fault Management API.
	S-DSS-00828	The STMGT CI shall collect and provide Fault Management data to the MSS using a MSS provided Fault Management API.
	S-DSS-00832	The WKSHW CI shall support collection and maintenance of management data for Fault Management, configuration, performance, accountability, and security of Data Server CI hardware resources.
	S-DSS-00833	The DRPHW CI shall support collection and maintenance of management data for Fault Management, configuration, performance, accountability, and security of Data Server CI hardware resources.
	S-DSS-00834(p)	The DIPHW CI shall support collection and maintenance of management data for Fault Management of Data Server CI hardware resources.
	S-DSS-00902	The SDSRV CI shall provide a database management capability that maintains database integrity during concurrent user interactions.
	S-DSS-01120	The SDSRV CI shall provide the capability to manage multiple Service Requests from clients.
	S-DSS-00170	The SDSRV CI shall accept and process Search Requests to search the Inventory.
	S-DSS-01160	The SDSRV CI shall provide periodic, asynchronous status messages to the client during the execution of a Search Request.
	S-DSS-04650	The SDSRV CI shall accept Search Requests
	S-DSS-04660	The SDSRV CI shall provide Result Sets to the client, in response to Search Requests
	S-DSS-04670	The SDSRV CI shall support Inventory searches based on the Core Inventory Metadata.
	S-DSS-04680	The SDSRV CI shall support Inventory searches based on the Product Specific Metadata.
	S-DSS-04690	The SDSRV CI shall support Inventory searches based on a combination of the Core Inventory Metadata and Product Specific Metadata.
	S-DSS-04700	The SDSRV CI shall provide Search Results to requesting agencies.
	S-DSS-04710	The SDSRV CI shall respond to a query with a null Result Set, if no products in the Inventory meet the specified criteria.
	DADS0901#A	The DADS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management h. Distribution and Ingest Management

	DADS1300#A	Each DADS shall display all faults to the system operators.
	DADS1310#A	Each DADS shall track and report to the SMC problems such as missing or corrupted files requiring restoration or regeneration of data.
	DADS1320#A	Each DADS shall provide to the SMC fault isolation information at the DADS system and subsystem levels.
	IMS-1620#A	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
BS017.002	S-DSS-00630	The SDSRV CI shall notify operations staff of any system error or fault.
	S-DSS-00821	The SDSRV CI shall collect and provide Fault Management data to the MSS using a MSS provided Fault Management API.
	S-DSS-00828	The STMGT CI shall collect and provide Fault Management data to the MSS using a MSS provided Fault Management API.
	S-DSS-00831	The ACMHW CI shall support collection and maintenance of management data for Fault Management, configuration, performance, accountability, and security of Data Server CI hardware resources.
	S-DSS-00832	The WKSHW CI shall support collection and maintenance of management data for Fault Management, configuration, performance, accountability, and security of Data Server CI hardware resources.
	S-DSS-00833	The DRPHW CI shall support collection and maintenance of management data for Fault Management, configuration, performance, accountability, and security of Data Server CI hardware resources.
	S-DSS-0834(p)	The DIPHW CI shall support collection and maintenance of management data for Fault Management of Data Server CI hardware resources.
	S-DSS-00902	The SDSRV CI shall provide a database management capability that maintains database integrity during concurrent user interactions.
	S-DSS-01120	The SDSRV CI shall provide the capability to manage multiple Service Requests from clients.
	S-DSS-00170	The SDSRV CI shall accept and process Search Requests to search the Inventory.
	S-DSS-01160	The SDSRV CI shall provide periodic, asynchronous status messages to the client during the execution of a Search Request.
	S-DSS-04650	The SDSRV CI shall accept Search Requests
	S-DSS-04660	The SDSRV CI shall provide Result Sets to the client, in response to Search Requests
	S-DSS-04670	The SDSRV CI shall support Inventory searches based on the Core Inventory Metadata.
	S-DSS-04680	The SDSRV CI shall support Inventory searches based on the Product Specific Metadata.

	S-DSS-04690	The SDSRV CI shall support Inventory searches based on a combination of the Core Inventory Metadata and Product Specific Metadata.
	S-DSS-04700	The SDSRV CI shall provide Search Results to requesting agencies.
	DADS1300#A	Each DADS shall display all faults to the system operators.
	DADS1320#A	Each DADS shall track and report to the SMC problems such as missing or corrupted files requiring restoration or regeneration of data.
	IMS-1620#A	Each DADS shall provide to the SMC fault isolation information at the DADS system and subsystem levels.
		The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
	S-DSS-00841	The DDIST CI shall collect and provide Fault Management data to the MSS using a MSS provided Fault Management API.
BS017.003	S-DSS-02000	The ACMHW CI shall be sized to support the bytes/second rates derived from Appendix E of the current version of 304-CD-002 for Release A on the electronic data distribution interfaces. (Supports user push/pull electronic distribution)
	S-DSS-02010	The ACMHW CI shall be sized to support the number of operations/second derived from Appendix E of the current version of 304-CD-002 for Release A.
	S-DSS-21700	The WKSHW CI shall be sized to temporarily store the number of bytes of data derived from Section E.1 of Appendix E of the current version of 304-CD-002 for Release A.
	S-DSS-21710	The WKSHW CI shall be sized to support a sustained I/O rate derived from Section E.1 of Appendix E of the current version of 304-CD-002 for Release A in bytes/second of data.
	S-DSS-21720	The DRPHW CI shall be sized to support a sustained I/O rate of 1x the production volume from electronic distribution, where 1x production volume is derived from Section E.1 of, Appendix E of the current version of 304-CD-002 for Release A.
	S-DSS-21730	The DRPHW CI shall be sized to permanently store and maintain the total number of bytes of product data derived from Appendix E (Section E.1) of the current version of 304-CD-002 for Release A.
	S-DSS-21740	The DRPHW CI shall be sized to permanently store and maintain the total number of bytes of record based data derived from Appendix E (Section E.1) of the current version of 304-CD-002 for Release A.
	S-DSS-30950	The DIPHW CI shall be sized to temporarily store the total number of bytes of distribution data derived from Section E.1 of Appendix E of the current version of 304-CD-002 for Release A.
	S-DSS-30960	The DIPHW CI shall be sized to support a sustained I/O rate of 1x the production volume for media distribution, where 1x production volume is derived from Section E.1 of, Appendix E of the current version of 304-CD-002 for Release A.

	IMS-1790#A	The IMS shall provide, based upon the data model defined in Appendix C, sufficient storage for, at a minimum: a. Directory metadata b. Guide (documentation/reference material) metadata c. Inventory metadata d. System space, LSM data, and data base system overhead e. Metadata staging area f. Spacecraft housekeeping and ancillary data metadata g. Science processing library software metadata h. Summary data statistics i. User workspace
	IMS-1800#A	The IMS design and implementation shall have the flexibility to accommodate 100% expansion in processing and storage capacity without major changes to the IMS hardware and software design. This expansion capacity shall apply to the total at-launch requirement plus the yearly product growth requirement specified in Appendix C.
BS017.004	S-DSS-60010	
	S-DSS-60020	The air conditioning requirements for the ACMHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-DSS-60030	The grounding requirements for ACMHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-60040	The fire alarm requirements for ACMHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-60050	The acoustical requirements for ACMHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-60060	The physical interface requirements between ACMHW CI equipment and the facility shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-60070	The footprint size and the physical layout of ACMHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-DSS-70010	The electrical power requirements for WKSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-DSS-70020	The air conditioning requirements for the WKSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-DSS-70030	The grounding requirements for WKSHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-70040	The fire alarm requirements for WKSHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-70050	The acoustical requirements for WKSHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-70060	The physical interface requirements between WKSHW CI equipment and the facility shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-70070	The footprint size and the physical layout of WKSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-DSS-80010	The electrical power requirements for DRPHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-DSS-80020	The air conditioning requirements for the DRPHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-DSS-80030	The grounding requirements for DRPHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).

	S-DSS-80040	The fire alarm requirements for DRPHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-80050	The acoustical requirements for DRPHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-80060	The physical interface requirements between DRPHW CI equipment and the facility shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-80070	The footprint size and the physical layout of DRPHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-DSS-90010	The electrical power requirements for DIPHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-DSS-90020	The air conditioning requirements for the DIPHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
	S-DSS-90030	The grounding requirements for DIPHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-90040	The fire alarm requirements for DIPHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-90050	The acoustical requirements for DIPHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-90060	The physical interface requirements between DIPHW CI equipment and the facility shall be in accordance with ECS Facilities Plan (DID 302/DV2).
	S-DSS-90070	The footprint size and the physical layout of DIPHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).
BS017.005	S-DSS-60110	The operating system for each Unix platform in the ACMHW CI shall conform to the POSIX.2 standard.
	S-DSS-60120	The ACMHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.
	S-DSS-60130	The ACMHW CI POSIX.2 compliant platform shall have the following POSIX.2 user Portability Utilities installed at a minimum: man, vi.
	S-DSS-60140	The ACMHW CI POSIX.2 compliant platform shall have the following POSIX.2 Software Development Utilities installed at a minimum: make.
	S-DSS-60150	The ACMHW CI POSIX.2 compliant platform shall have the following POSIX.2 C-Language Development Utilities installed at a minimum: lex, yacc.
	S-DSS-60160	The ACMHW CI POSIX.2 compliant platform shall have the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.
	S-DSS-60170	The ACMHW CI POSIX.2 compliant platform shall have on-line documentation or printed documentation for each installed tool.
	S-DSS-60180	The ACMHW CI POSIX.2 compliant platform shall have installed one or more development environment supporting the following languages: a. C b. FORTRAN-77
	S-DSS-60190	Each development environment associated with the POSIX.2 compliant platform in the ACMHW CI shall have the capability to compile and link strictly conformant POSIX-compliant source code.

	S-DSS-60195	Each development environment associated with the POSIX.2 compliant platform in the ACMHW CI shall have an interactive source level debugger for ECS supported languages.
	S-DSS-80110	The operating system for each Unix platform in the DRPHW CI shall conform to the POSIX.2 standard.
	S-DSS-80120	The DRPHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.
	S-DSS-80130	The DRPHW CI POSIX.2 compliant platform shall have the following POSIX.2 user Portability Utilities installed at a minimum: man, vi.
	S-DSS-80140	The DRPHW CI POSIX.2 compliant platform shall have the following POSIX.2 Software Development Utilities installed at a minimum: make.
	S-DSS-80150	The DRPHW CI POSIX.2 compliant platform shall have the following POSIX.2 C-Language Development Utilities installed at a minimum: lex, yacc.
	S-DSS-80160	The DRPHW CI POSIX.2 compliant platform shall have the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.
	S-DSS-80170	The DRPHW CI POSIX.2 compliant platform shall have on-line documentation or printed documentation for each installed tool.
	S-DSS-80180	The DRPHW CI POSIX.2 compliant platform shall have installed one or more development environment supporting the following languages: a. C b. FORTRAN-77
	S-DSS-80190	Each development environment associated with the POSIX.2 compliant platform in the DRPHW CI shall have the capability to compile and link strictly conformant POSIX-compliant source code.
	S-DSS-80195	Each development environment associated with the POSIX.2 compliant platform in the DRPHW CI shall have an interactive source level debugger for ECS supported languages.
	S-DSS-90110	The operating system for each Unix platform in the DIPHW CI shall conform to the POSIX.2 standard.
	S-DSS-90120	The DIPHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.
	S-DSS-90130	The DIPHW CI POSIX.2 compliant platform shall have the following POSIX.2 user Portability Utilities installed at a minimum: man, vi.
	S-DSS-90140	The DIPHW CI POSIX.2 compliant platform shall have the following POSIX.2 Software Development Utilities installed at a minimum: make.
	S-DSS-90150	The DIPHW CI POSIX.2 compliant platform shall have the following POSIX.2 C-Language Development Utilities installed at a minimum: lex, yacc.
	S-DSS-90160	The DIPHW CI POSIX.2 compliant platform shall have the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.
	S-DSS-90170	The DIPHW CI POSIX.2 compliant platform shall have on-line documentation or printed documentation for each installed tool.

	S-DSS-90180	The DIPHW CI POSIX.2 compliant platform shall have installed one or more development environment supporting the following languages: a. C b. FORTRAN-77
	S-DSS-90190	Each development environment associated with the POSIX.2 compliant platform in the DIPHW CI shall have the capability to compile and link strictly conformant POSIX-compliant source code.
	S-DSS-90195	Each development environment associated with the POSIX.2 compliant platform in the DIPHW CI shall have an interactive source level debugger for ECS supported languages.
BS017.006	S-DSS-30046	The DDIST CI shall send Notifications to the user's desktop application in the event that the request is canceled by operations staff and the user has an active session.
BS017.007	S-DSS-30288	The DDIST CI shall forward the Distribution Activity Log entries to the SMC.
	IMS-1650#A	The IMS shall provide to the SMC a record of data orders for the purposes of maintaining a full and complete history of all data orders.
BS017.008	S-DSS-01880	The Science Data Server shall support making archive data associated with a predefined ECS standard format available to the network in that format within an average of 2 minutes.
	S-DSS-01890	The Science Data Server shall support making archive data associated with a predefined ECS standard format available to the network in a different format within an avg. of 5 minutes.
	S-DSS-01920	The Science Data Server shall support making pre-computed Browse Data available to a requester in 58 seconds after accepting and validating the request in the number of seconds specified in Appendix E of the current version of 304-CD-002 for Release A.
	S-DSS-30780	The DDIST CI shall make appropriate use of standards for data structures and data transport as defined for use within the publications of CCSDS and ISO/OSI for distribution of TRMM data to the TSDIS .
	DADS3126#A	Each DADS shall make archive data, associated with a pre-defined ECS standard format, that is requested for communications network delivery available to the network in a different ECS standard format within an average of 5 minutes after the request for that data.
BS017.009	S-DSS-01840	The Science Data Server shall accept and validate Data Requests per hour as derived from Section E.6 of Appendix E of the current version of 304-CD-002 for Release A and the current version of 304-CD-005 for Release B.
	S-DSS-01870	The Science Data Server shall support distributing product QA data produced at the collocated Data Processing Subsystem within 1 hour from the time it is ready.
	S-DSS-30870	The DAAC Data Distribution within the Data Server shall be capable of electronically distributing data to users in support of Electronic Distribution Requests at a rate equivalent to daily product volume, L1-L4.
	S-DSS-30890	The Data Distribution within the Data Server shall be capable of distributing the number of bytes of data per day derived from Table E-6 of Appendix E of the current version of 304-CD-002 to TSDIS (for the purpose of reprocessing).

	DADS3100#A	Each DADS shall be capable of transmitting data over communications network in support of data production requests at the data rate specified in Appendix C and in support of data distribution requests at a rate equivalent to daily product volume (L1-L4).
	DADS3110#A	Each DADS shall be capable of distributing data via physical media at a rate equivalent to the rate data are ingested at that DADS.
BS017.010	S-DSS-01850	The Science Data Server shall be capable of supporting 200% growth in the number of Data Requests it accepts and validates without architecture or design change.
	S-DSS-30875	The Data Distribution within the Data Server shall be capable of providing 200% expansion in capacity without architecture or design change.
	DADS0680#A	Each DADS shall have the capability to support all required requests and shall grow as demand expands.
	DADS1472#A	Each DADS shall contain the appropriate capacity to respond to contingencies, scheduling problems, and peak loads.
	DADS1640#A	The DADS shall support the number of files derivable from Appendix C, with the ability to expand to match growth.
	DADS1700#A	Where appropriate, the DADS shall comply with the evolving guidelines and standards emerging from the IEEE-CS MSS Reference Model.
	DADS2910#A	Archival storage at each DADS shall be field-expandable.
	DADS3090#A	Each DADS shall be capable of 200% expansion in throughput and archive capacity without architecture or design change. This expansion capacity shall apply to the total of the at-launch requirement plus the yearly growth requirement specified in Appendix C.
BS017.011	S-DSS-01900	The Science Data Server shall be capable of receiving a combined maximum number of Data Requests per hour (across ECS) from the Data Management Subsystem and/or the client Subsystem as derived from Section E.6 of Appendix E of the current version of 304-CD-002 for Release A.
	S-DSS-01910	The Science Data Server shall be capable of receiving a combined maximum number of Browse Requests per hour (across ECS) from the Data Management Subsystem and/or the Client Subsystem as derived from Section E.6 of Appendix E of the current version of 304-CD-002 for Release A.
	S-DSS-21520	The Science Management within the Data Server shall be capable of processing a combined maximum number of Data Requests per hour (across ECS) from the Data Management Subsystem and/or the Client Subsystem as derived from Section E.6 of Appendix E of the current version of 304-CD-002 for Release A.
	DADS1340#A	The DADS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development of DAAC-unique data ingest services operated independently of the delivered ECS DADS services.
	DADS1472#A	Each DADS shall contain the appropriate capacity to respond to contingencies, scheduling problems, and peak loads.

	DADS1620#A	At each DAD tools shall be available for operations/systems/maintenance personnel to monitor performance, carry out maintenance, and alter operating parameters.
	DADS2778#A	Each DADS shall be capable of receiving and archiving three days' worth of data (see Appendix C) in any given day.
	DADS3135#A	The DADS shall have the capability to support the transaction rate as specified in Table 7-4.
BS017.012	S-DSS-01930	The Science Data Server and Science Management within the Data Server shall be capable of accepting and storing Data Products derived from Section E.1 of Appendix E of the current version of 304-CD-002 for Release A from the PRONG CI while supporting standard product retrieval and browse data access loads.
	S-DSS-01940	The Science Data Server and Science Management within the Data Server shall be capable of ingesting product data at a maximum rate (three times the nominal rate derived from the number of bytes per day specified in Section E.1 of Appendix E of the current version of 304-CD-002 for Release A from the PRONG CI until the backlog is processed, while standard product retrieval and browse data access loads are suspended.
	S-DSS-01950	The Science Data Server shall support distributing the number of bytes of data per day derived from Sections E.1 & E.3 of Appendix E of the current version of 304-CD-002 for Release A to the PRONG CI (in support of production) by accepting and validating the number requests per day from the PRONG CI derived from Sections E.1 & E.3 of Appendix E of the current version of 304-CD-002 for Release A.
	S-DSS-01960	The Science Management within the Data Server shall support distributing the bytes of data per day derived from Sections E.1 & E.3 of Appendix E of the current version of 304-CD-002 for Release A to the PRONG CI (in support of production) by retrieving and staging the number of bytes per day for the PRONG CI derived from Sections E.1 & E.3 of Appendix E of the current version of 304-CD-002 for Release A.
	DADS1340#A	Each DADS shall use tools to analyze system performance.
	DADS1472#A	Each DADS shall contain the appropriate capacity to respond to contingencies, scheduling problems, and peak loads.
	DADS1620#A	At each DAD tools shall be available for operations/systems/maintenance personnel to monitor performance, carry out maintenance, and alter operating parameters.
	DADS2778#A	Each DADS shall be capable of receiving and archiving three days' worth of data (see Appendix C) in any given day.
BS017.013	S-DSS-01860	The Science Data Server shall support making stored Data Products available on physical media within 24 hours of receipt of a Media Distribution Request.
	S-DSS-21655	The Science Management within the Data Server shall utilize media with a rated shelf life of at least 10 years as determined by National Archives and Record Administration (NARA), National Institute for Standards and Technology (NIST), NASA or an industry organization.
	S-DSS-21760	The DRPHW CI shall utilize archive media with a manufactured shelf life of at least 10 years when stored in a controlled environment
	S-DSS-30810	The Data Distribution within the Data Server shall be capable of distributing Data via physical media generated a rate equivalent to the daily rate data are ingested at that site.

	DADS1340#A	Each DADS shall use tools to analyze system performance.
	DADS1472#A	Each DADS shall contain the appropriate capacity to respond to contingencies, scheduling problems, and peak loads.
	DADS1620#A	At each DAD tools shall be available for operations/systems/maintenance personnel to monitor performance, carry out maintenance, and alter operating parameters.
	DADS2778#A	Each DADS shall be capable of receiving and archiving three days' worth of data (see Appendix C) in any given day.
	DADS3010#A	Archival and backup media at each DADS shall have a manufacture-rated shelf life of at least 10 years when stored in a controlled environment.
BS017.014	S-DSS-20590	The STMGT CI shall provide archival storage which is field-expandable. Field-expandable is defined as increasing the capacity or size of archive storage without removing archive storage device from site.
	S-DSS-21570	The Science Management within the Data Server shall have the capacity to archive the total bytes of data derived from Section E.1 of Appendix E of the current version of 304-CD-002 for Release A and the current version of 304-CD-005 for Release B.
	S-DSS-21630	The GSFC DAAC Science Management within the Data Server shall archive original TSDIS standard products (Level 1B-3) after reprocessing for a minimum of 6 months
	DADS1340#A	Each DADS shall use tools to analyze system performance.
	DADS1472#A	Each DADS shall contain the appropriate capacity to respond to contingencies, scheduling problems, and peak loads.
	DADS1620#A	At each DAD tools shall be available for operations/systems/maintenance personnel to monitor performance, carry out maintenance, and alter operating parameters.
	DADS2778#A	Each DADS shall be capable of receiving and archiving three days' worth of data (see Appendix C) in any given day.
	DADS2900#A	Each DADS shall provide archival capacity for current volume requirements plus one year. Volume requirements are specified in Appendix C.
BS017.015	S-DSS-02020	The ACMHW CI shall be configured to support the SDPS function of local Data Request Submission's Availability requirement of .96 and Mean Down Time requirement of < 4 hrs during times of staffed operation.
	S-DSS-02030	The ACMHW CI shall be configured to support the SDPS function of data order submission across DAACs Availability requirement of .96 and Mean Down Time requirement of < 4 hrs during times of staffed operation.
	S-DSS-02032	The ACMHW CI shall support the RMA Requirements specified for the ECS Program.
	S-DSS-21800	The DRPHW CI shall be configured to support the SDPS function of Archiving and Distributing Data's Availability requirement of .98 and a Mean Down Time of < 2 hrs. during times of staffed operation.
	S-DSS-21810	The DRPHW CI shall be configured to support the SDPS function of Metadata Ingest and Update's Availability requirement of .96 and a Mean Down Time of < 4 hrs. during times of staffed operation.
	S-DSS-21811	The DRPHW CI shall be configured to provide .993/<2 hrs availability for information searches on the ECS Directory.

	S-DSS-21813	The DRPHW CI shall be configured to support the SDPS function of Information Searches on Local Holding's Availability of .96 and a Mean Down Time of < 4 hrs. during times of staffed operations.
	S-DSS-21814	The DRPHW CI shall be configured to support the SDPS function of Client, Interoperability, Data Management and Data Server (IMS) Data Base Management and Maintenance Interface's Availability of .96 and a Mean Down Time of < 4hrs. during times of staffed operations.
	S-DSS-21815	The DRPHW CI shall support the RMA Requirements specified for the ECS Program.
	S-DSS-31000	The DIPHW CI shall be configured to support the SDPS function of Archiving and Distributing Data's Availability requirement of .98 and a Mean Down Time requirement of < 2 hrs. during times of staffed operation. (This applies to distributing data and ingesting hard media.)
	S-DSS-31005	The DIPHW CI shall support the RMA Requirements specified for the ECS Program.
BS017.016	S-DSS-21750	The DRPHW CI shall provide a bit error rate after correction less than 1 in 1 X 10**12. (This requirement may be fulfilled with a combination of hardware and software components.)
	DADS3000#A	To support archival data integrity, the bit error rate after correction shall be less than 1 in 10 to the 12th.
BS017.017	DADS0100#A	Each DADS shall be capable of transmitting data over communications network in support of data production requests at the data rate specified in Appendix C and in support of data distribution requests at a rate equivalent to daily product volume (L1-L4).
	DADS0180#A	Each DADS shall receive from the users, at a minimum, the following: a. Metadata b. Correlative data c. Documents d. New derived data sets
	DADS0190#A	Each DADS shall receive from the SCF, at a minimum, the following: a. Special products (L1-L4) b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	DADS0425#A	Archive and backup media at each DADS shall have a rated shelf life of at least 10 years as determined by the National Archives and Records Administration (NARA), National Institute for Standards and Technology (NIST), NASA, or a professional or industry organization such as ANSI, the Society of Motion Picture and Television Engineers (SMPTE) or the National Association of Broadcasters (NAB).
	DADS0460#A	Each DADS shall provide storage at a minimum, for non-EOS data required for Standard Product production by the PGS.
	DADS1730#A	The DADS shall be developed using file storage management systems that have configuration-controlled application programming interfaces (APIs)

BS017.018	DADS0100#A	Each DADS shall be capable of transmitting data over communications network in support of data production requests at the data rate specified in Appendix C and in support of data distribution requests at a rate equivalent to daily product volume (L1-L4).
	DADS0180#A	Each DADS shall receive from the users, at a minimum, the following: a. Metadata b. Correlative data c. Documents d. New derived data sets
	DADS0190#A	Each DADS shall receive from the SCF, at a minimum, the following: a. Special products (L1-L4) b. Metadata c. Ancillary data d. Calibration data e. Correlative data f. Documents g. Algorithms
	DADS0425#A	Archive and backup media at each DADS shall have a rated shelf life of at least 10 years as determined by the National Archives and Records Administration (NARA), National Institute for Standards and Technology (NIST), NASA, or a professional or industry organization such as ANSI, the Society of Motion Picture and Television Engineers (SMPTE) or the National Association of Broadcasters (NAB).
	DADS0460#A	Each DADS shall provide storage at a minimum, for non-EOS data required for Standard Product production by the PGS.
	DADS1730#A	The DADS shall be developed using file storage management systems that have configuration-controlled application programming interfaces (APIs)
BS017.019	DADS0370#A	Each DADS shall provide the IMS with metadata on newly stored data granules.
	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
	IMS-0260#A	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
	IMS-0350#A	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.
	IMS-0355#A	The metadata shall be expandable to include additional attributes which are identified during the mission and deemed useful for data search.
	IMS-0450#A	The IMS shall accept and validate new and updated metadata for all ECS archive data which has been ingested at the DADS.

BS017.020	S-DSS-00540	The SDSRV CI shall provide Schema Information to the Data Management subsystem.
	DADS0370#A	Each DADS shall provide the IMS with metadata on newly stored data granules.
	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
	IMS-0260#A	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
	IMS-0350#A	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.
	IMS-0355#A	The metadata shall be expandable to include additional attributes which are identified during the mission and deemed useful for data search.
	IMS-0450#A	The IMS shall accept and validate new and updated metadata for all ECS archive data which has been ingested at the DADS.
BS017.021	S-DSS-20985	The STMGT CI shall provide the SDSRV CI the capability to open files on archive storage media in the WKSHW CI.
	S-DSS-20995	The STMGT CI shall provide the SDSRV CI the capability to close files on archive storage media in the WKSHW CI.
	S-DSS-21005	The STMGT CI shall provide the SDSRV CI the capability to read information from files on archive storage media in the WKSHW CI.
	S-DSS-21015	The STMGT CI shall provide the SDSRV CI the capability to write information into files on archive storage media in the WKSHW CI.
	S-DSS-21025	The STMGT CI shall provide the SDSRV CI the capability to allocate archive storage devices for Service Request processing in the WKSHW CI.
	S-DSS-21035	The STMGT CI shall provide the SDSRV CI the capability to deallocate archive storage devices in the WKSHW CI.
	S-DSS-21040	The STMGT CI shall provide the SDSRV CI the capability to open files on staging devices in the WKSHW CI.
	S-DSS-21050	The STMGT CI shall provide the SDSRV CI the capability to close files on staging devices in the WKSHW CI.
	S-DSS-21070	The STMGT CI shall provide the SDSRV CI the capability to read information from files on staging devices in the WKSHW CI.
	S-DSS-21090	The STMGT CI shall provide the SDSRV CI the capability to rename files on staging devices in the WKSHW CI.
	S-DSS-21110	The STMGT CI shall provide the SDSRV CI the capability to allocate storage on staging devices in the WKSHW CI.
	S-DSS-21120	The STMGT CI shall provide the SDSRV CI the capability to deallocate storage on staging devices in the WKSHW CI.
	DADS0370#A	Each DADS shall provide the IMS with metadata on newly stored data granules.

	IMS-0355#A	The metadata shall be expandable to include additional attributes which are identified during the mission and deemed useful for data search.
	IMS-0450#A	The IMS shall accept and validate new and updated metadata for all ECS archive data which has been ingested at the DADS.
BS017.022	S-DSS-20985	The STMGT CI shall provide the SDSRV CI the capability to open files on archive storage media in the WKSHW CI.
	S-DSS-20995	The STMGT CI shall provide the SDSRV CI the capability to close files on archive storage media in the WKSHW CI.
	S-DSS-21005	The STMGT CI shall provide the SDSRV CI the capability to read information from files on archive storage media in the WKSHW CI.
	S-DSS-21025	The STMGT CI shall provide the SDSRV CI the capability to allocate archive storage devices for Service Request processing in the WKSHW CI.
	S-DSS-21035	The STMGT CI shall provide the SDSRV CI the capability to deallocate archive storage devices in the WKSHW CI.
	S-DSS-21040	The STMGT CI shall provide the SDSRV CI the capability to open files on staging devices in the WKSHW CI.
	S-DSS-21050	The STMGT CI shall provide the SDSRV CI the capability to close files on staging devices in the WKSHW CI.
	S-DSS-21070	The STMGT CI shall provide the SDSRV CI the capability to read information from files on staging devices in the WKSHW CI.
	S-DSS-21080	The STMGT CI shall provide the SDSRV CI the capability to delete files on staging devices in the WKSHW CI.
	S-DSS-21090	The STMGT CI shall provide the SDSRV CI the capability to rename files on staging devices in the WKSHW CI.
	S-DSS-21110	The STMGT CI shall provide the SDSRV CI the capability to allocate storage on staging devices in the WKSHW CI.
	S-DSS-21120	The STMGT CI shall provide the SDSRV CI the capability to deallocate storage on staging devices in the WKSHW CI.
	IMS-0260#A	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
	IMS-0350#A	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.
	IMS-0355#A	The metadata shall be expandable to include additional attributes which are identified during the mission and deemed useful for data search.
	IMS-0450#A	The IMS shall accept and validate new and updated metadata for all ECS archive data which has been ingested at the DADS.
BS017.023	S-DSS-30850	The Data Distribution within the Data Server shall support making archive data associated with a predefined ECS standard format available to the network in that format within an avg. of 2 minutes.
	S-DSS-30860	The Data Distribution within the Data Server shall support making archive data associated with a predefined ECS format available to the network in a different format within an average of 5 minutes.
	S-DSS-21640	The Science Management within the Data Server shall support making archive data associated with a pre-defined ECS standard format available to the network in that format within an average of 2 minutes.

	S-DSS-21650	The Science Management within the Data Server shall support making archive data associated with a pre-defined ECS standard format available to the network in a different format within an average of 5 minutes.
	S-DSS-04510	The STMGT CI shall support the capability to logically group a set of granule ids such that the set can be referenced by a single identifier.
BS017.023	DADS0100#A	The DADS shall receive distribution status requests from the collocated PGS.
	DADS0498#A	Each designated DADS shall receive standing and retrospective product orders from the IMS.
	DADS0525#A	Each DADS shall accept updates/cancellations of data order requests.
	DADS0570#A	Each DADS shall verify product orders from the IMS.
	DADS0600#A	Each DADS shall accept requests from the IMS to distribute data archived in the DADS to requesting users.
	DADS0610#A	Each DADS shall support reprocessing.
	DADS0660#A	Each DADS shall maintain a database of orders which shall include at a minimum: priorities, distribution directions, and all other details necessary to process orders including standing and multi-DADS orders.
	DADS0690#A	Each DADS shall support the prioritized retrieval and delivery of data based on the priority information specified in the data retrieval request.
	DADS0700#A	Each DADS shall be capable of complying with data transfer cancellation or delay notifications.
	DADS0760#A	The DADS shall distribute data in approved standard formats including HDF and the Landsat 7 standard format (Landsat data only.)
	DADS0880#A	For data which it has distributed, each DADS, via the LSM, shall generate required accounting information.
	DADS0927#A	Each DADS shall generate and send to SMC reports of the status of the distribution of data.
	DADS0940#A	Each DADS shall send distribution status to the IMS in response to distribution status requests from the IMS.
	DADS0960#A	Each DADS shall automatically send data distribution status to the IMS upon completion of the distribution process.
	DADS1010#A	Each DADS shall send to the requesting PGS or IMS, staging status of requests for retrieval of data products.
	DADS1020#A	Each DADS shall generate data retrieval status to acknowledge the receipt of a product order. The data retrieval status shall indicate the acceptance or rejection of the request. In the event of rejection, the status shall contain an indication of the reason for rejection (e.g., distribution parameters missing, data not present or unreadable).
	DADS1030#A	Each DADS shall generate data distribution status to monitor the progress of the distribution process.
	DADS1085#A	Each DADS shall maintain a data access log.
	DADS1110#A	Each DADS shall maintain a data distribution log.
	DADS1114#A	Each DADS shall maintain a log of staging activity.

	DADS1370#A	Each DADS shall provide a mechanism for statistically monitoring both the raw and corrected bit error rate (BER) of storage media in the archive.
	DADS1470#A	Each DADS shall manage element resource utilization.
	DADS1610#A	The FSMS shall provide for continued performance, albeit in a degraded mode, when a device (e.g., disk or cartridge drive, operator's console) fails.
	DADS1806#A	Each DADS shall provide the capability of retrieving any data granule stored in the archives.
	DADS1860#A	Each DADS shall, in conjunction with the SMC, provide configuration management for its internal resources.
	DADS2090#A	Each DADS shall reevaluate its schedule after receiving new orders from the IMS.
	DADS2110#A	The DADS shall provide scheduling information to the SMC.
	DADS2160#A	Each DADS shall maintain a list/schedule of standing orders.
	DADS2170#A	Each DADS shall maintain a list/schedule of retrospective orders.
	DADS2190#A	Each DADS shall maintain a list of products which could not be delivered electronically (e.g., workstation off-line).
	DADS2410#A	Each DADS shall distribute data from the archive in response to receipt of a product order from the IMS.
	DADS2430#A	Each DADS shall be capable of distributing any data granule stored in the archive.
	DADS2450#A	Each DADS shall distribute data to elements of EOSDIS and approved non-EOSDIS data destinations.
	DADS2460#A	Each DADS shall have a manual override function capable of altering the priority of a distribution request.
	DADS2480#A	Each DADS shall distribute data based upon entries in the standing and the retrospective order distribution list.
	DADS2580#A	Each DADS shall distribute data electronically using a variety of networks and methods including FAX.
	DADS2675#A	Each DADS shall maintain a log of all transmission problems, take internal corrective action, and notify SMC when network performance begins to impact distribution effort adversely.
	DADS3100#A	Each DADS shall be capable of transmitting data over communications network in support of data production requests at the data rate specified in Appendix C and in support of data distribution requests at a rate equivalent to daily product volume (L1-L4).
	DADS3125#A	Each DADS shall make archive data, associated with a pre-defined ECS standard format, that is requested for communications network delivery, available to the network in that ECS standard format within an average of 2 minutes after the receipt of a request for that data.
	DADS3150#A	The DADS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development of DAAC-unique data distribution services operated independently of the delivered ECS DADS services.
	IMS-0030#A	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.

	IMS-0890#A	The IMS shall provide the capability to receive the metadata from the DADS when ADC or ODC data has been ingested into the ECS archives.
	IMS-1005#A	The IMS shall forward, to the appropriate DADS, Product Orders for distribution of the products generated as a result of the Product Processing Order.
	IMS-1060#A	The IMS shall maintain a cross reference of processing performed, data sets produced, supporting data used, and data recipient.
	IMS-1280#A	The IMS shall send a product order, priority, and suggested start time and completion time to the ECS elements responsible for processing and distributing a product.
	IMS-1300#A	The IMS shall be capable of responding to user inquiries for status of user-initiated requests, and user request history.
	IMS-1380#A	The IMS shall provide the capability to integrate the element toolkits with a common user interface.
	IMS-1700#A	The IMS shall provide the capability to generate reports on: a. The backlog of data distribution requests b. The backlog of processing requests c. The backlog of data acquisition requests d. Data quality assessment e. Daily IMS operations summaries f. IMS performance summaries
	IMS-1720#A	The IMS shall provide the capability to produce reports that relate data sets to: a. Processing algorithms used for data generation at the PGS b. Software used for data generation at the PGS c. Parameters used for data generation at the PGS d. Data recipients
BS017.024	S-DSS-30850	The Data Distribution within the Data Server shall support making archive data associated with a predefined ECS standard format available to the network in that format within an avg. of 2 minutes.
	S-DSS-30860	The Data Distribution within the Data Server shall support making archive data associated with a predefined ECS format available to the network in a different format within an average of 5 minutes.
	S-DSS-21640	The Science Management within the Data Server shall support making archive data associated with a pre-defined ECS standard format available to the network in that format within an average of 2 minutes.
	S-DSS-21650	The Science Management within the Data Server shall support making archive data associated with a pre-defined ECS standard format available to the network in a different format within an average of 5 minutes.
	S-DSS-04510	The STMGT CI shall support the capability to logically group a set of granule ids such that the set can be referenced by a single identifier.
	DADS0100#A	The DADS shall receive distribution status requests from the collocated PGS.
	DADS0498#A	Each designated DADS shall receive standing and retrospective product orders from the IMS.
	DADS0525#A	Each DADS shall accept updates/cancellations of data order requests.
	DADS0570#A	Each DADS shall verify product orders from the IMS.

	DADS0600#A	Each DADS shall accept requests from the IMS to distribute data archived in the DADS to requesting users.
	DADS0610#A	Each DADS shall support reprocessing.
	DADS0660#A	Each DADS shall maintain a database of orders which shall include at a minimum: priorities, distribution directions, and all other details necessary to process orders including standing and multi-DADS orders.
	DADS0690#A	Each DADS shall support the prioritized retrieval and delivery of data based on the priority information specified in the data retrieval request.
	DADS0700#A	Each DADS shall be capable of complying with data transfer cancellation or delay notifications.
	DADS0760#A	The DADS shall distribute data in approved standard formats including HDF and the Landsat 7 standard format (Landsat data only.)
	DADS0880#A	For data which it has distributed, each DADS, via the LSM, shall generate required accounting information.
	DADS0927#A	Each DADS shall generate and send to SMC reports of the status of the distribution of data.
	DADS0940#A	Each DADS shall send distribution status to the IMS in response to distribution status requests from the IMS.
	DADS0960#A	Each DADS shall automatically send data distribution status to the IMS upon completion of the distribution process.
	DADS1010#A	Each DADS shall send to the requesting PGS or IMS, staging status of requests for retrieval of data products.
	DADS1020#A	Each DADS shall generate data retrieval status to acknowledge the receipt of a product order. The data retrieval status shall indicate the acceptance or rejection of the request. In the event of rejection, the status shall contain an indication of the reason for rejection (e.g., distribution parameters missing, data not present or unreadable).
	DADS1030#A	Each DADS shall generate data distribution status to monitor the progress of the distribution process.
	DADS1470#A	Each DADS shall manage element resource utilization.
	DADS1610#A	The FSMS shall provide for continued performance, albeit in a degraded mode, when a device (e.g., disk or cartridge drive, operator's console) fails.
	DADS1806#A	Each DADS shall provide the capability of retrieving any data granule stored in the archives.
	DADS1860#A	Each DADS shall, in conjunction with the SMC, provide configuration management for its internal resources.
	DADS2090#A	Each DADS shall reevaluate its schedule after receiving new orders from the IMS.
	DADS2110#A	The DADS shall provide scheduling information to the SMC.
	DADS2160#A	Each DADS shall maintain a list/schedule of standing orders.
	DADS2170#A	Each DADS shall maintain a list/schedule of retrospective orders.
	DADS2190#A	Each DADS shall maintain a list of products which could not be delivered electronically (e.g., workstation off-line).
	DADS2410#A	Each DADS shall distribute data from the archive in response to receipt of a product order from the IMS.

	DADS2430#A	Each DADS shall be capable of distributing any data granule stored in the archive.
	DADS2450#A	Each DADS shall distribute data to elements of EOSDIS and approved non-EOSDIS data destinations.
	DADS2460#A	Each DADS shall have a manual override function capable of altering the priority of a distribution request.
	DADS2480#A	Each DADS shall distribute data based upon entries in the standing and the retrospective order distribution list.
	DADS2490#A	Each DADS shall distribute data using a variety of approved high density storage media such as : a. 8 mm tape b. 4 mm DAT d. CD ROM e. 6250 tape
	DADS2510#A	Each DADS shall copy data to the class of physical media specified in the product order from the IMS.
	DADS2530#A	The DADS shall be capable of distributing by physical media to meet user demand.
	DADS2770#A	Upon receipt and approval of a request, the designated DADS shall make stored data products available for delivery to the requester within 24 hours for data distributed on physical media.
	DADS3110#A	Each DADS shall be capable of distributing data via physical media at a rate equivalent to the rate data are ingested at that DADS.
	DADS3150#A	The DADS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development of DAAC-unique data distribution services operated independently of the delivered ECS DADS services.
	IMS-0030#A	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
	IMS-0890#A	The IMS shall provide the capability to receive the metadata from the DADS when ADC or ODC data has been ingested into the ECS archives.
	IMS-1005#A	The IMS shall forward, to the appropriate DADS, Product Orders for distribution of the products generated as a result of the Product Processing Order.
	IMS-1060#A	The IMS shall maintain a cross reference of processing performed, data sets produced, supporting data used, and data recipient.
	IMS-1280#A	The IMS shall send a product order, priority, and suggested start time and completion time to the ECS elements responsible for processing and distributing a product.
	IMS-1300#A	The IMS shall be capable of responding to user inquiries for status of user-initiated requests, and user request history.
	IMS-1380#A	The IMS shall provide the capability to integrate the element toolkits with a common user interface.

	IMS-1650#A	IMS operations data shall contain information on: a. System utilization at the IMS b. Outstanding data distribution requests c. Outstanding processing requests d. Outstanding data acquisition requests
	IMS-1660#A	The IMS shall provide to the SMC a full and complete history of all IMS resources used by science investigators including, at a minimum: a. CPU utilization b. Amount of user storage c. Connect time d. Session histories
	IMS-1700#A	The IMS shall provide the capability to generate reports on: a. The backlog of data distribution requests b. The backlog of processing requests c. The backlog of data acquisition requests d. Data quality assessment e. Daily IMS operations summaries f. IMS performance summaries
	IMS-1720#A	The IMS shall provide the capability to produce reports that relate data sets to: a. Processing algorithms used for data generation at the PGS b. Software used for data generation at the PGS c. Parameters used for data generation at the PGS d. Data recipients
BS017.025	DADS0430#A	Each DADS shall provide its operations personnel the capability to manually alter the routing of data sets to physical storage locations.
	DADS0435#A	At each DADS operations personnel shall be able to add new physical volumes and eject physical volumes from the archive for off-line or off-site permanent storage.
	DADS1360#A	Each DADS shall monitor the status of all storage systems used.
	DADS1375#A	Each DADS shall provide automatic management and copying/refresh of archive media.
	DADS1520#A	Each DADS shall provide an FSMS. Storage shall be based on a hierarchy of devices and media, with location-transparent access to the files.
	DADS1530#A	Each DADS shall maintain a file directory of all files under its control.
	DADS1540#A	In case of corruption or catastrophic failure, capabilities for recovering the file directory shall be provided.
	DADS1550#A	Operations/systems personnel shall be able to access, list, or modify the contents of the file directory in a special privileged mode.
	DADS1610#A	The FSMS shall provide for continued performance, albeit in a degraded mode, when a device (e.g., disk or cartridge drive, operator's console) fails.
	DADS1630#A	At each DAD tools shall be provided for recovery of data from failed media and devices.
	DADS1710#A	The DADS shall comply with evolving guidelines and standards in such areas as file storage, storage management, and backup where appropriate.
	DADS1720#A	The FSMS at each DADS shall be based on published and open architectures which fully describe the physical organization and structures of files.

	DADS1791#A	Each DADS shall have the capability to mount archival media via automated means.
	DADS1800#A	Each DADS shall maintain data storage inventories defining the physical location of files.
	DADS2950#A	In case of failure of the automated system, archive media must be capable of being manually mounted at each DADS.
	DADS3040#A	At each DAD backup media shall be removable from the DADS site (e.g., for safe off-site storage).
	DADS3055#A	At each DAD all backup media shall be capable of being mounted automatically where appropriate, with the provision for manual failover.
	IMS-1060#A	The IMS shall maintain a cross reference of processing performed, data sets produced, supporting data used, and data recipient.
BS017.026	S-DSS-04595	The SDSRV CI shall be capable of receiving QA metadata updates from the DESKT CI.
	DADS0010#A	Each DADS shall receive updated metadata for products that have been QA'd.
	DADS0020#A	Each DADS shall, upon receipt of updated metadata for products which have been QA'd, store the metadata in its inventory.
	DADS0525#A	Each DADS shall accept updates/cancellations of data order requests.
	DADS0570#A	Each DADS shall verify product orders from the IMS.
	DADS1610#A	The FSMS shall provide for continued performance, albeit in a degraded mode, when a device (e.g., disk or cartridge drive, operator's console) fails.
	DADS1850#A	Each DADS shall utilize the configuration management toolkit provided by the SMC.
	DADS2090#A	Each DADS shall reevaluate its schedule after receiving new orders from the IMS.
	IMS-0455#A	The IMS shall accept and validate new metadata from the DADS reflecting changes as a result of: b. Transfers c. Unexpected loss d. Restoration of data after recovery from loss
	IMS-1060#A	The IMS shall maintain a cross reference of processing performed, data sets produced, supporting data used, and data recipient.
	IMS-1380#A	The IMS shall provide the capability to integrate the element toolkits with a common user interface.
BS017.027	DADS0100#A	Each DADS shall receive management directives from the SMC.
	DADS0498#A	Each designated DADS shall receive standing and retrospective product orders from the IMS.
	DADS0500#A	Each DADS shall receive changes to standing orders from the IMS.
	DADS0525#A	Each DADS shall accept updates/cancellations of data order requests.
	DADS0540#A	Each DADS shall notify the PGS of the receipt of non-EOS data sets required for standard Product production.
	DADS0550#A	Each DADS shall notify the PGS of the receipt of EOS data sets required for Standard Product production (e.g., data received from non-collocated DADS).
	DADS0570#A	Each DADS shall verify product orders from the IMS.

	DADS1610#A	The FSMS shall provide for continued performance, albeit in a degraded mode, when a device (e.g., disk or cartridge drive, operator's console) fails.
	DADS2090#A	Each DADS shall reevaluate its schedule after receiving new orders from the IMS.
	IMS-1060#A	The IMS shall maintain a cross reference of processing performed, data sets produced, supporting data used, and data recipient.
	IMS-1080#A	The IMS shall accept requests for acquisition of data to be processed one time or as standing orders.
	IMS-1380#A	The IMS shall provide the capability to integrate the element toolkits with a common user interface.
BS017.028	S-DSS-00450	The SDSRV CI shall provide Advertisements that indicate the class of data available from the Data Server.
	S-DSS-00460	The SDSRV CI shall provide Advertisements that indicate the services available from the Data Server.
	S-DSS-03820	Each SDSRV CI Advertisement shall identify the service's interface.
	S-DSS-03830	Each SDSRV CI Advertisement shall include Service Descriptions.
	S-DSS-00900	The SDSRV CI shall support the interruption of a data base administrative or maintenance activity and its restart without loss of information.
	S-DSS-00901	The SDSRV CI shall provide tools to the users to perform lossless compression of TBD EOS data.
	S-DSS-03868	The SDSRV CI shall be capable of sending status to the WKBCH CI.
	DADS2270#A	Each DADS shall provide, on a scheduled basis, an off-site backup copy of all EOS data whichwould be impossible or difficult to recover in case of loss (e.g., ancillary data, metadata, command history, algorithms, engineering data, calibration data, systems and applications software, selected data products, depending on need).
	DADS2276#A	Each DADS shall have the capability to restore its archive by storing a backup copy of EOS data or backup copy of information required to regenerate the data.
	DADS2300#A	Each DADS shall provide a capability for local and offsite backup/restore of system files.
	DADS2302#A	Offsite and local backup media shall be based on published, open, and non-proprietary formats which fully describe the physical organization and structure of files.
	IMS-0250#A	The IMS shall provide required maintenance of the IMS data bases, to include at a minimum: a. Capability to restructure the data base b. Capability to interrupt a maintenance session and restart the session without loss of information
BS018.001	DADS0901#A	The DADS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management h. Distribution and Ingest Management

BS018.005	S-CLS-10015	The WKBCH CI shall provide the capability for users to compose Directory Searches based on core metadata.
	S-CLS-10030	The WKBCH CI shall provide graphical aids to assist users in formulating Search Requests.
	S-CLS-10060	The WKBCH CI shall support a minimum bounding rectangle criteria for query of geographic Metadata by text and graphical input.
	S-CLS-13120	The WKBCH CI shall provide users with initial system access procedures.
	S-CLS-13410	The WKBCH shall provide display the results of user validation to the user.
	S-CLS-12510	The WKBCH CI shall provide the user a capability to view their User Profile.
	S-CLS-12520	The WKBCH CI shall provide the capability for a user to modify their User Profile Information.
	S-CLS-00210	The DESKT CI shall provide users the capability to open desktop objects.
	S-DSS-00170	The SDSRV CI shall accept and process Search Requests to search the Inventory.
	S-DSS-01160	The SDSRV CI shall provide periodic, asynchronous status messages to the client during the execution of a Search Request.
	S-DSS-04650	The SDSRV CI shall accept Search Requests.
	S-DSS-04660	The SDSRV CI shall provide Result Sets to the client, in response to Search Requests.
	S-DSS-04670	The SDSRV CI shall support Inventory searches based on the Core Inventory Metadata.
	S-DSS-04680	The SDSRV CI shall support Inventory searches based on the Product Specific Metadata.
	S-DSS-04690	The SDSRV CI shall support Inventory searches based on a combination of the Core Inventory Metadata and Product Specific Metadata.
	S-DSS-04700	The SDSRV CI shall provide Search Results to requesting agencies.
	S-DSS-04710	The SDSRV CI shall respond to a query with a null Result Set, if no products in the Inventory meet the specified criteria.
	S-DMS-30360	The GTWAY CI shall have the capability to receive Inventory Search Requests from the Version 0 IMS using Version 0 system protocols.
	S-DMS-30370	The GTWAY CI shall have the capability to send Inventory Search Results to the Version 0 IMS using Version 0 system protocols.
	S-DMS-30380	The GTWAY CI shall have the capability to receive Browse Requests from the Version 0 IMS using Version 0 system protocols.
	S-DMS-30400	The GTWAY CI shall have the capability to receive Product Requests from the Version 0 IMS using Version 0 system protocols.
BS018.006	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above

	IMS-0230#A	The IMS shall restrict update of ECS directory, inventory, and guide. (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
	V0-0370#A	The DAAC(s) shall have the capability to send and ECS shall have the capability to receive Advertising Information [implementation issue 6].
	S-IOS-00040	The ADSRV CI shall use the identification of the user on whose behalf a Service Request is issued as the basis for access control decisions.
	S-IOS-00810	The ADSRV CI shall provide an application program interface for the submission of requests for administrative services.
	S-IOS-00820	The ADSRV shall have the capability to receive V0 Advertising Information from the DAAC(s).
	S-IOS-00880	The ADSRV CI shall allow ECS personnel to review submitted advertisements before those advertisements are posted for general access.
	S-IOS-00700	The ADSRV CI shall accept Advertisement Requests as specified in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.
	S-IOS-00720	The ADSRV CI shall accept Advertisements as defined in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.
BS018.007	IMS-0480#A	The IMS shall allow the user to store documents in the ECS.
	DADS0440#A	Each DADS shall provide storage, at a minimum, for the following EOS data: a. Standard Products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms h. Format descriptions (e.g., HDF spec.)
	S-DSS-10170	The DDSRV CI shall receive user supplied documents in HTML & ASCII
	S-DSS-10241	Upon receipt of all supported document formats and descriptive data, the DDSRV CI shall provide storage for the document and descriptive data

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