5.38 Enhanced Advertising Services Thread

5.38.1 Thread Objectives

The objectives of the Enhanced Advertising Services thread are as follows:

- Provide the interface needed to support interactive browsing and searching of advertisements as required.
- Provide capabilities for the advertising services internal database to create and update advertisements.
- Provide the capabilities to renew existing advertising and perform administrative advertisement.

5.38.2 Thread Test Description

This thread will focus on the Advertising service functions. The advertising service provides the interfaces needed to support interactive browsing and searching of advertisements as required. Although there will be a single format for submitting advertisements to the service, they will be accessible in several different formats and via several different interfaces to support database searching, test searching, and hyper linked access and retrieval according to several different viewing styles.

Advertising functions such as cancel, update, add and renew advertising will be tested to see if such functions can be performed.

Dependencies: (If Applicable)

To verify the objectives of the Enhanced data dictionary thread, the following interface and functional capabilities are required:

- Write permissions to the defined data dictionary

- Ability to access the LIM schema to determine data locations.
- Access to DAAC and DAAC interfaces.
- Ability to access the DIM schema to determine data locations.
- Ability to access the data dictionary using views and contexts. Direct access to the top levels of the data server.
- Heterogeneous data server environment within a local site.
- Existence of an advertising service that contains a list of ECS services supported in Rel B. Ability to access the advertising service from a local workbench.
- LIM and DIM schema defined for heterogeneous data server environment. Write permissions to allow changes to the LIM and DIM schema.
- Simulated or actual services availability.
- File transfer interfaces.
- CSMS and SDPS interface.

Test Support Requirements

- Hardware:
  - TBS
- Software:
  -
- Data:
  -

5.38.2.1 Sequence 1—Advertising Services

The following tests verifies the capability to perform advertising services. The administrator will be capable of manipulating the advertising data by being able read, write, update, delete, display.

Test Case 1 View Advertising (T216-2.01.01)

This test verifies the capability to view advertising information from the advertising service.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Workbench interface to view advertising information through the advertising services.
Output:	User able to obtain access to view function for information pertaining to the advertising service. Information is displayed. Event log contains an entry for the activation of the view function.

Expected Results: User able to access view function and able to view data pertaining to the advertising service.

Test Case 2 Read Advertising Data (T216-2.01.02)

This test verifies the capability to read advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Workbench interface to read advertisement data.

Output: User able to read advertising information. Information provided is the advertising information requested. Event log contains an entry for the activation of the read access.

Expected Results: User able to read advertising information pertaining to the advertising service.

Test Case 3 Write Advertising Data (T216-2.01.03)

This test verifies the capability to write advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Workbench interface to write advertisement data.

Output: User able to write advertising information. Information provided is the advertising information requested. Event log contains an entry for the activation of the write access.

Expected Results: User able to write advertising information pertaining to the advertising service.

Test Case 4 Update Advertising Data (T216-2.01.04)

This test verifies the capability to update advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Workbench interface to update advertisement data.

Output: User able to update advertising information. Information updated is saved onto the advertisement data. Event log contains an entry for the activation of the update access.

Expected Results: User able to update advertising information pertaining to the advertising service.

Test Case 5 Delete Advertising Data (T216-2.01.05)

This test verifies the capability to delete advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Workbench interface to delete advertisement data.

Output: User able to delete advertising information. Information indicate a delete did take place. Event log contains an entry for the activation of the delete access.

Expected Results: User able to delete advertising information pertaining to the advertising service.

Test Case 6 Write and Delete Advertising Data (in combination based on privileges (T216-2.01.06)

This test verifies the capability to write and delete advertising information based on privileges.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Workbench interface to write and delete advertisement data in combination.

Output: User able to write and delete advertising information in combination. Advertisement data is written and delete at the same time. The Event log contains an entry for the activation of the write and delete access.

Expected Results: User able to write and delete advertising information in combination.

Test Case 7 Read and Update Advertising Data (in combination based on privileges (T216-2.01.07)

This test verifies the capability to read and update advertising information based on privileges.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Workbench interface to read and update advertisement data in combination.

Output: User able to read and update advertising information in combination. Advertisement data is read and updated at the same time. The event log contains an entry for the activation of the read and update access.

Expected Results: User able to read and update advertising information in combination.

Test Case 8 Display advertisement for Non-ECS systems (T216-2.01.08

This test verifies the capability to display advertising information for Non-ECS systems.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Workbench interface to display advertising information for Non-ECS systems.

Output: User able to obtain access to display advertising information for Non-ECS systems. Information is displayed. Event log contains an entry for the activation of the display function.

Expected Results: User able to access display advertisement via advertising functions.

5.38.2.2 Sequence 2—Locating/Installing Advertisement Services to Scientist Workbench

The following series of tests demonstrate the ability to access the advertising services via the scientist workbench and install new services to the local workstation. Testing is performed to produce a failure in the attempt to install a service to verify the system provides the user with status messages for the failure.

Test Case 1 Determining Available Advertising Services (T216-2.02.01)

This test verifies that the user is able to access the advertising services from the scientist workbench and 'browse' a list of services available.

Test Configuration: Workstation, x-terminal, storage devices, X-runner tool

Input: Scientist workbench. Advertising services. Tester selects option to 'browse' the list of services that are available to the ECS community.

Output: Tester is automatically connected to the advertising service and is provided with a list of services that are available on the ECS system. Event log contains entry for activation of advertising services connection.

Expected Results: Tester is able to connect to advertising services from the scientist workbench and obtain a list of the services that are available.

Test Case 2 Installing A New Service (T216-2.02.02)

This test verifies that the user is able to access the advertising services from the scientist workbench and install a new service to the local workbench.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Advertising services. Tester browses the list of services that are available to the ECS community and selects a service to install on the local workbench.

Output: Service selected is installed and displayed as an icon on the local workbench. Selecting the icon results in a direct connection to the service. Event log contains entries for the connection to the advertising service, the selection of the service to be installed, the successful installation of the service, and the activation of the service after it is installed on the local workbench.

Expected Results: Tester is able to connect to the advertising service and install a new service to the local workbench from the scientist workbench.

Test Case 3 Failure Installing A New Service (T216-2.02.03)

This test verifies that the system provides the user with status messages and error conditions when problems occur attempting to install a new service to the local workbench.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Modified scientist workbench to 'write protect' the entire workbench (workbench set to 'read' only at the highest level to prohibit writing of data to the workbench). Tester browses the list of services that are available to the ECS community and selects a service to install on the local workbench.

Output: Service selected is not installed to the local workbench. Status message indicating an error occurred during the attempt to install the service to the local workbench. Event log contains entries for the activation of the advertising service and the error occurred during the attempt to install the service to the local workbench.

Expected Results: Tester is able to connect to the advertising service and receives an error message when an error occurs during an attempt to install a new service to the local workbench..

5.38.2.3 Sequence 3 - Send/Receive advertising

The following series of tests verify the ability to receive VO advertising information from DAAC. This series of tests will also focus on receiving and sending advertisement data from NOAA SAAs, data centers and VO IMS.

Test Case 1 Receive VO advertising information from DAAC (T216-2.03.01)

This test verifies the capability to receive VO advertising information. Testing verifies the ability to receive advertising information from DAAC. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	VO Advertising information. External interface with DAAC. (interface may be simulated or stubbed). Ingest ready to receive data notification.
Output:	Data ingest log contains an entry for the successful Ingest of VO advertising information from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.
Expected Results:	VO advertising information written to the staging area.

Test Case 2 Send advertising information to NOAA SAA (T216-2.03.02)

This test verifies the capability to send advertising information to NOAA SAA. Testing verifies the ability to send advertising information to NOAA SAA. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Advertising information. External interface with NOAA SAA. (interface may be simulated or stubbed). Issue command to send advertising information.
Output:	Data located in the archive, authorization to receive data requested verified, and data transferred to the requesters based on priority. Distribution log contains an entry for each distribution request and transfer of each data set.
Expected Results:	Advertising information is sent to NOAA SAA location.

Test Case 3 Receive advertising information from NOAA SAA (T216-2.03.03)

This test verifies the capability to receive advertising information. Testing verifies the ability to receive advertising information from NOAA SAA. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Advertising information. External interface with NOAA SAA. (interface may be simulated or stubbed). Ingest ready to receive data notification.
Output:	Data ingest log contains an entry for the successful Ingest of advertising information from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.
Expected Results:	Advertising information written to the staging area.

Test Case 4 Receive advertising information from data center (T216-2.03.04)

This test verifies the capability to receive advertising information. Testing verifies the ability to receive advertising information from data center. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Advertising information. External interface with data center. (interface may be simulated or stubbed). Ingest ready to receive data notification.
Output:	Data ingest log contains an entry for the successful ingest of advertising information from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.
Expected Results:	Advertising information written to the staging area.

5.39 Local Information Manager Service Thread

5.39.1 Thread Objectives

The objectives of the Local Information Management thread are as follows:

- Provide the capability to perform Local Information Management (LIM) functions such as manipulating the data defined in a LIM schema or access data and services on heterogeneous data servers at a single ECS sites.

- Provide services needed by site administrators to integrate the schemata of the related Data Servers into an integrated view of the data and services in the collection.
- Provide status and results back to the DIM and also assume responsibility for the management of the client sessions.

5.39.2 Thread Test Description

This thread will also focus on LIM functions. LIM provides access to data and services offered by different data servers at an ECS site. There may be one or more data server residing at a single site. The LIM processes queries which involve access to data, which resides on two or more servers. Upon receipt of a query request, the LIM validates the query and generates a query plan. Using the schema, the LIM locates the data servers to satisfy the query request. The query results are displayed. Testing will also be performed to manipulate the data defined in the LIM schema.

Dependencies: (If Applicable)

To verify the objectives of the Local Information Management thread, the following interface and functional capabilities are required:

- Write permissions to the defined data dictionary
- Ability to access the LIM schema to determine data locations.
- Access to DAAC and DAAC interfaces.
- Ability to access the DIM schema to determine data locations.
- Ability to access the data dictionary using views and contexts. Direct access to the top levels of the data server.
- Heterogeneous data server environment within a local site.
- Existence of an advertising service that contains a list of ECS services supported in Rel B. Ability to access the advertising service from a local workbench.
- LIM and DIM schema defined for heterogeneous data server environment. Write permissions to allow changes to the LIM and DIM schema.
- Simulated or actual services availability.
- File transfer interfaces.
- CSMS and SDPS interface.

Test Support Requirements

- Hardware:
  - TBS
- Software:
  -
- Data:

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5.39.2.1 Sequence 1- LIM Functions

The following series of tests verify the administrator's ability to maintain the LIM schema. The system's file directories are updated for the transactions in this sequence.

Test Case 1 Add New Data to LIM Schema (T216-3.01.01)

This test verifies the administrator's capability to add new data to the LIM schema. After the data is added to the LIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, add of new data type, new product, etc.
Output:	New data type, etc has been added to the LIM schema and is accessible to the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.
Expected Results:	The LIM database contains the updated information.

Test Case 2 Delete Data from LIM Schema (T216-3.01.02)

This test verifies the administrator's capability to delete existing data from the LIM schema. After the data is deleted from the LIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, deletion of an existing data set and its associated information.
Output:	The data set is deleted, the LIM schema is updated and the deleted data set is no longer accessible by the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.
Expected Results:	The LIM database no longer has the data set information.

Test Case 3 Update Existing Data in LIM schema (T216-3.01.03)

This test verifies the administrator's capability to update existing data in LIM schema. After the data is updated in the LIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, modification to an existing data set, etc.

Output: The modification is made, the LIM schema is updated and the updated data is accessible to the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.

Expected Results: The LIM database contains the updated information.

Test Case 4 Accessing Data via a LIM (T216-3.01.04)

This test verifies the ability to access the information in the data dictionary for a LIM environment. Access to a particular sites data should be available through an interface on the scientist workbench. Testing is performed to demonstrate the ability to directly access each DAAC supported in Rel B.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to search the data dictionary for the DAAC under test. Generate a query for a known data product for the DAAC under test.

Output: Data products for the DAAC under test are provided to the tester. Event log contains entries of logon to the DAAC under test and the query results. Data access log is updated.

Expected Results: Only data available for the DAAC under test is provided. Data access log is updated.

Test Case 5 Access DD for Non-Existent Data (T216-3.01.05)

This test verifies that the system provides the user with a message indicating that the data requested is not found when a query for non-existent data is received.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to search the data dictionary for the DAAC under test. Generate a query for a non-existent data product for DAAC under test.

Output: Status message provided to the user indicating the data requested does not exist on the system. Event log contains entries for query initiation and result.

Expected Results: System generates a response to the data query for non-existent data.

Test Case 6 Retrieve a schema entry from LIM database (T216-3.01.06)

This test verifies the capability to retrieve a schema entry from LIM database. Access to a schema should be available through an interface on the scientist workbench.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Scientist workbench. Select option to retrieve a schema entry from LIM database. Generate a query for known schema entry.
Output:	Schema entry is provided to the tester. Event log contains entries for query initiation and result.
Expected Results:	Schema entry available from the LIM database is provided. Data access log is updated.

5.39.2.2 Sequence 2—LIM Local Search

The following tests concerns the administration for local searches. The test will verify the administrator's capabilities to perform local searches within the LIM environment. This includes scope of search, connections, creation of local search plans, and recovery from failure.

Test Case 1 Search and obtain data by science disciplines (T216-3.02.01)

This test verifies the ability to search and obtain data by science disciplines via the LIM environment.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Scientist workbench. Select option to search and obtain data by science disciplines. Generate a query for a known science discipline.
Output:	The known data from the specified science discipline is displayed to the tester. Data access log is updated.
Expected Results:	The queried data by science discipline is the only data displayed. Data access log is updated.

Test Case 2 Accept search request in the format defined in appendix A (T216-3.02.02)

This test verifies the administrator's capabilities to accept search request in the format defined in appendix A of the ECS requirement document 304. Testing is performed to verify that the search request is in conformance.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. View a search request. Compare the format of a search request with the format in the Appendix A of the ECS requirement document 304.

Output: The search request is displayed in a specified format.

Expected Results: The search request is in the same format as the appendix A.

Test Case 3 Build site query plan (T216-3.02.03)

This test verifies the ability to build a site query plan for a particular site.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to build a site query plan. Generate a query for a known site.

Output: The site query plan is displayed.

Expected Results: The queried data by site is the only data displayed. Data access log is updated.

Test Case 4 Integrate search results from a previous search request (T216-3.02.04)

This test verifies the ability to integrate search results from a previous search request.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to integrate search results from a previously search request.

Output: The search results are integrated from previous search requests. Log is updated.

Expected Results: The Search results from previous search requests are integrated.

Test Case 5 Distribute utilization reports electronically (T216-3.02.05)

This test verifies the ability to distribute utilization report electronically. This report will be generated by the system administrator. This report will be sent to appropriate destinations through the network by the LIM.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Retrieve utilization report. Specify location to be distributed to through the network.

Output: Report distributed to specified location as per request. message log indicates distribution.

Expected Results: Report is retrieved and distributed to specified location. Receipt of report by the other location is verified by confirming receipt.

Test Case 6 Distribute utilization reports via electronic media (T216-3.02.06)

This test verifies the ability to distribute utilization report via an electronically media. This utilization report will be generated by the system administrator. This report will then be sent to appropriate destinations via an electronic media such as 4mm.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Retrieve utilization report. Store utilization report on to electronic media. Distribute electronic media manually to other specified location

Output: Report distributed to specified location as per request. message log indicates distribution.

Expected Results: Report is stored onto electronic media. Upon receipt of the electronic media by the other location, the stored report is retrieved from the electronic media.

Test Case 7 Verify that the LIM will complete incomplete transaction without loss of data (T216-3.02.07)

This test verifies the administrator's capabilities to complete incomplete transactions without loss of data. This will be achieved by running a particular process and killing the LIM and restarting the LIM in the middle of the transaction.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Perform a LIM Local search such as searching data by science disciplines. Kill and restart the LIM transactions in the middle of the search.

Output: Upon restart of the LIM, the transaction is continued without loss of data. This can be verified by running another separate transaction without restarting the LIM and compare those results.

Expected Results: Both transactions are similar

Test Case 8 Verify LIM query log file (T216-3.02.08)

This test demonstrates ability to log all LIM query logs on a LIM query log file. A series of LIM local searches from previous tests will be performed and as these activities are processed they will be entered into the LIM query log file. Entries in the log are sorted by data type and time frame.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Input into this test include the LIM local searches. Commands are entered to view and sort the LIM query log.
Output:	Entries made to the LIM query log as data and search requests are processed.
Expected Results:	The LIM query log file indicates such LIM local searches

Test Case 9 Decompose search request received into executable database query (T216-3.02.09)

This test verifies the ability to decompose search request received into executable database queries.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Scientist workbench. Select option to decompose search request into executable database query.
Output:	The search requests are decomposed into executable database queries such as searching for a particular data type. Log is updated.
Expected Results:	Search request is decomposed into executable database query.

Test Case 10 Abort any time intensive operation (T216-3.02.10)

This test verifies the administrator's capabilities to abort any time intensive operation. If for any reason a particular operation is taking too long, the administrator or user depending on what kind of access privileges it has, can abort that operation.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Perform a local search such as searching data by science discipline. Abort the operation at any time.
Output:	The operation is aborted upon user's request. Log is updated.
Expected Results:	The search request is aborted as per user.

Test Case 11 Create utilization reports (T216-3.02.11)

This test verifies the ability to create utilization reports. This report will be generated by the system administrator.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	From the science workbench. Enter command to create utilization reports
Output:	Utilization report is generated. Log is updated.
Expected Results:	The report is generated with all the utilization data.

Test Case 12 Data access based on (User privileges, data ownership) (T216-3.02.12)

This test verifies the tester ability to access data based User privileges, data ownership.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Data request with (User privileges, data ownership)
Output:	Data Availability Notification to signal availability of data.
Expected Results:	Tester is able to access data via the internet

Test Case 13 Create,edit and delete advertising Data (T216-3.02.13)

This test verifies the capability to Create, edit and delete advertising data about itself and submit it to the advertising services.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Workbench interface to create, edit and delete advertisement data.
Output:	User able to create, edit and delete advertising information. Information indicate a delete did take place. Event log contains an entry for the activation of the delete access.
Expected Results:	User able to delete advertising information pertaining to the advertising service.

Test Case14 View log for all sessions and service request activities (T216-3.02.14)

This test demonstrates ability to view all the different logs for sessions and service requests. Entries in the log are sorted by data type and time frame.

Test Configuration:	Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: From the science workbench. View log for all the session and service request.

Output: Entries made during any session or service request is logged. Log displays entries of several session and service request functions.

Expected Results: Log contains sessions and service request functions.

5.39.2.3 Sequence 3—Sessions (LIM)

The following tests verify the capabilities to establish sessions with the LIM. Some of the sessions functions include suspend, open, resume, close etc. Testing will be performed to check whether each function is carried out by the LIM.

Test Case 1 Establish a client session (T216-3.03.01)

This test verifies the capability to establish a client session by LIM. Testing verifies the ability to open a client session.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Execute command to establish client session.

Output: Client session is established as per request. LIM log contains an entry for the successful client session opened.

Expected Results: Session established.

Test Case 2 Suspend an ongoing client session (T216-3.03.02)

This test verifies the capability to suspend an ongoing client session. Testing will be checked to confirm whether an ongoing client session is suspended.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Execute command to suspend an ongoing client session.

Output: Client session is suspended as per request. LIM log contains an entry for the successful client session suspension.

Expected Results: Session suspended.

Test Case 3 Resume a suspended client session (T216-3.03.03)

This test verifies the capability to resume a suspended client session. Testing will be checked to confirm whether the suspended client session is resumed.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to resume suspended client session.
Output:	Client session is resumed as per request. LIM log contains an entry for the successful resuming of suspended sessions.
Expected Results:	Session is resumed.

Test Case 4 Terminate an established client session (T216-3.03.04)

This test verifies the capability to terminate an established client session. Testing will be checked to confirm whether the established client session is terminated.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to terminate an established client session.
Output:	Client session is terminated as per request. LIM log contains an entry for the successful termination of established session.
Expected Results:	Session is terminated.

Test Case 5 Suspend all active sessions (T216-3.03.05)

This test verifies the capability to suspend all active session. Testing will be checked to confirm all active sessions have been suspended.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to suspend all active sessions.
Output:	All client sessions are suspended as per command. LIM log contains an entry for the successful suspension all of all client sessions.
Expected Results:	All client sessions suspended.

Test Case 6 Report status of sessions established by LIM (T216-3.03.06)

This test verifies the capability to report status of sessions established by the LIM. This test case demonstrates the capability to retrieve status of sessions that are visible to the

LIM. If the user wants to know the status of the sessions, user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of sessions established by LIM object.
Output:	Outputs include information regarding the status of sessions.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 7 Verify that sessions that have been inactive for a specified time are automatically suspended (T216-3.03.07)

This test verifies the that inactive sessions for a specified time are automatically suspend. Testing will be checked to confirm that inactive sessions do automatically get suspended within a specified period of time.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to establish an active session. Leave that session for a period of time.
Output:	The client session is automatically suspended after a period of time. Check LIM log to see when the suspension took place.
Expected Results:	Inactive client session is automatically suspended.

Test Case 8 Open multiple concurrent sessions (T216-3.03.08)

This test verifies the capability to open concurrent sessions by the LIM. Testing verifies the ability to open several client sessions.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to establish a client session. Repeat the execution for several number of session.
Output:	Client sessions are established concurrently as per request. LIM log contains an entry for the successful client session opening for all the sessions.

Expected Results: Concurrent sessions opened.

Test Case 9 Verify multiple service request within a session (T216-3.03.09)

This test verifies that multiple service request can be within a session. Testing will be checked to confirm that multiple service request exist within a session.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Open several service request within that session.

Output: Several service request appear within one session.

Expected Results: This test is deemed successful when several service request appear within a session.

Test Case 10 Specify a time-out period for inactive sessions (T216-3.03.10)

This test verifies the capability to specify a time-out period for inactive sessions. Testing will be checked to confirm that the specified time-out period is accurate when implemented.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Bring up the sessions configuration menu to change the time-out period for inactivity. Wait for the time-out period.

Output: Client session times out after specified period of time. LIM log indicates changes to the session configuration file.

Expected Results: Client session times-out after specified period of time.

Test Case 11 Resume all sessions previously suspended (T216-3.03.11)

This test verifies the capability to resume all suspended client sessions. Testing will be checked to confirm whether all the suspended sessions have been resumed.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Execute command to resume all suspended client sessions.

Output: All client sessions are resumed as per request. LIM log contains an entry for the successful resuming of all suspended sessions.

Expected Results: All session is resumed.

Test Case 12 Terminate all active or suspended sessions (T216-3.03.12)

This test verifies the capability to terminate all active or suspended sessions. Testing will be checked to confirm whether the all active sessions or suspended sessions have been terminated.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to terminate all active or suspended session.
Output:	All client session is terminated as per request. LIM log contains an entry for the successful termination of all active or suspended session.
Expected Results:	All sessions are terminated.

Test Case 13 Restore sessions after interruption (T216-3.03.13)

This test verifies the capability to restore sessions after interruptions. Testing will be checked to confirm whether the client session is restored after the interruption.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Injection interruption into the system. Execute command to restore client session.
Output:	Client session is restored after the interruption. LIM log contains an entry for the successful restoration of the client sessions.
Expected Results:	Sessions are restored back to normal.

5.39.2.4 Sequence 4 - Service Requests (LIM)

The following tests verify the capabilities to receive service requests from other locations and carryout those requests. Some of the request include suspend, open, resume, close restart service requests. Testing will be performed to check whether each function is carried out by the LIM.

Test Case 1 Terminate processing of an active service request (T216-3.04.01)

This test verifies that the LIM is capable of terminating the process of an active service request.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Execute command to terminate the process of an active service request.

Output: The specified active service request is terminated as per request. LIM log contains an entry for the successful termination of the active service request.

Expected Results: Active service request is terminated

Test Case 2 Suspend processing of an active service request (T216-3.04.02)

This test verifies that the LIM is capable of suspending an active active service request.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Execute command to suspend an active service request.

Output: The specified active service request is suspended as per request. LIM log contains an entry for the successful suspension of the active service request.

Expected Results: Active service request is suspended.

Test Case 3 Resume processing of a previously suspended service request (T216-3.04.03)

This test verifies that the LIM is capable of resuming a previously suspended service request.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Execute command to resume processing of a previously suspended service request.

Output: The previously suspended service request is resumed as per request. LIM log contains an entry for the successful resumption of the previously suspended service request.

Expected Results: Previously suspended service request is resumed

Test Case 4 Estimate the resources required to execute a pending service (T216-3.04.04)

This test verifies the administrator's capabilities to estimate the resources required to execute a pending service.

Test Configuration: Hardware - workstations

	Software - Scientist workbench, Storage device, Desktop manager
Input:	From the user interface. Select option to estimate resource required to execute a service
Output:	Estimated resources are automatically chosen
Expected Results:	Estimated resources are chosen for the selected pending service

Test Case 5 Report status of service request submitted to LIM (T216-3.04.05)

This test verifies the capability to report status of service request submitted by the LIM. This test case demonstrates the capability to retrieve status of service requests that are visible to the LIM. If the user wants to know the status of the service requests, user would interface with an object on the desktop representing the retrieval. This object will interface with service request to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of service request established by LIM object.
Output:	Outputs include information regarding the status of service requests.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 6 Save results of a service request for later reuse (T216-3.04.06)

This test verifies the testers ability to save the results of a service request for later reuse. After a service request has been carried out, the result is stored into a file for later.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Initiate command to save results of a service request.
Output:	Service requests results are stored into a file for later reuse. Log file is updated.
Expected Results:	Tester is able to store the result onto a file for later reuse.

Test Case 7 Send notification to users via email in the event that user request is canceled (T216-3.04.07)

This test verifies the testers ability to send notification to users via email in the event that the user request is cancelled. The user will get an email of if the user's request is cancelled.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Initiate command to send email to user after user request is cancelled.
Output:	Email sent to user and received by user upon cancellation of user request. Log file is updated.
Expected Results:	Email sent to user after request cancellation.

Test Case 8 Provide current result set. (T216-3.04.08)

This test verifies the testers ability to view current result set of a search request.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Initiate command to view the current result set of a search query.
Output:	Current result set is displayed. Log file is updated.
Expected Results:	Current result set is displayed with the most current information.

5.39.2.5 Sequence 5 - LIM Schema

The following tests verify the administrator's capabilities to change the schema of the LIM. Such changes include being able to add, delete or modify an existing individual schema. And also to be able to create an integrated schema from exported schematas of the data server.

Test Case 1 Add a new Field to the LIM Schema (T216-3.05.01)

This test verifies that a field can be added into the LIM schema.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log onto the ECS system as an administrator. Invoke an application for administration of the LIM schema. Add a new field (i.e., employee phone numbers) to the existing schema of the LIM.
Output:	The new field is added to the existing schema of the LIM. Field has been properly 'blank' filled for all existing entries in the LIM (i.e., will not contain invalid values). Administration log contains an entry for the change to the LIM schema.

Expected Results: The new field is accessible for data entry. No data exists in the new field for any entries already in the LIM.

Test Case 2 Delete an existing Field in the LIM Schema (T216-3.05.02)

This test verifies that an existing field in the LIM can be deleted.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system as an administrator. Invoke an application for administration of the LIM Schema. Delete an existing field (i.e., employee phone numbers) from the existing schema of the LIM.

Output: The deleted field is removed from the existing schema of the LIM. Attempts to access entries in the removed field result in an error condition. Administration log contains an entry for the change to the LIM schema.

Expected Results: The deleted field is no longer accessible for data entry.

Test Case 3 Modify an existing Field in the LIM Schema (T216-3.05.03)

This test verifies that an existing field in the LIM can not be modified.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system as an administrator. Invoke an application for administration of the LIM Schema. Modify an existing field from one title to another and change the field size.

Output: Administrator provided with an error message indicating that field names and sizes can not be changed. Attempt to change field fails. No changes are made to the LIM schema. Administration log contains an entry for the attempt to change the LIM schema.

Expected Results: LIM schema unchanged.

Test Case 4 LIM Privileges (T216-3.05.04)

This test verifies that anyone attempting to make updates (add, modify, and delete) to the LIM accept the LIM administrator is denied access. Log on as a non-LIM administrator and attempt to bring up the LIM tool.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Non-LIM administrator logon id.

Output: User interface provided does not contain the LIM administrator tool. Non-administrator can not manipulate the LIM. Event log contains an entry for the user logon.

Expected Results: LIM tool is not presented on the desktop for the user to attempt to access.

Test Case 5 Verify LIM internal database man. is expressed in <TBD> sql (T216-3.05.05)

This test verifies the capability to for the LIM internal database management is expressed in TBD sql.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system. View the LIM internal database to see if it is expressed in TBD sql.

Output: LIM internal database is expressed in TBD sql.

Expected Results: This test is deemed successful if the LIM internal database is expressed in TBD sql.

Test Case 6 Retrieve a schema entry from an integrated schema (T216-3.05.06)

This test verifies the capability to retrieve a schema entry from an integrated schema. Access to a schema should be available through an interface on the scientist workbench.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to retrieve a schema entry from an integrated schema. Generate a query for known schema entry.

Output: Schema entry is provided to the tester. Event log contains entries for query initiation and result.

Expected Results: Schema entry available. Data access log is updated.

Test Case 7 Search for data granules of EOSDIS data stored for all data servers (T216-3.05.07)

This test verifies that a user can perform a data granule of EOSDIS data stored for all data servers. The tester performs a search on a selected data granule. The search result package is verified against search criteria.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User interface. Perform search request for data granules of EOSDIS data stored for all data servers.

Output: All data available for the selected search request will be displayed.

Expected Results: The search result package contains all the data granules of EOSDIS data stored for all the data servers

Test Case 8 Integrate partial results within those data servers represented in its local schema (T216-3.05.08)

This test verifies the capability to integrate partial results within those data servers represented in its local schema.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system. Integrate partial results by combining them together.

Output: Partial results are integrated within those data servers.

Expected Results: This test is deemed successful when the partial results are integrated.

Test Case 9 Verify LIM creates an integrated schema from exported schematas of the data server (T216-3.05.09)

This test verifies the capability for the LIM to create an integrated schema from exported schematas of the data server.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system. View integrated schema to see if LIM integrated exported schematas of the data server.

Output: Integrated schema contains exported schematas of data servers.

Expected Results: This test is deemed successful if the integrated schema is generated from exported schematas of data servers.

Test Case 10 View partial results from search results (T216-3.05.10)

This test verifies the capability to view partial results from search results.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system. View partial results from search results.

Output: Partial results are displayed.

Expected Results: This test is deemed successful when the partial results are displayed.

5.39.2.6 Sequence 6 - LIM Performance

The following tests will demonstrate that the LIM can perform within the timing requirements specified in the level 4 requirements. Specifically, this tests will verify the acceptance, processing and distribution of single, multiple instrument inventory search and result set.

Test Case 1 Accept, process and distribute to data server a single instrument inventory search consisting of multiple keyword attributes in TBD seconds (T216-3.06.01)

This test verifies that LIM will accept, process and distribute to the data server a single inventory search in TBD seconds.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Entries of single instrument inventory search are repeatedly tested to verify the performance requirement.

Output: Performance statistics information

Expected Results: Performance timing are met. performance statistics shows TBD transactions have been performed within specified level 4 requirement.

Test Case 2 Accept, process and distribute to data server a multiple instrument inventory search consisting of multiple keyword attributes in TBD seconds (T216-3.06.02)

This test verifies that LIM will accept, process and distribute to the data server a multiple inventory search in TBD seconds.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Entries of multiple instrument inventory search are repeatedly tested to verify the performance requirement.

Output: Performance statistics information

Expected Results: Performance timing are met. performance statistics shows TBD transactions have been performed within specified level 4 requirement.

Test Case 3 Accept from data server a single instrument inventory result set consisting of multiple keyword attributes in TBD seconds (T216-3.06.03)

This test verifies that LIM will accept from the data server a single instrument inventory result set in TBD seconds.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Entries of single instrument inventory result set is repeatedly tested to verify the performance requirement.

Output: Performance statistics information

Expected Results: Performance timing are met. performance statistics shows TBD transactions have been performed within specified level 4 requirement.

Test Case 4 Accept from data server a single instrument inventory result set consisting of multiple keyword attributes in TBD seconds (T216-3.06.04)

This test verifies that LIM will accept from the data server multiple instruments inventory result sets in TBD seconds.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Entries of multiple instrument inventory result set are repeatedly tested to verify the performance requirement.

Output: Performance statistics information

Expected Results: Performance timing are met. performance statistics shows TBD transactions have been performed within specified level 4 requirement.

5.39.2.7 Sequence 7 - Status Report (LIM)

The following tests verifies the capability for the LIM to provide status reports to SMC. Such status reports include ones from testing, integration, simulation, maintenance, logistics and training information.

Test Case 1 Verify that LIM provides integration, testing and simulation status to SMC (T216-3.07.01)

This test verifies the capability to for the LIM to provide status of integration, testing and simulation to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the integration or simulation run,

the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of integration, simulation or testing object.
Output:	Outputs include information regarding the status integration, simulation or testing.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 2 Verify that LIM provides maintenance status to SMC (T216-3.07.02)

This test verifies the capability to for the LIM to provide status of maintenance to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the maintenance, the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of maintenance object.
Output:	Outputs include information regarding the status maintenance.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 3 Verify that LIM provides logistics status to SMC (T216-3.07.03)

This test verifies the capability to for the LIM to provide status of logistics to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the logistic, the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager

Input: Inputs includes the user intimating the request by clicking on the status of logistics object.

Output: Outputs include information regarding the status logistics.

Expected Results: This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 4 Verify that LIM provides training status to SMC (T216-3.07.04)

This test verifies the capability to for the LIM to provide status of training to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the training, the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Inputs includes the user intimating the request by clicking on the status of training object.

Output: Outputs include information regarding the status training.

Expected Results: This test is deemed successful if the status of the retrieval request is returned to the user.

5.39.2.8 Sequence 8 - Directives (LIM)

The following tests verifies the capability for the LIM to receive directives from SMC. Such directives include maintenance, configuration management, logistics management, fault, security, training and testing and simulation directives.

Test Case 1 Receive maintenance directives from SMC (T216-3.08.01)

This test verifies the capability for the LIM to receive maintenance directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the maintenance directives received by the LIM and acted upon accordingly.

Expected Results: This test is deemed successful when the maintenance directive is received by the LIM and the directive is carried out.

Test Case 2 Receive integration, testing and simulation directives from SMC (T216-3.08.02)

This test verifies the capability for the LIM to receive integration, testing and simulation directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the integration, testing and simulation directives received by the LIM and acted upon accordingly.

Expected Results: This test is deemed successful when the integration, testing and simulation directives is received by the Data dictionary and the directive is carried out.

Test Case 3 Receive configuration management directives from SMC (T216-3.08.03)

This test verifies the capability for the LIM to receive configuration management directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the configuration management directives received by the LIM and acted upon accordingly.

Expected Results: This test is deemed successful when the configuration management directive is received by the LIM and the directive is carried out.

Test Case 4 Receive logistics management directives from SMC (T216-3.08.04)

This test verifies the capability for the LIM to receive logistics management directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.
Output:	Output include the logistics management directives received by the LIM and acted upon accordingly.
Expected Results:	This test is deemed successful when the logistics management directive is received by the LIM and the directive is carried out.

Test Case 5 Receive fault management directives from SMC (T216-3.08.05)

This test verifies the capability for the LIM to receive fault management directives from SMC. Testing is performed to support Release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.
Output:	Output include the fault management directives received by the LIM and acted upon accordingly.
Expected Results:	This test is deemed successful when the fault management directive is received by the LIM and the directive is carried out.

Test Case 6 Receive security management directives from SMC (T216-3.08.06)

This test verifies the capability for the LIM to receive security management directives from SMC. Testing is performed to support Release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.
Output:	Output include the security management directives received by the LIM and acted upon accordingly.
Expected Results:	This test is deemed successful when the security management directive is received by the LIM and the directive is carried out.

Test Case 7 Receive training management directives from SMC (T216-3.08.07)

This test verifies the capability for the LIM to receive training management directives from SMC. Testing is performed to support Release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.
Output:	Output include the training management received by the LIM and acted upon accordingly.
Expected Results:	This test is deemed successful when the training management directive is received by the LIM and the directive is carried out.

5.39.2.9 Sequence 9 - Data Collection (LIM)

The following tests verifies the capability to collect management data for data review purposes and data tracking.

Test Case 1 Collect Security Management Data (T216-3.09.01)

This test verifies the capability to collect security management data for data review purposes.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select fault management data.
Output:	AnOutput of all the security management data will be displayed.
Expected Results:	All the security Management data is displayed.

Test Case 2 Collect Configuration Management Data (T216-3.09.02)

This test verifies the capability to collect configuration management data for data review purposes.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager

Input: Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select configuration management data.

Output: AnOutput of all the Configuration management data will be displayed.

Expected Results: All the Configuration Management data is displayed.

Test Case 3 Collect Accounting Management Data (T216-3.09.03)

This test verifies the capability to collect Accounting management data for data review purposes.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select accounting management data.

Output: AnOutput of all the Accounting management data will be displayed.

Expected Results: All the Accounting Management data is displayed.

Test Case 4 Collect Accountability Management Data (T216-3.09.04)

This test verifies the capability to collect Accountability management data for data review purposes.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select accountability management data.

Output: AnOutput of all the Accountability management data will be displayed.

Expected Results: All the Accountability Management data is displayed.

Test Case 5 Collect Performance Management Data (T216-3.09.05)

This test verifies the capability to collect performance management data for data review purposes.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input:	Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select performance management data.
Output:	AnOutput of all the performance management data will be displayed.
Expected Results:	All the performance management data is displayed.

Test Case 6 Collect Scheduling Management Data (T216-3.09.06)

This test verifies the capability to collect scheduling management data for data review purposes.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select scheduling management data.
Output:	AnOutput of all the scheduling management data will be displayed.
Expected Results:	All the scheduling management data is displayed.

5.40 Distributed Information Manager Service Thread

5.40.1 Thread Objectives

The objectives of the Distributed Information Management thread are as follows:

- Provide the capability to accept requests from any client which can be located in any SDPS subsystem, and returns result sets, status information and other session and request management information.
- Provide capability to accept schema and metadata information from DIMGRs.

5.40.2 Thread Test Description

The Distributed Information Manager receives and coordinates requests for data and services from several loosely coupled provider sites. It provides clients with access to the following services objects: distributes query request, distributed access request, request result, client session, distributed schema, and Local Information Manager (DIM) federation.

The DIM will accept requests to initiate, suspend, resume and terminate client sessions; manage distributed queries or access requests; inquire about the status of these request; produce both complete and incomplete results; and update its internal schema.

The DIM uses a schema which is federated from schemata at the underlying service providers (e.g. DIM). After the DIM accepts a request from a client, it acts as an agent for that client and assumes complete responsibility for execution of the query and compilation of the results.

A DIM does not execute requests on its own, but it determines how they should be executed. This is called a distributed query plan. The plan specifies the services which the DIM must invoke, including any operations which the DIM may need to perform to combine or collate the results. The DIM will execute the plan, monitor its progress, and compile and manage the results for the requesting client. The client can disconnect from the DIM and reconnect later to determine the status of a query, obtain partial result, or cancel the query.

Dependencies: (If Applicable)

To verify the objectives of the Enhanced data dictionary thread, the following interface and functional capabilities are required:

- Write permissions to the defined data dictionary
- Ability to access the DIM schema to determine data locations.
- Access to DAAC and DAAC interfaces.
- Ability to access the DIM schema to determine data locations.
- Ability to access the data dictionary using views and contexts. Direct access to the top levels of the data server.
- Heterogeneous data server environment within a local site.
- Existence of an advertising service that contains a list of ECS services supported in Rel B. Ability to access the advertising service from a local workbench.
- DIM and DIM schema defined for heterogeneous data server environment. Write permissions to allow changes to the DIM and DIM schema.
- Simulated or actual services availability.
- File transfer interfaces.
- CSMS and SDPS interface.

Test Support Requirements

- Hardware:
  - TBS
- Software:
  -
- Data:

5.40.2.1 Sequence 1 - DIM Schema

The following tests will verify the DIM database structures. This will cover the creation, maintenance and usage of the federated schema at the DIM. The system's file directories are updated for the transactions in this sequence.

Test Case 1 Add New Data to DIM Schema (T216-4.01.01)

This test verifies the administrator's capability to add new data to the DIM schema. After the data is added to the DIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, add of new data type, new product, etc.
Output:	New data type, etc has been added to the DIM schema and is accessible to the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.
Expected Results:	The DIM database contains the updated information.

Test Case 2 Delete Data from DIM Schema (T216-4.01.02)

This test verifies the administrator's capability to delete existing data from the DIM schema. After the data is deleted from the DIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, deletion of an existing data set and its associated information.
Output:	The data set is deleted, the DIM schema is updated and the deleted data set is no longer accessible by the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.
Expected Results:	The DIM database no longer has the data set information.

Test Case 3 Update Existing Data in DIM schema (T216-4.01.03)

This test verifies the administrator's capability to update existing data in DIM schema. After the data is updated in the DIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, modification to an existing data set, etc.

Output: The modification is made, the DIM schema is updated and the updated data is accessible to the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.

Expected Results: The DIM database contains the updated information.

Test Case 4 Accessing Data via a DIM (T216-4.01.04)

This test verifies the ability to access the information in the data dictionary for a DIM environment. Access to a particular sites data should be available through an interface on the scientist workbench. Testing is performed to demonstrate the ability to directly access each DAAC supported in Rel B.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to search the data dictionary for the DAAC under test. Generate a query for a known data product for the DAAC under test.

Output: Data products for the DAAC under test are provided to the tester. Event log contains entries of logon to the DAAC under test and the query results. Data access log is updated.

Expected Results: Only data available for the DAAC under test is provided. Data access log is updated.

Test Case 5 Retrieve a schema entry from DIM database (T216-4.01.05)

This test verifies the capability to retrieve a schema entry from DIM database. Access to a schema should be available through an interface on the scientist workbench.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to retrieve a schema entry from DIM database. Generate a query for known schema entry.

Output: Schema entry is provided to the tester. Event log contains entries for query initiation and result.

Expected Results: Schema entry available from the DIM database is provided. Data access log is updated.

Test Case 6 Create a union of the schema (T216-4.01.06)

The following test will verify the DIM ability to create a union of schema.

Test Configuration: Hardware - workstations

	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, Create a union of schema.
Output:	Union of schema is created and is accessible to the user community. Administration log contains an entry for the change to the DIM schema.
Expected Results:	Union of schema is created.

Test Case 7 Subscribe to the LIMs for any changes in LIM schemata (T216-4.01.07)

The following test demonstrates the ability to subscribe to the LIMs for any changes to LIM schemata.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Select subscription to LIMs for any changes to LIM schemata
Output:	LIM subscription has been submitted for subscription. Administrative log contains an entry for the above function.
Expected Results:	This test is considered successful when a response is received saying subscription to LIM has been submitted.

Test Case 8 Subscribe to the advertising service for any additions or deletions of LIMs from its federation (T216-4.01.08)

The following test demonstrates the ability to subscribe to the advertising service for any additions or deletion of LIM from its federation.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Select subscription to advertising service for any additions or deletions of LIM from its federation.
Output:	The advertising service subscription for any additions or deletions of LIMs from its federation has been submitted for subscription. Administrative log contains an entry for the above function.
Expected Results:	This test is considered successful when a response is received saying subscription to advertising has been submitted.

Test Case 9 Add a LIM to its federation based on the subscription notification it receives from the advertisement service (T216-4.01.09)

The following test demonstrates the ability to add a LIM to its federation based on the subscription notification it receives from the advertising service.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, add LIM to its federation.
Output:	DIM federation is updated with LIM and its accessible to the user community. Administration log contains an entry for the change to the DIM federation.
Expected Results:	The DIM database contains the updated information.

Test Case 10 Delete LIM from the federation based on the subscription notification (T216-4.01.10)

The following test demonstrates the ability to delete a LIM from its federation based on the subscription notification it receives from the advertising service.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, delete LIM to its federation.
Output:	DIM federation is updated with LIM and its accessible to the user community. Administration log contains an entry for the change to the DIM federation.
Expected Results:	The DIM database contains the updated information.

Test Case 11 Receive local LIM schema (T216-4.01.11)

This test verifies the capability to receive local LIM schema. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with LIM (interface may be simulated or stubbed). Ingest ready to receive data notification.
Output:	Data ingest log contains an entry for the successful ingest of local LIM schema.
Expected Results:	Local LIM schema received.

Test Case 12_ Integrate partial results within those LIMs represented in its federated schema(T216-4.01.12)

This test verifies the capability to integrate partial results within those LIMs represented in its federated schema.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log onto the ECS system. Integrate partial results by combining them together.
Output:	Partial results are integrated within those LIMs.
Expected Results:	This test is deemed successful when the partial results are integrated.

Test Case 13_ Verify revisions to federated schema (T216-4.01.13)

This test verifies the capability that the federated schema can be revised. Testing performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log onto the ECS system. View the federated schema to see if the changes to the schema has been saved
Output:	Federated schema shows revision to the schema.
Expected Results:	Federated schema is revised.

Test Case 14_ View partial results from search results (T216-4.01.14)

This test verifies the capability to view partial results from search results.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log onto the ECS system. View partial results from search results.
Output:	Partial results are displayed.
Expected Results:	This test is deemed successful when the partial results are displayed.

Test Case 15_ View schemata received from LIM (T216-4.01.15)

This test verifies the capability to view schemata received from LIM.

Test Configuration:	Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Bring up the scientist workbench, activate the tool to access the DIM, and query the DIM for the schemata received

Output: The LIM schemata received is displayed. Data access log is updated.

Expected Results: This test is successful when the received schemata can be viewed.

5.40.2.2 Sequence 2 - Distributed Search (DIM)

The following tests concerns the administration for distributed searches. The test will verify the administrator's capabilities to perform distributed searches across DAACs. This includes scope of search, connections, creation of local search plans, and recovery from failure.

Test Case 1 Search and obtain data across DAACs (T216-4.02.01)

This test verifies the ability to search and obtain data across DAACs.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to search and obtain data across. Generate a query for a known data.

Output: The known data is displayed to the tester. Data access log is updated.

Expected Results: The queried data is the only data displayed. Data access log is updated.

Test Case 2 Accept and execute search request across DAACs (T216-4.02.02)

This test verifies the administrator's capabilities to accept and execute search request across DAACs. Testing is performed to verify that the search request is implemented.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Enter search request. Execute search request.

Output: The search request is displayed to the user.

Expected Results: The expected search request is displayed.

Test Case 3 Generate distributed query plan (T216-4.02.03)

This test verifies the ability to build a distributed query plan for a particular site.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Scientist workbench. Select option to build a distributed query plan.
Output:	The distributed query plan is generated
Expected Results:	The expected distributed query plan is displayed.

Test Case 4 Abort any time-intensive operation (T216-4.02.04)

This test verifies the administrator's capabilities to abort any time intensive operation. If for any reason a particular operation is taking too long, the administrator or user depending on what kind of access privileges it has, can abort that operation.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Perform a local search such as searching data by science discipline. Abort the operation at any time.
Output:	The operation is aborted upon user's request. Log is updated.
Expected Results:	The search request is aborted as per user.

Test Case 5 Verify that DIM will complete incomplete transactions without loss of data (T216-4.02.05)

This test verifies the administrator's capabilities to complete incomplete transactions without loss of data. This will be achieved by running a particular process and killing the DIM and restarting the DIM in the middle of the transaction.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Perform a DIM distributed search such as searching data by across DAACs. Kill and restart the DIM transactions in the middle of the search.
Output:	Upon restart of the DIM, the transaction is continued without loss of data. This can be verified by running another separate transaction without restarting the DIM and compare those results.
Expected Results:	Both transactions are similar

Test Case 6 Search for data granules (T216-4.02.06)

This test case verifies that the user can search for data granules. The tester generates a data search on data granules specifying which granule. After the search result package

has been received, the tester prints the data list and verify that the data granules contains only data related to the search provided and that no extraneous data is included.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Data granule search request.
Output:	Data granule search result package.
Expected Results:	The data list contains all the specified data granule information.

Test Case 7 Monitor the progress of a distributed query plan (T216-4.02.07)

This test verifies the ability to be able to monitor the progress of a distributed query plan.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Scientist workbench. After selecting option to build a query plan, view the progress of the plan.
Output:	The distributed query plan is generated
Expected Results:	The expected distributed query plan is displayed.

Test Case 8 Compile and manage the results of the distributed query plan after client disconnection (T216-4.02.08)

This test verifies the ability to save the distributed query plan after client disconnection.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Scientist workbench. Select option to save results of a distributed query plan.
Output:	The distributed query plan is saved
Expected Results:	The distributed query plan will be saved after client disconnection.

Test Case 9 Verify DIM query log file (T216-4.02.09)

This test demonstrates ability to log all DIM query logs on a DIM query log file. A series of DIM distributed searches from previous tests will be performed and as these activities are processed they will be entered into the DIM query log file. Entries in the log are sorted by data type and time frame.

Test Configuration:	Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Input into this test include the DIM distributed searches. Commands are entered to view and sort the DIM query log.

Output: Entries made to the DIM query log as data and search requests are processed.

Expected Results: The DIM query log file indicates such DIM distributed searches

Test Case 10 View log for all sessions and service request activities (T216-4.02.10)

This test demonstrates ability to view all the different logs for sessions and service requests. Entries in the log are sorted by data type and time frame.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: From the science workbench. View log for all the session and service request.

Output: Entries made during any session or service request is logged. Log displays entries of several session and service request functions.

Expected Results: Log contains sessions and service request functions.

5.40.2.3 Sequence 3 - Sessions (DIM)

The following tests verify the capabilities to establish sessions with the DIM. Some of the sessions functions include suspend, open, resume, close etc. Testing will be performed to check whether each function is carried out by the DIM.

Test Case 1 Establish a client session (T216-4.03.01)

This test verifies the capability to establish a client session by DIM. Testing verifies the ability to open a client session.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Execute command to establish client session.

Output: Client session is established as per request. DIM log contains an entry for the successful client session opened.

Expected Results: Session established.

Test Case 2 Suspend an ongoing client session (T216-4.03.02)

This test verifies the capability to suspend an ongoing client session. Testing will be checked to confirm whether an ongoing client session is suspended.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to suspend an ongoing client session.
Output:	Client session is suspended as per request. DIM log contains an entry for the successful client session suspension.
Expected Results:	Session suspended.

Test Case 3 Resume a suspended client session (T216-4.03.03)

This test verifies the capability to resume a suspended client session. Testing will be checked to confirm whether the suspended client session is resumed.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to resume suspended client session.
Output:	Client session is resumed as per request. DIM log contains an entry for the successful resuming of suspended sessions.
Expected Results:	Session is resumed.

Test Case 4 Terminate an established client session (T216-4.03.04)

This test verifies the capability to terminate an established client session. Testing will be checked to confirm whether the established client session is terminated.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to terminate an established client session.
Output:	Client session is terminated as per request. DIM contains an entry for the successful termination of established session.
Expected Results:	Session is terminated.

Test Case 5 Suspend all active sessions (T216-4.03.05)

This test verifies the capability to suspend all active session. Testing will be checked to confirm all active sessions have been suspended.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to suspend all active sessions.
Output:	All client sessions are suspended as per command. DIM log contains an entry for the successful suspension all of all client sessions.
Expected Results:	All client sessions suspended.

Test Case 6 Report status of sessions established by DIM (T216-4.03.06)

This test verifies the capability to report status of sessions established by the DIM. This test case demonstrates the capability to retrieve status of sessions that are visible to the DIM. If the user wants to know the status of the sessions, user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of sessions established by DIM object.
Output:	Outputs include information regarding the status of sessions.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 7 Verify that sessions that have been inactive for a specified time are automatically suspended(T216-4.03.07)

This test verifies the that inactive sessions for a specified time are automatically suspend. Testing will be checked to confirm that inactive sessions do automatically get suspended within a specified period of time.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to establish an active session. Leave that session for a period of time.
Output:	The client session is automatically suspended after a period of time. Check DIM log to see when the suspension took place.
Expected Results:	Inactive client session is automatically suspended.

Test Case 8 Open multiple concurrent sessions (T216-4.03.08)

This test verifies the capability to open concurrent sessions by the DIM. Testing verifies the ability to open several client sessions.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to establish a client session. Repeat the execution for several number of session.
Output:	Client sessions are established concurrently as per request. DIM log contains an entry for the successful client session opening for all the sessions.
Expected Results:	Concurrent sessions opened.

Test Case 9 Verify multiple service request within a session (T216-4.03.09)

This test verifies that multiple service request can be within a session. Testing will be checked to confirm that multiple service request exist within a session.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Open several service request within that session.
Output:	Several service request appear within one session.
Expected Results:	This test is deemed successful when several service request appear within a session.

Test Case 10 Specify a time-out period for inactive sessions (T216-4.03.10)

This test verifies the capability to specify a time-out period for inactive sessions.Testing will be checked to confirm that the specified time-out period is accurate when implemented.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Bring up the sessions configuration menu to change the time-out period for inactivity. Wait for the time-out period.
Output:	Client session times out after specified period of time. DIM log indicates changes to the session configuration file.

Expected Results: Client session times-out after specified period of time.

Test Case 11 Resume all sessions previously suspended (T216-4.03.11)

This test verifies the capability to resume all suspended client sessions. Testing will be checked to confirm whether all the suspended sessions have been resumed.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Execute command to resume all suspended client sessions.

Output: All client sessions are resumed as per request. DIM log contains an entry for the successful resuming of all suspended sessions.

Expected Results: All session is resumed.

Test Case 12 Terminate all active or suspended sessions (T216-4.03.12)

This test verifies the capability to terminate all active or suspended sessions. Testing will be checked to confirm whether the all active sessions or suspended sessions have been terminated.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Execute command to terminate all active or suspended session.

Output: All client session is terminated as per request. DIM log contains an entry for the successful termination of all active or suspended session.

Expected Results: All sessions are terminated.

Test Case 13 Send notification to users via email in the event that user request is canceled (T216-4.03.13)

This test verifies the testers ability to send notification to users via email in the event that the user request is cancelled. The user will get an email of if the user's request is cancelled.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Initiate command to send email to user after user request is cancelled.

Output: Email sent to user and received by user upon cancellation of user request. Log file is updated.

Expected Results: Email sent to user after request cancellation.

Test Case 14 Restore sessions after interruption (T216-4.03.14)

This test verifies the capability to restore sessions after interruptions. Testing will be checked to confirm whether the client session is restored after the interruption.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Injection interruption into the system. Execute command to restore client session.

Output: Client session is restored after the interruption. DIM log contains an entry for the successful restoration of the client sessions.

Expected Results: Sessions are restored back to normal.

5.40.2.4 Sequence 4 - Service Requests (DIM)

The following tests verify the capabilities to receive service requests from other locations and carryout those requests. Some of the request include suspend, open, resume, close restart service requests. Testing will be performed to check whether each function is carried out by the DIM.

Test Case 1 Suspend processing of an active service request (T216-4.04.01)

This test verifies that the DIM is capable of suspending an active service request.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User Interface. (Interface may be simulated or stubbed). Execute command to suspend an active service request.

Output: The specified active service request is suspended as per request. DIM log contains an entry for the successful suspension of the active service request.

Expected Results: Active service request is suspended.

Test Case 2 Resume processing of a previously suspended service request (T216-4.04.02)

This test verifies that the DIM is capable of resuming a previously suspended service request.

Test Configuration: Hardware - workstations

	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to resume processing of a previously suspended service request.
Output:	The previously suspended service request is resumed as per request. DIM log contains an entry for the successful resumption of the previously suspended service request.
Expected Results:	Previously suspended service request is resumed

Test Case 3 Terminate processing of an active service request (T216-4.04.03)

This test verifies that the DIM is capable of terminating the process of an active service request.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	User Interface. (Interface may be simulated or stubbed). Execute command to terminate the process of an active service request.
Output:	The specified active service request is terminated as per request. DIM log contains an entry for the successful termination of the active service request.
Expected Results:	Active service request is terminated

Test Case 4 Save results of a service request for later reuse (T216-4.04.04)

This test verifies the testers ability to save the results of a service request for later reuse. After a service request has been carried out, the result is stored into a file for later.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Initiate command to save results of a service request.
Output:	Service requests results are stored into a file for later reuse. Log file is updated.
Expected Results:	Tester is able to store the result onto a file for later reuse.

Test Case 5 Initiate status request for a service request status (T216-4.04.05)

This test case demonstrates the capability to initiate a status request . If the user wants to know the status of a service request, the user would interface with an object on the

desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status request object.
Output:	Outputs include information regarding the status of the request.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 6 Estimate resources required to execute a pending service (T216-4.04.06)

This test verifies the administrator's capabilities to estimate the resources required to execute a pending service.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	From the user interface. Select option to estimate resource required to execute a service
Output:	Estimated resources are automatically chosen
Expected Results:	Estimated resources are chosen for the selected pending service

Test Case 7 Report status of search request submitted (T216-4.04.07)

This test verifies the capability to report status of service request submitted by the DIM. This test case demonstrates the capability to retrieve status of service requests that are visible to the DIM. If the user wants to know the status of the service requests, user would interface with an object on the desktop representing the retrieval. This object will interface with service request to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of service request established by DIM object.
Output:	Outputs include information regarding the status of service requests.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 8 Provide current result set. (T216-4.04.08)

This test verifies the testers ability to view current result set of a search request.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Initiate command to view the current result set of a search query.
Output:	Current result set is displayed. Log file is updated.
Expected Results:	Current result set is displayed with the most current information.

Test Case 9 Send service request to LIM (T216-4.04.09)

This test verifies the tester ability to initiate a service request to LIM. The test will confirm that User id, Request Priority and Data Id are all present.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Service request to LIM.
Output:	Service Notification to signal service request processed. Log is updated.
Expected Results:	Tester is able to view the service request sent to LIM.

Test Case 10 Service request with (user-id, request priority and other parms (T216-4.04.10)

This test verifies the tester ability to initiate a service request. The test will confirm that User id, Request Priority and Data Id are all present.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Service request with (User Id., Request Priority and Data Id
Output:	Service Notification to signal service request processed. Log is updated.
Expected Results:	Tester is able to view the service request processed.

5.40.2.5 Sequence 5 - DIM Administrative Functions

The following tests verify the administrator's capabilities to perform some administrative functions such as adding, deleting and replacing DIM to the federation. Interfaces will be provided to perform these functions.

Test Case 1 Interface whereby a LIM may be added to the federation (T216-4.05.01)

This test verifies the administrator's capability to add LIM to the federation. After the LIM is added to the federation, a check is made on the federation to see if the LIM has been added.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Interface, execute command to add LIM to the federation
Output:	LIM has been added to the federation and is accessible to the user community. Administration log contains an entry for the change to the federation.
Expected Results:	The federation contains the updated information.

Test Case 2 Interface whereby a LIM may be deleted from the federation (T216-4.05.02)

This test verifies the administrator's capability to delete LIM from the federation. After the LIM is deleted from the federation, a check is made on the federation to see if the LIM has been deleted.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Interface, execute command to delete LIM from the federation
Output:	LIM has been deleted from the federation and is no longer accessible by the user community. Administration log contains an entry for the change to the federation.
Expected Results:	The federation contains the updated information.

Test Case 3 Interface whereby a LIM may be replaced to the federation (T216-4.05.03)

This test verifies the administrator's capability to replace LIM to the federation. After the LIM is replaced to the federation, a check is made on the federation to see if the replacement of the LIM has been fulfilled.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Interface, execute command to replace LIM to the federation

Output: LIM has been replaced to the federation and is accessible by the user community. Administration log contains an entry for the change to the federation.

Expected Results: The federation contains the updated information.

Test Case 4 Interface whereby a LIM may be retrieved from the federation (T216-4.05.04)

This test verifies the administrator's capability to retrieve LIM from the federation. After the LIM has been retrieved from the federation, a check is made to the federation to see if the retrieved information is the same as the federation.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Interface, execute command to retrieve LIM from the federation

Output: LIM has been retrieved from the federation and is the same with the federation. Administration log contains an entry for the retrieved information from the federation.

Expected Results: The user retrieves LIM from federation.

Test Case 5 Find and retrieve a schema entry from a distributed schema (T216-4.05.05)

This test verifies the capability to find and retrieve a schema entry from DIM database. Access to a schema should be available through an interface on the scientist workbench.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to retrieve a schema entry from DIM database. Generate a query for known schema entry.

Output: Schema entry is provided to the tester. Event log contains entries for query initiation and result.

Expected Results: Schema entry available from the DIM database is provided. Data access log is updated.

Test Case 6 Create Utilization reports (T216-4.05.06)

This test verifies the ability to create utilization reports. This report will be generated by the system administrator.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: From the science workbench. Enter command to create utilization reports

Output: Utilization report is generated. Log is updated.

Expected Results: The report is generated with all the utilization data.

Test Case 7 Distribute utilization reports electronically (T216-4.05.07)

This test verifies the ability to distribute utilization report electronically. This report will be generated by the system administrator. This report will be sent to appropriate destinations through the network by the DIM.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Retrieve utilization report. Specify location to be distributed to through the network.

Output: Report distributed to specified location as per request. message log indicates distribution.

Expected Results: Report is retrieved and distributed to specified location. Receipt of report by the other location is verified by confirming receipt.

Test Case 8 Distribute utilization reports via electronic media (T216-4.05.08)

This test verifies the ability to distribute utilization report via an electronically media. This utilization report will be generated by the system administrator. This report will then be sent to appropriate destinations via an electronic media such as 4mm.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Retrieve utilization report. Store utilization report on to electronic media. Distribute electronic media manually to other specified location

Output: Report distributed to specified location as per request. message log indicates distribution.

Expected Results: Report is stored onto electronic media. Upon receipt of the electronic media by the other location, the stored report is retrieved from the electronic media.

5.40.2.6 Sequence 6 - DIM Performance

The following tests will demonstrate that the DIM can perform within the timing requirements specified in the level 4 requirements. Specifically, this tests will verify the acceptance,

processing and distribution of single, multiple instrument inventory search and result set to the LIM in TBD seconds.

Test Case 1 Accept, process and distribute to LIM a multiple DAAC, single instrument inventory search consisting of multiple keyword attributes in TBD seconds (T216-4.06.01)

This test verifies that DIM will accept, process and distribute to LIM a single inventory search in TBD seconds.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Entries of single instrument inventory search are repeatedly tested to verify the performance requirement.

Output: Performance statistics information

Expected Results: Performance timing are met. performance statistics shows TBD transactions have been performed within specified level 4 requirement.

Test Case 2 Accept, process and distribute to LIMS, a multiple DAAC, multiple instrument inventory search consisting of multiple keyword attributes in TBD seconds (T216-4.06.02)

This test verifies that DIM will accept, process and distribute to the LIMS a multiple inventory search in TBD seconds.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Entries of multiple instrument inventory search are repeatedly tested to verify the performance requirement.

Output: Performance statistics information

Expected Results: Performance timing are met. performance statistics shows TBD transactions have been performed within specified level 4 requirement.

Test Case 3 Accept from LIM a multiple DAAC, single instrument inventory result set consisting of multiple keyword attributes in TBD seconds (T216-4.06.03)

This test verifies that DIM will accept from the LIM a single instrument inventory result set in TBD seconds.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Entries of single instrument inventory result set is repeatedly tested to verify the performance requirement.

Output: Performance statistics information

Expected Results: Performance timing are met. performance statistics shows TBD transactions have been performed within specified level 4 requirement.

Test Case 4 Accept from LIMs a multiple DAAC, multiple instrument inventory result set consisting of multiple keyword attributes in TBD seconds (T216-4.06.04)

This test verifies that DIM will accept from the LIM multiple instruments inventory result sets in TBD seconds.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Entries of multiple instrument inventory result set are repeatedly tested to verify the performance requirement.

Output: Performance statistics information

Expected Results: Performance timing are met. performance statistics shows TBD transactions have been performed within specified level 4 requirement.

5.40.2.7 Sequence 7—Status Report (DIM)

The following tests verifies the capability for the DIM to provide status reports to SMC. Such status reports include ones from testing, integration, simulation, maintenance, logistics and training information.

Test Case 1 Verify that DIM provides integration, testing and simulation status to SMC (T216-4.07.01)

This test verifies the capability to for the DIM to provide status of integration, testing and simulation to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the integration or simulation run, the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input:	Inputs includes the user intimating the request by clicking on the status of integration, simulation or testing object.
Output:	Outputs include information regarding the status integration, simulation or testing.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 2 Verify that DIM provides maintenance status to SMC (T216-4.07.02)

This test verifies the capability to for the DIM to provide status of maintenance to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the maintenance, the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of maintenance object.
Output:	Outputs include information regarding the status maintenance.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 3 Verify that DIM provides logistics status to SMC (T216-4.07.03)

This test verifies the capability to for the DIM to provide status of logistics to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the logistic, the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of logistics object.
Output:	Outputs include information regarding the status logistics.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 4 Verify that DIM provides training status to SMC (T216-4.07.04)

This test verifies the capability to for the DIM to provide status of training to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the training, the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of training object.
Output:	Outputs include information regarding the status training.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

5.40.2.8 Sequence 8 - Directives (DIM)

The following tests verifies the capability for the DIM to receive directives from SMC. Such directives include maintenance, configuration management, logistics management, fault, security, training and testing and simulation directives.

Test Case 1 Receive maintenance directives from SMC (T216-4.08.01)

This test verifies the capability for the DIM to receive maintenance directives from SMC. Testing is performed to support Release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.
Output:	Output include the maintenance directives received by the DIM and acted upon accordingly.
Expected Results:	This test is deemed successful when the maintenance directive is received by the DIM and the directive is carried out.

Test Case 2 Receive integration, testing and simulation directives from SMC (T216-4.08.02)

This test verifies the capability for the DIM to receive integration, testing and simulation directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the integration, testing and simulation directives received by the DIM and acted upon accordingly.

Expected Results: This test is deemed successful when the integration, testing and simulation directives is received by the Data dictionary and the directive is carried out.

Test Case 3 Receive configuration management directives from SMC (T216-4.08.03)

This test verifies the capability for the DIM to receive configuration management directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the configuration management directives received by the DIM and acted upon accordingly.

Expected Results: This test is deemed successful when the configuration management directive is received by the DIM and the directive is carried out.

Test Case 4 Receive logistics management directives from SMC (T216-4.08.04)

This test verifies the capability for the DIM to receive logistics management directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the logistics management directives received by the DIM and acted upon accordingly.

Expected Results: This test is deemed successful when the logistics management directive is received by the DIM and the directive is carried out.

Test Case 5 Receive fault management directives from SMC (T216-4.08.05)

This test verifies the capability for the DIM to receive fault management directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the fault management directives received by the DIM and acted upon accordingly.

Expected Results: This test is deemed successful when the fault management directive is received by the DIM and the directive is carried out.

Test Case 6 Receive security management directives from SMC (T216-4.08.06)

This test verifies the capability for the DIM to receive security management directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the security management directives received by the DIM and acted upon accordingly.

Expected Results: This test is deemed successful when the security management directive is received by the DIM and the directive is carried out.

Test Case 7 Receive training management directives from SMC (T216-4.08.07)

This test verifies the capability for the DIM to receive training management directives from SMC. Testing is performed to support Release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.
Output:	Output include the training management received by the DIM and acted upon accordingly.
Expected Results:	This test is deemed successful when the training management directive is received by the DIM and the directive is carried out.

5.40.2.9 Sequence 9 - Data Collection (DIM)

The following tests verifies the capability to collect management data for data review purposes and data tracking.

Test Case 1 Collect Security Management Data (T216-4.09.01)

This test verifies the capability to collect security management data for data review purposes.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select fault management data.
Output:	AnOutput of all the security management data will be displayed.
Expected Results:	All the security Management data is displayed.

Test Case 2 Collect Configuration Management Data (T216-4.09.02)

This test verifies the capability to collect configuration management data for data review purposes.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager

Input: Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select configuration management data.

Output: AnOutput of all the Configuration management data will be displayed.

Expected Results: All the Configuration Management data is displayed.

Test Case 3 Collect Accounting Management Data (T216-4.09.03)

This test verifies the capability to collect Accounting management data for data review purposes.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select accounting management data.

Output: AnOutput of all the Accounting management data will be displayed.

Expected Results: All the Accounting Management data is displayed.

Test Case 4 Collect Accountability Management Data (T216-4.09.04)

This test verifies the capability to collect Accountability management data for data review purposes.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select accountability management data.

Output: AnOutput of all the Accountability management data will be displayed.

Expected Results: All the Accountability Management data is displayed.

Test Case 5 Collect Performance Management Data (T216-4.09.05)

This test verifies the capability to collect performance management data for data review purposes.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select performance management data.

Output: AnOutput of all the performance management data will be displayed.

Expected Results: All the performance management data is displayed.

Test Case 6 Collect Scheduling Management Data (T216-4.09.06)

This test verifies the capability to collect scheduling management data for data review purposes.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select scheduling management data.

Output: AnOutput of all the scheduling management data will be displayed.

Expected Results: All the scheduling management data is displayed.

Test Case 7 Collect Security Management Data (T216-4.09.07)

This test verifies the capability to collect security management data for data review purposes.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select security management data.

Output: AnOutput of all the security management data will be displayed.

Expected Results: All the security management data is displayed.

5.41 Enhanced Data Dictionary Thread

5.41.1 Thread Objectives

The objectives of the Enhanced data dictionary thread are as follows:

- Provide the capability to manipulate data residing in the data dictionary (i.e., define new ECS definition) and to manipulate the schema(i.e., add new field to existing data

dictionary database) of the data dictionary. Capability to save data dictionary information for backup purposes is provided and recovery procedures verified.

- Provide the capability to access the data dictionary to obtain information about data objects, data elements, terms, etc.

5.41.2 Thread Test Description

Testing is performed to demonstrate the ability to manipulate (add, modify and delete) data defined in the data dictionary. Testing will demonstrate the system does not accept and attempt to add an invalid to the data dictionary. Verification that only a administrator of the data dictionary can make manipulations is performed.

Testing is performed to verify the ability to change the schema of the data dictionary. Adding and deleting of fields defined in the data dictionary is performed. Testing will verify that existing fields within the data dictionary can not be modified.

Testing will demonstrate the ability to access information in the data dictionary. Attempts to access data that is not contained in the data dictionary is performed to verify the system provides a response to the requester in this situation.

Dependencies: (If Applicable)

To verify the objectives of the Enhanced data dictionary thread, the following interface and functional capabilities are required:

- Write permissions to the defined data dictionary
- Ability to access the LIM schema to determine data locations.
- Access to DAAC and DAAC interfaces.
- Ability to access the DIM schema to determine data locations.
- Ability to access the data dictionary using views and contexts. Direct access to the top levels of the data server.
- Heterogeneous data server environment within a local site.
- Existence of an advertising service that contains a list of ECS services supported in Rel B. Ability to access the advertising service from a local workbench.
- LIM and DIM schema defined for heterogeneous data server environment. Write permissions to allow changes to the LIM and DIM schema.
- Simulated or actual services availability.
- File transfer interfaces.
- CSMS and SDPS interface.

Test Support Requirements

- Hardware:

– TBS

- Software:

  –

- Data:

  –

5.41.2.1 Sequence 1- Data Dictionary Administration

The following tests verify the administrator's capabilities to manipulate the data in the data dictionary (add, delete, modify entries). Testing is performed to verify that invalid entries for the data dictionary are rejected.

Test Case 1 Media Backup of DD (T216-5.01.01)

This test verifies the capability to save the data dictionary to external media. The tester (acting as the administrator of the DD) invokes an application for administration of the DDS. The tester selects an option to perform external backup save of the data dictionary. Each external media backup option is tested (i.e., 4mm, 8mm, CD-ROM)

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Data dictionary information, administration account and DDS administration tool. Option to select 'external backup media save' of the data dictionary.
Output:	The data dictionary is saved to the selected external media. Administration log contains an entry for the execution of the external save.
Expected Results:	Data saved to external media is the same as the data on-line. Backup of data dictionary information can be performed.

Test Case 2 Recovery of Data Dictionary (T216-5.01.02)

This test verifies the capability to recover the data dictionary upon disk failure. While accessing the data dictionary, the tester induces a disk failure. Recovery procedures are initiated to restore the data dictionary from the backup created in test case 8. The user is able to complete the interrupted operation after the recovery is complete.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data dictionary transaction, tester induced disk failure, recovery procedures.

Output: The disk failure is discovered, alarms generated, event logs updated.

Expected Results: The data dictionary recovery procedures are executed and the initiated transaction is completed after recovery procedures are executed successfully.

Test Case 3 Add ECS to authorized users (T216-5.01.03)

The following tests will verify that the administrator has the capability to add ECS to authorized users list of the data dictionary.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system as an administrator. Invoke an application for administration of the DDS. Add ECS to the authorized users list of the DD.

Output: ECS is added to the existing list DD. Administration log contains an entry for the change to the data dictionary authorized users.

Expected Results: ECS is added to the Data Dictionary authorized users list

Test Case 4 Delete ECS from authorized users (T216-5.01.04)

The following tests will verify that the administrator has the capability to delete ECS from authorized users list of the data dictionary.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system as an administrator. Invoke an application for administration of the DDS. Delete ECS from the authorized users list of the DD.

Output: ECS has been delete from the existing list of DD. Administration log contains an entry for the change to the data dictionary authorized users.

Expected Results: ECS is deleted from the Data Dictionary authorized users list

Test Case 5 Verify thesaurus of DD entries (T216-5.01.05)

This test verifies the capability for the DD to provide thesaurus of data dictionary entries. If the user wants to know the detailed entry, he can go into the thesaurus to get that information.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: From user interface. Select thesaurus from the menu.

Output: This will display all the DD entries.

Expected Results: This test is deemed successful if the DD entries are returned to the user.

Test Case 6 Verify administrative utility for performance, memory, CPU (T216-5.01.06)

This test verifies the capability for the DD to provide administrative utility to handle performance, memory management and CPU functions.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: From user interface. Bring up the utility.

Output: Utility is displayed with performance, memory options.

Expected Results: This test is deemed successful when the administrative utility is displayed.

Test Case 7 Accept export files from data server (T216-5.01.07)

The following tests the authorized user's capability to accept export files from data server. The export utility will be used to accept export files.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Enter the command to accept export files from data server.

Output: Exported files are accepted. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful if the exported files have been accepted from the data server.

Test Case 8 Accept export files from LIM (T216-5.01.08)

The following tests the authorized user's capability to accept export files from LIM. The export utility will be used to accept export files.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Enter the command to accept export files from LIM.

Output: Exported files are accepted. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful if the exported files have been accepted from the LIM.

Test Case 9 Accept export files from DIM (T216-5.01.09)

The following tests the authorized user's capability to accept export files from DIM. The export utility will be used to accept export files.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Enter the command to accept export files from DIM.

Output: Exported files are accepted. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful if the exported files have been accepted from the DIM.

Test Case 10 Export dependent valid values to ESDIS IMS (T216-5.01.10)

The following tests the authorized user's capability to export dependent valid values to ESDIS IMS. The export utility will be used to export the dependent values.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Enter the export command to export the dependent values.

Output: Dependent values are exported. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful if the file is successfully exported to the ESDIS IMS.

5.41.2.2 Sequence 2 - Data Dictionary Views

The following tests verify the administrator's capabilities to view the data dictionary data types through different means such as the Data server, LIM and DIM.

Test Case 1 View DD entries based on Earth Science data types through Data Server (T216-5.02.01)

The following tests will verify the capability to view DD entries based on Earth Science data types through data server.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system. Select view DD entries. Select an earth science data type. Select data server as the medium.

Output: Data dictionary entries based on earth science data types will be displayed. Administration log contains access to viewed entries based on earth science data types through the data server.

Expected Results: The user views the entries based on specified earth science data types through the data server.

Test Case 2 View DD entries based on Earth Science data types through LIM (T216-5.02.02)

The following tests will verify the capability to view DD entries based on Earth Science data types through the LIM.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system. Select view DD entries. Select an earth science data type. Select LIM as the medium.

Output: Data dictionary entries based on earth science data types will be displayed. Administration log contains access to viewed entries based on earth science data types through the LIM.

Expected Results: The user views the entries based on specified earth science data types through the LIM.

Test Case 3 View DD entries based on Earth Science data types through DIM (T216-5.02.03)

The following tests will verify the capability to view DD entries based on Earth Science data types through the DIM.

Test Configuration: Hardware - workstations

	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log onto the ECS system. Select view DD entries. Select an earth science data type. Select DIM as the medium.
Output:	Data dictionary entries based on earth science data types will be displayed. Administration log contains access to viewed entries based on earth science data types through the DIM.
Expected Results:	The user views the entries based on specified earth science data types through the DIM.

Test Case 4 View schema (T216-5.02.04)

This test verifies the capability to view data dictionary schema.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Bring up the scientist workbench, activate the tool to access the data dictionary, and query the data dictionary for the schema
Output:	The data dictionary schema is displayed. Data access log is updated.
Expected Results:	The DD schema is provided. Event log contains the entries for query initiated and results provided. Data access log is updated.

Test Case 5 Define global view of DD entries based on earth science data type (T216-5.02.05)

The following tests will verify the capability to define a global view of DD entries based on Earth Science data types.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log onto the ECS system. Select define DD entries. Select an earth science data type. Select data server as the medium.
Output:	Data dictionary entries based on earth science data types will be defined. Administration log contains definition of global view of DD entries based on earth science data types through the data server.
Expected Results:	The global view is defined based on specified earth science data types through the data server.

5.41.2.3 Sequence 3 - Data Dictionary Schema

The following tests verify the administrator's capabilities to change the schema of the data dictionary.

Test Case 1 Add a new Field (T216-5.03.01)

This test verifies that a field can be added into the data dictionary.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system as an administrator. Invoke an application for administration of the DDS. Add a new field (i.e., employee phone numbers) to the existing schema of the DD.

Output: The new field is added to the existing schema of the DD. Field has been properly 'blank' filled for all existing entries in the data dictionary (i.e., will not contain invalid values). Administration log contains an entry for the change to the data dictionary schema.

Expected Results: The new field is accessible for data entry. No data exists in the new field for any entries already in the data dictionary.

Test Case 2 Delete an existing Field (T216-5.03.02)

This test verifies that an existing field in the data dictionary can be deleted.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system as an administrator. Invoke an application for administration of the DDS. Delete an existing field (i.e., employee phone numbers) from the existing schema of the DD.

Output: The deleted field is removed from the existing schema of the DD. Attempts to access entries in the removed field result in an error condition. Administration log contains an entry for the change to the data dictionary schema.

Expected Results: The deleted field is no longer accessible for data entry.

Test Case 3 Modify an existing Field (T216-5.03.03)

This test verifies that an existing field in the data dictionary can not be modified.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system as an administrator. Invoke an application for administration of the DDS. Modify an existing field from one title to another and change the field size.

Output: Administrator provided with an error message indicating that field names and sizes can not be changed. Attempt to change field fails. No changes are made to the data dictionary schema. Administration log contains an entry for the attempt to change the data dictionary schema.

Expected Results: Data dictionary schema unchanged.

Test Case 4 DD Privileges (T216-5.03.04)

This test verifies that anyone attempting to make updates (add, modify, and delete) to the DD accept the DD administrator is denied access. Log on as a non-data dictionary administrator and attempt to bring up the DD tool.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Non-data dictionary administrator logon id.

Output: User interface provided does not contain the data dictionary administrator tool. Non-administrator can not manipulate the data dictionary. Event log contains an entry for the user logon.

Expected Results: Data dictionary tool is not presented on the desktop for the user to attempt to access.

5.41.2.4 Sequence 4 - Accessing Information that exists in DD

The following tests verify the capability to access information in the data dictionary from the scientist workbench. Testing is performed to verify that the system provides the user with a response to a query for non-existent data.

Test Case 1 Access DD using Views (T216-5.04.01)

This test verifies the capability of accessing the DD using data dictionary views. Views restrict the access to a specific subset of the data dictionary information. This test case is executed for various subset categories available in the data dictionary (i.e., product names, product id, station id, etc).

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Bring up the scientist workbench, activate the tool to access the data dictionary, and query the data dictionary for a list of product names.

Output: User requested search is restricted and only data that fit into the category specified in the search (i.e., product names) is displayed. Data access log is updated.

Expected Results: List of product names provided. Event log contains entries for query initiated and results provided. Data access log is updated.

Test Case 2 Access DD using Contexts (T216-5.04.02)

This test verifies the capability of accessing the DD using data dictionary contexts. Access requests to the DD can reference a context and thus restrict the visibility of data dictionary information to that context. This test case is executed for various context categories available in the data dictionary (i.e., atmospheric dynamics, L0, L1, etc.).

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Bring up the scientist workbench, activate the tool to access the data dictionary, and query the data dictionary for a list of items/data that pertain to atmospheric dynamics.

Output: User requested search is restricted and only data that fit into the category specified in the search (i.e., atmospheric dynamics) is displayed. Data access log is updated.

Expected Results: List of information that relates to atmospheric dynamics is provided. Event log contains entries for query initiated and results provided. Data access log is updated.

Test Case 3 Access DD for Non-Existent Data (T216-5.04.03)

This test verifies that the system provides the user with a message indicating that the data requested is not found when a query for non-existent data is received.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Query for a known non-existent data product.

Output: Status message provided to the user indicating the data requested does not exist on the system. Event log contains entries for query initiation and result.

Expected Results: System generates a response to the data query for non-existent data.

Test Case 4 Attempt to add an invalid entry in DD (216-5.04.04)

This test verifies that the system provides the user with a message indicating that the user is attempting to add an invalid entry into DD, thereby responding with the user inability to perform such function.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	From user interface. Attempt to add an invalid entry into the data dictionary. e.g.
Output:	Status message provided to the user indicating the data entry is invalid. Event log contains entries for the data entry attempt.
Expected Results:	System generates a response to the attempted data entry into the data dictionary.

5.41.2.5 Sequence 5 - Batch DD entries

The following tests verify the capability to send batch jobs to add, update, delete and retrieve information by from the data dictionary from the scientist workbench. Testing is performed to verify that the system provides the user adequate response to a query.

Test Case 1 Send batch job to add DD entries (T216-5.05.01)

This test verifies the capability of adding information to the Data Dictionary through batch methods.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log onto the ECS system as an administrator. Invoke a batch job from the application for administration of the DDS to add a field (i.e., employee phone numbers) to the schema of the DD.
Output:	The batch job will add the information to the data dictionary. Administration log contains an entry for the change to the data dictionary schema.
Expected Results:	The added field is shown on the log file as an added data entry.

Test Case 2 Send batch job to update DD entries (T216-5.05.02)

This test verifies the capability of updating information to the Data Dictionary through batch methods.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system as an administrator. Invoke a batch job from the application for administration of the DDS to update a field (i.e., employee phone numbers) to the schema of the DD.

Output: The batch job will update the information to the data dictionary. Administration log contains an entry for the change to the data dictionary schema.

Expected Results: The updated field is shown on the log file as an updated data entry.

Test Case 3 Send batch job to delete DD entries (T216-5.05.03)

This test verifies the capability of delete information from the Data Dictionary through batch methods.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system as an administrator. Invoke a batch job from the application for administration of the DDS to delete a field (i.e., employee phone numbers) to the schema of the DD.

Output: The batch job will delete the information to the data dictionary. Administration log contains an entry for the change to the data dictionary schema.

Expected Results: The deleted field is shown on the log file as an deleted data entry.

Test Case 4 Send batch job to retrieve a DD entries (T216-5.05.04)

This test verifies the capability to retrieve information from the Data Dictionary through batch methods.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log onto the ECS system as an administrator. Invoke a batch job from the application for administration of the DDS to retrieve a field (i.e., employee phone numbers) to the schema of the DD.

Output: The batch job will retrieve the information to the data dictionary. Administration log contains an entry for the change to the data dictionary schema.

Expected Results: The retrieved field is shown on the log file as a retrieved data entry.

Test Case 5_ Interactively add DD entries (T216-5.05.05)

This test verifies the capability of adding information to the Data Dictionary through interactive methods.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log onto the ECS system as an administrator. Invoke an application for administration of the DDS. Add a field (i.e., employee phone numbers) to the schema of the DD.
Output:	The field will be added to the of the DD. Administration log contains an entry for the change to the data dictionary schema.
Expected Results:	The added field is shown on the log file as an added data entry.

Test Case 6_ Interactively update DD entries (T216-5.05.06)

This test verifies the capability of updating information to the Data Dictionary through interactive methods.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log onto the ECS system as an administrator. Invoke an application for administration of the DDS. Update a field (i.e., employee phone numbers) to the schema of the DD.
Output:	The field will be updated to the of the DD. Administration log contains an entry for the change to the data dictionary schema.
Expected Results:	The updated field is shown on the log file as an updated data entry.

Test Case 7_ Interactively delete DD entries (T216-5.05.07)

This test verifies the capability of deleting information to the Data Dictionary through interactive methods.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log onto the ECS system as an administrator. Invoke an application for administration of the DDS. Delete a field (i.e., employee phone numbers) to the schema of the DD.
Output:	The field will be deleted to the of the DD. Administration log contains an entry for the change to the data dictionary schema.
Expected Results:	The deleted field is shown on the log file as an deleted data entry.

Test Case 8 Interactively retrieve a DD entries (T216-5.05.08)

This test verifies the capability of retrieving information to the Data Dictionary through interactive methods.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log onto the ECS system as an administrator. Invoke an application for administration of the DDS. Retrieve a field (i.e., employee phone numbers) to the schema of the DD.
Output:	The field will be retrieved to the of the DD. Administration log contains an entry for the change to the data dictionary schema.
Expected Results:	The retrieved field is shown on the log file as a retrieved data entry.

5.41.2.6 Sequence 6 - Re-Configure the Data Dictionary

The following tests verify the administrator's capabilities to manipulate the data in the data dictionary (add, delete, modify entries). Testing is performed to verify that invalid entries for the data dictionary are rejected.

Test Case 1 Add Context Information to DD (T216-5.06.01)

This test verified the capability of entering context based summary data for a new data type/product in the DD.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Context based summary information, administration account and DDS administrative tool.
Output:	The data dictionary summary information is updated.
Expected Results:	The new summary information is properly entered and is accessible by the user community.

Test Case 2 Add an entry in DD (T216-5.06.02)

This test verified the capability of adding an individual entry to the data dictionary

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Data dictionary information, administration account and DDS administration tool.

Output: The data dictionary contains a new entry. Administration log contains record of new entry being added to the DD.

Expected Results: The new item is properly entered into the DD and is accessible by all users.

Test Case 3 Attempt to add an Invalid Summary (T216-5.06.03)

This test verified that invalid summary information will not be entered in the data dictionary.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Invalid summary information, administration account.

Output: Error message concerning attempt to add data using an invalid format. Administration log contains record of attempt to add and invalid entry to the DD.

Expected Results: The system does not allow the information to be added to the data dictionary when its in an invalid format.

Test Case 4 Attempt to add an Invalid Entry in DD (T216-5.06.04)

This test verifies the capability of rejecting the addition of an individual entry with invalid format in the data dictionary.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Invalid data dictionary entry information, administration account.

Output: Error message concerning attempt to add data using an invalid format. Administration log contains record of attempt to add and invalid entry to the DD.

Expected Results: The system does not allow the information to be added to the data dictionary when its in an invalid format.

Test Case 5 Modify an Entry in DD (T216-5.06.05)

This test verifies the capability to modify an individual entry in the data dictionary.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data dictionary information to be modified, administration account, and administration tool.

Output: The data dictionary item is modified. Administration log contains record of the item that is modified in the DD.

Expected Results: The item is modified in the DD and is accessible by all users.

Test Case 6 Modify Multiple Entries in DD (T216-5.06.06)

This test verifies the capability to modify multiple entries in the data dictionary.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data dictionary information to be modified, administration account, and administration tool.

Output: The data dictionary items are modified. Administration log contains record of the item that is modified in the DD.

Expected Results: The items are modified in the DD and is accessible by all users.

Test Case 7 Delete an Entry in DD (T216-5.06.07)

This test verifies the capability to delete an individual entry in the data dictionary.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data dictionary information, administration account and DDS administration tool.

Output: The data dictionary entry is deleted. Administration log contains record of the deleted entry.

Expected Results: The entry is deleted in the DD and no longer accessible by the users.

Test Case 8 Define global DD entries (T216-5.06.08)

This test verifies the capability to define global DD entries.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data dictionary information, administration account and DDS administration tool.

Output: Global DD entry is defined. Administration log contains record of the definition of global DD entry.

Expected Results: The global data dictionary entry is defined.

Test Case 9 View DD log (T216-5.06.09)

This test demonstrates ability to view DD logs. Entries in the log are sorted by data type and time frame.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: From the science workbench. View DD log

Output: Entries made during any DD activity is displayed.

Expected Results: Log contains DD activities.

5.41.2.7 Sequence 7 - Data Collection (DD)

The following tests verifies the capability to collect management data for data review purposes and data tracking.

Test Case 1 Collect Fault Management Data (T216-5.07.01)

This test verifies the capability to collect fault management data for data review purposes.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select fault management data.

Output: AnOutput of all the Fault management data will be displayed.

Expected Results: All the Fault Management data is displayed.

Test Case 2 Collect Configuration Management Data (T216-5.07.02)

This test verifies the capability to collect configuration management data for data review purposes.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select configuration management data.

Output: AnOutput of all the Configuration management data will be displayed.

Expected Results: All the Configuration Management data is displayed.

Test Case 3 Collect Accountability Management Data (T216-5.07.03)

This test verifies the capability to collect Accountability management data for data review purposes.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select accountability management data.
Output:	AnOutput of all the Accountability management data will be displayed.
Expected Results:	All the Accountability Management data is displayed.

Test Case 4 Collect Performance Management Data (T216-5.07.04)

This test verifies the capability to collect performance management data for data review purposes.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select performance management data.
Output:	AnOutput of all the performance management data will be displayed.
Expected Results:	All the performance management data is displayed.

Test Case 5 Collect Scheduling Management Data (T216-5.07.05)

This test verifies the capability to collect scheduling management data for data review purposes.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Log on to the ECS system as an administrator. Go to the view that has all the management data retrieval list. Select scheduling management data.
Output:	AnOutput of all the scheduling management data will be displayed.
Expected Results:	All the scheduling management data is displayed.

5.41.2.8 Sequence 8 - Status Report (DD)

The following tests verifies the capability for the data dictionary to provide status reports to SMC. Such status reports include ones from testing, integration, simulation, maintenance, logistics and training information.

Test Case 1 Verify that DD provides integration, testing and simulation status to SMC (T216-5.08.01)

This test verifies the capability to for the DD to provide status of integration, testing and simulation to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the integration or simulation run, the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of integration, simulation or testing object.
Output:	Outputs include information regarding the status integration, simulation or testing.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 2 Verify that DD provides maintenance status to SMC (T216-5.08.02)

This test verifies the capability to for the DD to provide status of maintenance to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the maintenance, the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of maintenance object.
Output:	Outputs include information regarding the status maintenance.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 3 Verify that DD provides logistics status to SMC (T216-5.08.03)

This test verifies the capability to for the DD to provide status of logistics to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the logistic, the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of logistics object.
Output:	Outputs include information regarding the status logistics.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 4 Verify that DD provides training status to SMC (T216-5.08.04)

This test verifies the capability to for the DD to provide status of training to the SMC. This test case demonstrates the capability to retrieve status of a functional area. If the user wants to know the status of the training, the user would interface with an object on the desktop representing the retrieval. This object will interface with session services to obtain the status information for which the user requested.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of training object.
Output:	Outputs include information regarding the status training.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

5.41.2.9 Sequence 9 - Directives (DD)

The following tests verifies the capability for the data dictionary to receive directives from SMC. Such directives include maintenance, configuration management, logistics management, fault, security, training and testing and simulation directives.

Test Case 1 Receive maintenance directives from SMC (T216-5.09.01)

This test verifies the capability for the DD to receive maintenance directives from SMC. Testing is performed to support Release B testing.

Test Configuration:	Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the maintenance directives received by the data dictionary and acted upon accordingly.

Expected Results: This test is deemed successful when the maintenance directive is received by the Data dictionary and the directive is carried out.

Test Case 2 Receive integration, testing and simulation directives from SMC (T216-5.09.02)

This test verifies the capability for the DD to receive integration, testing and simulation directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the integration, testing and simulation directives received by the data dictionary and acted upon accordingly.

Expected Results: This test is deemed successful when the integration, testing and simulation directives is received by the Data dictionary and the directive is carried out.

Test Case 3 Receive configuration management directives from SMC (T216-5.09.03)

This test verifies the capability for the DD to receive configuration management directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the configuration management directives received by the data dictionary and acted upon accordingly.

Expected Results: This test is deemed successful when the configuration management directive is received by the Data dictionary and the directive is carried out.

Test Case 4 Receive logistics management directives from SMC (T216-5.09.04)

This test verifies the capability for the DD to receive logistics management directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the logistics management directives received by the data dictionary and acted upon accordingly.

Expected Results: This test is deemed successful when the logistics management directive is received by the Data dictionary and the directive is carried out.

Test Case 5 Receive fault management directives from SMC (T216-5.09.05)

This test verifies the capability for the DD to receive fault management directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the fault management directives received by the data dictionary and acted upon accordingly.

Expected Results: This test is deemed successful when the fault management directive is received by the Data dictionary and the directive is carried out.

Test Case 6 Receive security management directives from SMC (T216-5.09.06)

This test verifies the capability for the DD to receive security management directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the security management directives received by the data dictionary and acted upon accordingly.

Expected Results: This test is deemed successful when the security management directive is received by the Data dictionary and the directive is carried out.

Test Case 7 Receive training management directives from SMC (T216-5.09.07)

This test verifies the capability for the DD to receive training management directives from SMC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with SMC. (interface may be simulated or stubbed).Inputs includes directives sent from SMC to perform a specified task.

Output: Output include the training management received by the data dictionary and acted upon accordingly.

Expected Results: This test is deemed successful when the training management directive is received by the Data dictionary and the directive is carried out.

5.41.2.10 Sequence 10 - Access Control Functions

The following tests verify the administrator's capabilities to perform access control functions such as accessing certain data based on data types or ownership.

Test Case 1 Read and Write Combination based on data types (T216-5.10.01)

This test verifies the ability to access certain data with read and write privileges based on data types.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: From the User Interface. Select data based data types with read and write privileges.

Output: User is able to access data based on his read and write privileges and data types. Event log contains an entry for the user logon.

Expected Results: Data is access based on the data type and user privileges.

Test Case 2 Read and Write Combination based on ownership types (T216-5.10.02)

This test verifies the ability to access certain data with read and write privileges based on ownership.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: From the User Interface. Select data based ownership with read and write privileges.

Output: User is able to access data based on his read and write privileges and ownership. Event log contains an entry for the user logon.

Expected Results: Data is access based on the ownership and user privileges.

Test Case 3 Decompose search request received into executable database query (T216-5.10.03)

This test verifies the ability to decompose search request received into executable database queries.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to decompose search request into executable database query.

Output: The search requests are decomposed into executable database queries such as searching for a particular data type. Log is updated.

Expected Results: Search request is decomposed into executable database query.

Test Case 4 Receive data administrative request (T216-5.10.04)

This test verifies the capability of the data dictionary receiving data administrative request.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Send a data administrative request to the data dictionary

Output: Data administrative request received by the data dictionary.

Expected Results: This test is deemed successful when the request is received by the data dictionary.

5.42 Interoperability Thread

5.42.1 Thread Objectives

The objectives of the Interoperability thread are as follows:

- Provide the capability to receive and transfer data FDF data.
- Provide capability to receive and send DAR request.
- Provide capability to transfer and receive data from other facilities.
- Provide capability to send and receive version 0 requests.

5.42.2 Thread Test Description

This thread will also focus on transferring and receiving data and requests from other facilities and processes. The version 0 Interoperability will also be tested such as the browse requests using V0 system protocols and products requests.

Receiving FDF Orbit data, Attitude data, metadata associated with Orbit data will all be tested to make sure they where received. Sending and receiving Data Acquisition Request will also be tested.

Dependencies: (If Applicable)

To verify the objectives of the Interoperability thread, the following interface and functional capabilities are required:

- Write permissions to the defined data dictionary
- Ability to access the LIM schema to determine data locations.
- Access to DAAC and DAAC interfaces.
- Ability to access the DIM schema to determine data locations.
- Ability to access the data dictionary using views and contexts. Direct access to the top levels of the data server.
- Heterogeneous data server environment within a local site.
- Existence of an advertising service that contains a list of ECS services supported in Rel B. Ability to access the advertising service from a local workbench.
- LIM and DIM schema defined for heterogeneous data server environment. Write permissions to allow changes to the LIM and DIM schema.
- Simulated or actual services availability.
- File transfer interfaces.

- CSMS and SDPS interface.

Test Support Requirements

- Hardware:
  - TBS
- Software:
  -
- Data:
  -

5.42.2.1 Sequence 1 - Receive/Send Data Types

The following series of tests verify the ability to receive FDF data, L0-L4 equivalent data sets, special products, metadata, DARs from other DAACs, ADCs, EPDSs, ODCs, ECS science community and SCFs. This series of tests will also focus on sending advertisement data from NOAA SAAs, data centers and VO IMS.

Test Case 1 Receive FDF Orbit Data (T216-6.01.01)

This test verifies the capability to receive orbit data. Testing verifies the ability to receive data from the FDF. Testing is performed to support release testing of the AM-1.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Orbit data. External interface with FDF. (interface may be simulated or stubbed). Ingest ready to receive data notification.
Output:	Data ingest log contains an entry for the successful ingest of orbit data from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.
Expected Results:	Orbit data written to the staging area.

Test Case 2 Receive FDF Attitude Data (T216-6.01.02)

This test verifies the capability to receive attitude data. Testing verifies the ability to receive data from the FDF. Testing is performed to support Release B testing of the AM-1 platform.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Attitude data. External interface with FDF. (interface may be simulated or stubbed). Ingest ready to receive data notification.

Output: Data ingest log contains an entry for the successful ingest of attitude data from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: Attitude data written to the staging area.

Test Case 3 Receive FDF Metadata for Orbit and Attitude data (T216-6.01.03)

This test verifies the capability to receive metadata data. Testing verifies the ability to receive data from the FDF. Testing is performed to support release B testing of the AM-1 platform.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: FDF metadata. External interface with FDF. (interface may be simulated or stubbed). ingest ready to receive data notification.

Output: Ingest log contains an entry for the successful ingest of metadata from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of metadata ingest, success of ingest, and metadata staging.

Expected Results: Metadata written to the staging area.

5.42.2.2 Sequence 2- Receive/Send DARs

The following series of tests verify the ability to receive and send DARs. This series of tests will also focus on being able to display and list outstanding DARs that are accessible by the server.

Test Case 1 Display outstanding DARs (T216-6.02.01)

This test verifies the tester ability to display outstanding data acquisition request that have not yet being processed. The test will be able to view all the DARs that needs to be processed.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Enter command to display outstanding data acquisition request in the buffer.

Output: All the outstanding data acquisition request is displayed. Log is updated with access

Expected Results: Tester is able to view all the outstanding data acquisition requests.

Test Case 2 Receive DAR status request from ASTER ICC (T216-6.02.02)

This test verifies the capability to receive DAR status request. Testing verifies the ability to receive status request from ASTER ICC. Testing is performed to support Release B testing of the AM-1 platform.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with DAR. (interface may be simulated or stubbed).Inputs includes the submitting data acquisition request
Output:	Outputs include the delivered data at intervals as specified by the requests.
Expected Results:	This test is deemed successful when the request for periodic delivery is received and the specified data is transmitted in intervals.

Test Case 3 Send DAR status request ASTER ICC (T216-6.02.03)

This test verifies the capability to Send DAR status request. Testing verifies the ability to send status request to ASTER ICC. Testing is performed to support Release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with DAR. (interface may be simulated or stubbed). Issue command to send DAR status request to other sites
Output:	DAR status request sent to other sites as per request. Distribution log contains an entry for each distribution requests.
Expected Results:	DAR status request sent to other site.

Test Case 4 Maintain DAR parameter and DAR parameters constraints (T216-6.02.04)

This test verifies the capability to maintain DAR parameters and DAR parameter constraint.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with DAR. (interface may be simulated or stubbed). View DAR parameters and DAR constraints
Output:	DAR parameter and constraints are displayed.
Expected Results:	DAR parameter and constraints are maintained.

Test Case 5 Maintain ASTER DAR parameter and ASTER DAR parameters constraints (T216-6.02.05)

This test verifies the capability to maintain ASTER DAR parameters and ASTER DAR parameter constraint.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with DAR. (interface may be simulated or stubbed). View ASTER DAR parameters and ASTER DAR constraints
Output:	ASTER DAR parameter and constraints are displayed.
Expected Results:	ASTER DAR parameter and constraints are maintained.

5.42.2.3 Sequence 3 - Version 0 Interoperability

The following series of tests verify the ability to receive VO advertising information from DAAC. This series of tests will also focus on receiving and sending advertisement data from NOAA SAAs, data centers and VO IMS.

Test Case 1 Send V0 Inventory search request to the V0 IMS using V0 system protocols (T216-6.03.01)

This test verifies the capability to send VO Inventory search request to the VO IMS using VO system protocols. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	VO Inventory search request. External interface with VO IMS. (interface may be simulated or stubbed). Issue command to send inventory search request.
Output:	VO Inventory search request sent to VO IMS using VO system Protocols. Distribution log contains an entry for each distribution request and transfer of VO Inventory search request.
Expected Results:	VO Inventory search request sent to VO IMS.

Test Case 2 Send V0 Browse requests to the VO IMS using V0 system protocols (T216-6.03.02)

This test verifies the capability to send VO Browse request to the VO IMS using VO system protocols. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: VO Browse request. External interface with VO IMS. (interface may be simulated or stubbed). Issue command to send VO browse request.

Output: VO browse request sent to VO IMS using VO system Protocols. Distribution log contains an entry for each distribution request and transfer of VO browse request.

Expected Results: VO browse request sent to VO IMS.

Test Case 3 Send V0 product request to the V0 IMS using V0 system protocols (T216-6.03.03)

This test verifies the capability to send VO Product request to the VO IMS using VO system protocols. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: VO Product request. External interface with VO IMS. (interface may be simulated or stubbed). Issue command to send VO product request.

Output: VO product request sent to VO IMS using VO system Protocols. Distribution log contains an entry for each distribution request and transfer of VO product request.

Expected Results: VO product request sent to VO IMS.

Test Case 4 Receive V0 Inventory requests from the V0 IMS using V0 system protocols (T216-6.03.04)

This test verifies the capability to receive VO inventory requests. With the use of VO system protocols, VO inventory request will be received from the VO IMS. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: VO Inventory requests. External interface with VO IMS. (interface may be simulated or stubbed). ingest ready to receive data notification.

Output: Data ingest log contains an entry for the successful ingest of VO Inventory requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: VO Inventory requests written to the staging area.

Test Case 5 Receive V0 browse requests from the V0 system protocols (T216-6.03.05)

This test verifies the capability to receive VO browse requests. With the use of VO system protocols, VO browse request will be received from the VO IMS. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: VO browse requests. External interface with VO IMS. (interface may be simulated or stubbed). Ingest ready to receive data notification.

Output: Data ingest log contains an entry for the successful ingest of VO browse requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: VO browse requests written to the staging area.

Test Case 6 Receive V0 product requests from the V0 IMS using VO system protocols (T216-6.03.06)

This test verifies the capability to receive VO product requests. With the use of VO system protocols, VO product request will be received from the VO IMS. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: VO product requests. External interface with VO IMS. (interface may be simulated or stubbed). Ingest ready to receive data notification.

Output: Data ingest log contains an entry for the successful ingest of VO product requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: VO product requests written to the staging area.

5.42.2.4 Sequence 4 - NOAA Interoperability

The following series of tests verify the ability to receive NOAA request and send other request to NOAA SAA. This series of tests will also focus on receiving and sending requests to and from NOAA SAAs.

Test Case 1 Send user authentication request to the NOAA SAAs using VO system protocols (T216-6.04.01)

This test verifies the capability to send user authentication request to NOAA SAAs using VO system protocols. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: User authentication request. External interface with NOAA. (interface may be simulated or stubbed). Issue command to send user authentication request.

Output: User authentication request sent to NOAA SAA via the VO system Protocols. Distribution log contains an entry for each distribution request and transfer of user authentication request.

Expected Results: User authentication request sent to NOAA SAA.

Test Case 2 Receive browse request from the NOAA SAAs using VO system (T216-6.04.02)

This test verifies the capability to receive browse requests. With the use of VO system protocols, browse request will be received from the NOAA SAA's. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Browse requests. External interface with NOAA SAAs. (interface may be simulated or stubbed). Ingest ready to receive browse request.

Output: Data ingest log contains an entry for the successful ingest of browse requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: Browse requests written to the staging area.

Test Case 3 Send browse request to the NOAA SAAs using VO system protocols (T216-6.04.03)

This test verifies the capability to send browse request to NOAA SAAs using VO system protocols. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input:	Browse request. External interface with NOAA. (interface may be simulated or stubbed). Issue command to send browse request.
Output:	Browse request sent to NOAA SAA via the VO system Protocols. Distribution log contains an entry for each distribution request and transfer of browse request.
Expected Results:	Browse request sent to NOAA SAA.

Test Case 4 Send product request to the NOAA SAAs using VO system protocols (T216-6.04.04)

This test verifies the capability to send product request to NOAA SAAs using VO system protocols. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Product request. External interface with NOAA. (interface may be simulated or stubbed). Issue command to send product request.
Output:	Product request sent to NOAA SAA via the VO system Protocols. Distribution log contains an entry for each distribution request and transfer of product request.
Expected Results:	Product request sent to NOAA SAA.

Test Case 5 Receive product delivery status from the NOAA SAAs using VO system protocol (T216-6.04.05)

This test verifies the capability to receive product delivery status requests. With the use of VO system protocols, product delivery status request will be received from the NOAA SAA's. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Product delivery status requests. External interface with NOAA SAAs. (interface may be simulated or stubbed). Ingest ready to receive product delivery status request.
Output:	Data ingest log contains an entry for the successful ingest of product delivery status requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.
Expected Results:	Product delivery status requests written to the staging area.

Test Case 6 Send product delivery status request to the NOAA SAAs using VO system protocols (T216-6.04.06)

This test verifies the capability to send product delivery status request to NOAA SAAs using VO system protocols. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Product delivery status request. External interface with NOAA. (interface may be simulated or stubbed). Issue command to send product status request.
Output:	Product delivery status request sent to NOAA SAA via the VO system Protocols. Distribution log contains an entry for each distribution request and transfer of product delivery status request.
Expected Results:	Product delivery status request sent to NOAA SAA.

Test Case 7 Receive product request to the NOAA SAAs using VO system protocols (T216-6.04.07)

This test verifies the capability to receive product requests. With the use of VO system protocols, product request will be received from the NOAA SAA's. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Product requests. External interface with NOAA SAAs. (interface may be simulated or stubbed). Ingest ready to receive product request.
Output:	Data ingest log contains an entry for the successful ingest of product requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.
Expected Results:	Product requests written to the staging area.

Test Case 8 Receive user authentication request from the NOAA SAAs using VO system protocols (T216-6.04.08)

This test verifies the capability to receive user authentication requests. With the use of VO system protocols, user authentication request will be received from the NOAA SAA's. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager

Input: User authentication requests. External interface with NOAA SAAs. (interface may be simulated or stubbed). Ingest ready to receive user authentication request.

Output: Data ingest log contains an entry for the successful ingest of user authentication requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: User authentication requests written to the staging area.

Test Case 9 Receive Inventory search request from the NOAA SAAs using VO system protocols (T216-6.04.09)

This test verifies the capability to receive inventory search requests. With the use of VO system protocols, inventory search request will be received from the NOAA SAA's. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Inventory search requests. External interface with NOAA SAAs. (interface may be simulated or stubbed). Ingest ready to receive inventory search request.

Output: Data ingest log contains an entry for the successful ingest of inventory search requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: Inventory search requests written to the staging area.

Test Case 10 Send Inventory Search request to the NOAA SAAs using VO system protocols (T216-6.04.10)

This test verifies the capability to send inventory search request to NOAA SAAs using VO system protocols. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Inventory search request. External interface with NOAA. (interface may be simulated or stubbed). Issue command to send inventory search request.

Output: Inventory search request sent to NOAA SAA via the VO system Protocols. Distribution log contains an entry for each distribution request and transfer of inventory search request.

Expected Results: Inventory search request sent to NOAA SAA.

5.43 Data Access Services Build

The Data Access Services Build is made up of the following threads:

- Enhanced Data Service Thread
- Enhanced Advertising Service Thread
- Local Information Manager Service Thread
- Distributed Information Manager Service Thread
- Enhanced Data Dictionary Thread
- Interoperability Thread

5.43.1 Build Objectives

The objectives of the data access services build are:

- Provide the capability to create, submit, and delete and distribute subscriptions by means of subscriptions.
- Provide the capabilities to renew existing advertising and perform administrative advertisement.
- Provide the capability to perform Local Information Management (LIM) functions such as manipulating the data defined in a LIM schema or access data and services on heterogeneous data servers at a single ECS sites.
- Provide status and results back to the DIM and also assume responsibility for the management of the client sessions.
- Provide the capability to manipulate data residing in the data dictionary (i.e., define new ECS definition) and to manipulate the schema(i.e. add new field to existing data dictionary database) of the data dictionary. Capability to save data dictionary information for backup purposes is provided and recovery procedures verified.
- Provide the capability to receive FDF data and send requests to V0 IMS and NOAA SAA using VO system protocols.
- Provide capability to receive and send DAR request.

5.43.2 Build Test Description

Testing will also involve the capability to accept subscriptions from clients. Included with subscription request will be specification of a well-defined advertised event and the actions to be triggered upon its occurrence will be delete subscription, add subscription and update subscription.

This build will test LIM functions such as access to data and services offered by different data servers at an ECS site. The LIM processes queries which involves access to data residing on two

or more servers. Upon receipt of a query request, the LIM validates the query and generates a query plan.

The DIM provides access to data and services accessible via multiple LIMs. The DIM interfaces with a database constructed from the database of the LIMs. The DIM creates and executes a distributed query plan. The plan specifies the site access requests which the DIM must send to various LIMs in order to satisfy the original request. The functionality of the DIM will be tested by performing the following tests: interactive status distribution requests, distribution of browsed information from a distributed archive, distributed archive support of ECS product orders, Interoperability with international systems and support for additional hard media distribution.

Testing is performed to demonstrate the ability to manipulate (add, modify and delete) data defined in the data dictionary. Testing is also performed to verify the ability to change the schema of the data dictionary. Adding and deleting of fields defined in the data dictionary is performed. Testing will demonstrate the ability to access information in the data dictionary. Attempts to access data that is not contained in the data dictionary is performed to verify the system provides a response to the requester in this situation.

This thread will also focus on transferring and receiving data and requests from other facilities and processes. The version 0 Interoperability will also be tested such as the browse requests using V0 system protocols and products requests.

Receiving FDF Orbit data, Attitude data, metadata associated with Orbit data will all be tested to make sure they where received. Sending and receiving Data Acquisition Request will also be tested.

Dependencies: (If Applicable)

To verify the objectives of the Data Access Services Build, the following interface and functional capabilities are required:

- Write permissions to the defined data dictionary
- Ability to access the LIM schema to determine data locations.
- Access to DAAC and DAAC interfaces.
- Ability to access the DIM schema to determine data locations.
- Ability to access the data dictionary using views and contexts. Direct access to the top levels of the data server.
- Heterogeneous data server environment within a local site.
- Existence of an advertising service that contains a list of ECS services supported in Rel B. Ability to access the advertising service from a local workbench.
- LIM and DIM schema defined for heterogeneous data server environment. Write permissions to allow changes to the LIM and DIM schema.
- Simulated or actual services availability.
- File transfer interfaces.
- CSMS and SDPS interface.

Test Support Requirements

- Hardware:
  - TBS
- Software:
  -
- Data:
  -

5.43.2.1 Sequence 1- Enhanced Data Services Functions

The following tests demonstrates the ability for data services to support a data administration utilities. Such administrator's capabilities will include being able to perform On-line full and incremental backups. Other capabilities are data imports and exports, manual and automatic recovery. Other tests include subscription functions such as create, submit, delete, renew, list and other subscription functions.

Test Case 1 On-line full Backup (B218.01.01)

The following tests the authorized user's capability to perform on-line full backup. All the advertising service operations that will be performed before the recovery, such as executing several data/service searches and browsing through the available advertisements will be recorded.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Desktop manager
Input:	Enter full backup data command.
Output:	Fully backed-up advertising Service Database. Administrative log contains an entry for the above function.
Expected Results:	This test is considered successful if all the files have been backup up completely.

Test Case 2 On-line Incremental Backup (B218.01.02)

The following tests the authorized user's capability to perform on-line incremental backup. A set of advertising service operations will be performed before the recovery, such as executing several data/service searches and browsing through the available advertisements. The results of this operation is recorded.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Enter incremental backup data command.

Output: Incremented back-up of advertising Service Database. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful if all the incremented backup files have been backed-up completely.

Test Case 3 Manual recovery of advertising services data from media (B218.01.03)

The following tests the authorized user's capability to perform manual recovery of advertising services data from media. A set of advertising service operations will be performed before the recovery.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Use the latest backup data to perform manual recovery.

Output: Fully restored advertising Service Database after recovery. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful if all the files and screens have been restored back on to the system.

Test Case 4 Automatic recovery of advertising services data from system failures (B218.01.04)

The following tests the authorized user's capability to perform automatic recovery of advertising services data from system failures. A set of advertising service operations will be performed before the recovery.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Simulate system failure. Method used to simulate a system failure is TBD.

Output: Fully restored advertising Service Database after recovery. Administrative log contains an entry for the above function.

Expected Results: This test considered successful if all the original files and screens have been restored back to their original status.

Test Case 5 Perform Data Import (B218.01.05)

The following tests the authorized user's capability to perform data imports. The import utility will be used to import advertising service data from a file.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Enter the advertising service import command.

Output: Imported advertising service data from a file. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful if the advertising data has been imported from the said file into a file.

Test Case 6 Perform Data Export (B218.01.06)

The following tests the authorized user's capability to perform data exports. The export utility will be used to export advertising service data to a file.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Enter the advertising service export command.

Output: Exported advertising service data into a file. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful if the file has the imported advertising data in it.

Test Case 7 Create subscription (B218.01.07)

The following test demonstrates the ability to support the creation of subscriptions. The client will provide GUI interface to create subscription.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Select create subscription option from GUI interface

Output: Subscription is created for the user. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful when the user's subscription is created and displayed.

Test Case 8 Delete Data Server subscription (B218.01.08)

The following test demonstrates the ability to support deletion of subscriptions. The client will provide GUI interface to delete subscription.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Select delete subscription option from GUI interface

Output: Subscription is delete from the subscription list. Administrative log reflects an entry for the above function.

Expected Results: This test is considered successful when the subscription list for that particular user does not show his subscription in the list.

Test Case 9 Renew subscription (B218.01.09)

The following test demonstrates the ability to support renewal of subscriptions. The client will provide GUI interface to renew subscription.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Select renew subscription option from GUI interface

Output: Subscription is renewed for the user. Administrative log reflects an entry for the above function.

Expected Results: This test is considered successful when the user's subscription is renewed.

Test Case 10 Update subscription (B218.01.10)

The following test demonstrates the ability to support updating of subscriptions with the most current information such as changed information. The client will provide GUI interface to update subscription.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Select update subscription option from GUI interface

Output: Subscription is updated with the most current information so as to accurately distribute information to user. Administrative log reflects an entry for the above function.

Expected Results: This test is considered successful when the updated information is saved with the most current information.

5.43.2.2 Sequence 2 - Advertising Functions

The following tests verifies the capability to perform advertising services. The administrator will be capable of manipulating the advertising data by being able read, write, update, delete, display.

Test Case 1 View Advertising (B218.02.01)

This test verifies the capability to view advertising information from the advertising service.

Test Configuration: Hardware - workstations

	Software - Scientist workbench, Desktop manager
Input:	Workbench interface to view advertising information through the advertising services.
Output:	User able to obtain access to view function for information pertaining to the advertising service. Information is displayed. Event log contains an entry for the activation of the view function.
Expected Results:	User able to access view function and able to view data pertaining to the advertising service.

Test Case 2 Read Advertising Data (B218.02.02)

This test verifies the capability to read advertising information from the advertising service.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Desktop manager
Input:	Workbench interface to read advertisement data.
Output:	User able to read advertising information. Information provided is the advertising information requested. Event log contains an entry for the activation of the read access.
Expected Results:	User able to read advertising information pertaining to the advertising service.

Test Case 3 Write Advertising Data (B218.02.03)

This test verifies the capability to write advertising information from the advertising service.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Desktop manager
Input:	Workbench interface to write advertisement data.
Output:	User able to write advertising information. Information provided is the advertising information requested. Event log contains an entry for the activation of the write access.
Expected Results:	User able to write advertising information pertaining to the advertising service.

Test Case 4 Update Advertising Data (B218.02.04)

This test verifies the capability to update advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Workbench interface to update advertisement data.

Output: User able to update advertising information. Information updated is saved onto the advertisement data. Event log contains an entry for the activation of the update access.

Expected Results: User able to update advertising information pertaining to the advertising service.

Test Case 5 Delete Advertising Data (B218.02.05)

This test verifies the capability to delete advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Workbench interface to delete advertisement data.

Output: User able to delete advertising information. Information indicate a delete did take place. Event log contains an entry for the activation of the delete access.

Expected Results: User able to delete advertising information pertaining to the advertising service.

5.43.2.3 Sequence 3 - Local Information Management Functions

The following series of tests verify the administrator's ability to maintain the LIM schema. The system's file directories are updated for the transactions in this sequence.

Test Case 1 Add New Data to LIM Schema (B218.03.01)

This test verifies the administrator's capability to add new data to the LIM schema. After the data is added to the LIM, an attempt is made to access the data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Administrator tool, add of new data type, new product, etc.

Output: New data type, etc has been added to the LIM schema and is accessible to the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.

Expected Results: The LIM database contains the updated information.

Test Case 2 Delete Data from LIM Schema (B218.03.02)

This test verifies the administrator's capability to delete existing data from the LIM schema. After the data is deleted from the LIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, deletion of an existing data set and its associated information.
Output:	The data set is deleted, the LIM schema is updated and the deleted data set is no longer accessible by the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.
Expected Results:	The LIM database no longer has the data set information.

Test Case 3 Update Existing Data in LIM schema (B218.03.03)

This test verifies the administrator's capability to update existing data in LIM schema. After the data is updated in the LIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, modification to an existing data set, etc.
Output:	The modification is made, the LIM schema is updated and the updated data is accessible to the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.
Expected Results:	The LIM database contains the updated information.

Test Case 4 Accessing Data via a LIM (B218.03.04)

This test verifies the ability to access the information in the data dictionary for a LIM environment. Access to a particular sites data should be available through an interface on the scientist workbench. Testing is performed to demonstrate the ability to directly access each DAAC supported in Rel B.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Scientist workbench. Select option to search the data dictionary for the DAAC under test. Generate a query for a known data product for the DAAC under test.

Output: Data products for the DAAC under test are provided to the tester. Event log contains entries of logon to the DAAC under test and the query results. Data access log is updated.

Expected Results: Only data available for the DAAC under test is provided. Data access log is updated.

Test Case 5 Access DD for Non-Existent Data (B218.03.05)

This test verifies that the system provides the user with a message indicating that the data requested is not found when a query for non-existent data is received.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to search the data dictionary for the DAAC under test. Generate a query for a non-existent data product for DAAC under test.

Output: Status message provided to the user indicating the data requested does not exist on the system. Event log contains entries for query initiation and result.

Expected Results: System generates a response to the data query for non-existent data.

Test Case 6 Retrieve a schema entry from LIM database (B218.03.06)

This test verifies the capability to retrieve a schema entry from LIM database. Access to a schema should be available through an interface on the scientist workbench.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Scientist workbench. Select option to retrieve a schema entry from LIM database. Generate a query for known schema entry.

Output: Schema entry is provided to the tester. Event log contains entries for query initiation and result.

Expected Results: Schema entry available from the LIM database is provided. Data access log is updated.

5.43.2.4 Sequence 4 - Distributed Information Manager Functions

The following tests will verify the DIM database structures. This will cover the creation, maintenance and usage of the federated schema at the DIM. The system's file directories are updated for the transactions in this sequence.

Test Case 1 Add New Data to DIM Schema (B218.04.01)

This test verifies the administrator's capability to add new data to the DIM schema. After the data is added to the DIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, add of new data type, new product, etc.
Output:	New data type, etc has been added to the DIM schema and is accessible to the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.
Expected Results:	The DIM database contains the updated information.

Test Case 2 Delete Data from DIM Schema (B218.04.02)

This test verifies the administrator's capability to delete existing data from the DIM schema. After the data is deleted from the DIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, deletion of an existing data set and its associated information.
Output:	The data set is deleted, the DIM schema is updated and the deleted data set is no longer accessible by the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.
Expected Results:	The DIM database no longer has the data set information.

Test Case 3 Update Existing Data in DIM schema (B218.04.03)

This test verifies the administrator's capability to update existing data in DIM schema. After the data is updated in the DIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, modification to an existing data set, etc.
Output:	The modification is made, the DIM schema is updated and the updated data is accessible to the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.
Expected Results:	The DIM database contains the updated information.

Test Case 4 Accessing Data via a DIM (B218.04.04)

This test verifies the ability to access the information in the data dictionary for a DIM environment. Access to a particular sites data should be available through an interface on the scientist workbench. Testing is performed to demonstrate the ability to directly access each DAAC supported in Rel B.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Scientist workbench. Select option to search the data dictionary for the DAAC under test. Generate a query for a known data product for the DAAC under test.
Output:	Data products for the DAAC under test are provided to the tester. Event log contains entries of logon to the DAAC under test and the query results. Data access log is updated.
Expected Results:	Only data available for the DAAC under test is provided. Data access log is updated.

Test Case 5 Retrieve a schema entry from DIM database (B218.04.05)

This test verifies the capability to retrieve a schema entry from DIM database. Access to a schema should be available through an interface on the scientist workbench.

Test Configuration:	Workstation, X-terminal, storage devices, media, X-runner tool
Input:	Scientist workbench. Select option to retrieve a schema entry from DIM database. Generate a query for known schema entry.
Output:	Schema entry is provided to the tester. Event log contains entries for query initiation and result.
Expected Results:	Schema entry available from the DIM database is provided. Data access log is updated.

5.43.2.5 Sequence 5- Data Dictionary

The following tests verify the administrator's capabilities to use the ECS desktop and workbench services to perform data dictionary functions such as add, delete, modify entries. The test sequence is executed to test the various methods of reconfiguration available within the data dictionary of the ECS desktop. Other test include data dictionary schema manipulation.

Test Case 1 Add Context Information to DD (B218.05.01)

This test verified the capability of entering context based summary data for a new data type/product in the DD.

Test Configuration:	Hardware - workstations

	Software - Scientist workbench, Storage device, Desktop manager
Input:	Context based summary information, administration account and DDS administrative tool.
Output:	The data dictionary summary information is updated.
Expected Results:	The new summary information is properly entered and is accessible by the user community.

Test Case 2 Add an entry in DD (B218.05.02)

This test verified the capability of adding an individual entry to the data dictionary

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Data dictionary information, administration account and DDS administration tool.
Output:	The data dictionary contains a new entry. Administration log contains record of new entry being added to the DD.
Expected Results:	The new item is properly entered into the DD and is accessible by all users.

Test Case 3 Attempt to add an Invalid Entry in DD (B218.05.03)

This test verifies the capability of rejecting the addition of an individual entry with invalid format in the data dictionary.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Invalid data dictionary entry information, administration account.
Output:	Error message concerning attempt to add data using an invalid format. Administration log contains record of attempt to add and invalid entry to the DD.
Expected Results:	The system does not allow the information to be added to the data dictionary when its in an invalid format.

Test Case 4 Modify an Entry in DD (B218.05.04)

This test verifies the capability to modify an individual entry in the data dictionary.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager

Input: Data dictionary information to be modified, administration account, and administration tool.

Output: The data dictionary item is modified. Administration log contains record of the item that is modified in the DD.

Expected Results: The item is modified in the DD and is accessible by all users.

Test Case 5 Delete an Entry in DD (B218.05.05)

This test verifies the capability to delete an individual entry in the data dictionary.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data dictionary information, administration account and DDS administration tool.

Output: The data dictionary entry is deleted. Administration log contains record of the deleted entry.

Expected Results: The entry is deleted in the DD and no longer accessible by the users.

Test Case 6 Access DD using Views (B218.05.06)

This test verifies the capability of accessing the DD using data dictionary views. Views restrict the access to a specific subset of the data dictionary information. This test case is executed for various subset categories available in the data dictionary (i.e., product names, product id, station id, etc).

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Bring up the scientist workbench, activate the tool to access the data dictionary, and query the data dictionary for a list of product names.

Output: User requested search is restricted and only data that fit into the category specified in the search (i.e., product names) is displayed. Data access log is updated.

Expected Results: List of product names provided. Event log contains entries for query initiated and results provided. Data access log is updated.

Test Case 7 Access DD using Contexts (B218.05.07)

This test verifies the capability of accessing the DD using data dictionary contexts. Access requests to the DD can reference a context and thus restrict the visibility of data

dictionary information to that context. This test case is executed for various context categories available in the data dictionary (i.e., atmospheric dynamics, L0, L1, etc).

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Bring up the scientist workbench, activate the tool to access the data dictionary, and query the data dictionary for a list of items/data that pertain to atmospheric dynamics.
Output:	User requested search is restricted and only data that fit into the category specified in the search (i.e., atmospheric dynamics) is displayed. Data access log is updated.
Expected Results:	List of information that relates to atmospheric dynamics is provided. Event log contains entries for query initiated and results provided. Data access log is updated.

Test Case 8 Access DD for Non-Existent Data (B218.05.08)

This test verifies that the system provides the user with a message indicating that the data requested is not found when a query for non-existent data is received.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Query for a known non-existent data product.
Output:	Status message provided to the user indicating the data requested does not exist on the system. Event log contains entries for query initiation and result.
Expected Results:	System generates a response to the data query for non-existent data.

Test Case 9 Attempt to add an invalid entry in DD (B218.05.09)

This test verifies that the system provides the user with a message indicating that the user is attempting to add an invalid entry into DD, thereby responding with the user inability to perform such function.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	From user interface. Attempt to add an invalid entry into the data dictionary. e.g
Output:	Status message provided to the user indicating the data entry is invalid. Event log contains entries for the data entry attempt.

Expected Results: System generates a response to the attempted data entry into the data dictionary.

5.43.2.6 Sequence 6- Interoperability Functions

The following series of tests verify the ability to receive FDF data, L0-L4 equivalent data sets, special products, metadata, DARs from other DAACs, ADCs, EPDSs, ODCs, ECS science community and SCFs. This series of tests will also focus on sending advertisement data from NOAA SAAs, data centers and VO IMS.

Test Case 1 Receive FDF Orbit Data (B218.06.01)

This test verifies the capability to receive orbit data. Testing verifies the ability to receive data from the FDF. Testing is performed to support release testing of the AM-1.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Orbit data. External interface with FDF. (interface may be simulated or stubbed). Ingest ready to receive data notification.

Output: Data ingest log contains an entry for the successful ingest of orbit data from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: Orbit data written to the staging area.

Test Case 2 Receive FDF Attitude Data (B218.06.02)

This test verifies the capability to receive attitude data. Testing verifies the ability to receive data from the FDF. Testing is performed to support Release B testing of the AM-1 platform.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Attitude data. External interface with FDF. (interface may be simulated or stubbed). Ingest ready to receive data notification.

Output: Data ingest log contains an entry for the successful ingest of attitude data from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: Attitude data written to the staging area.

Test Case 3 Receive DAR status request from ASTER ICC (B218.06.03)

This test verifies the capability to receive DAR status request. Testing verifies the ability to receive status request from ASTER ICC. Testing is performed to support Release B testing of the AM-1 platform.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with DAR. (interface may be simulated or stubbed).Inputs includes the submitting data acquisition request
Output:	Outputs include the delivered data at intervals as specified by the requests.
Expected Results:	This test is deemed successful when the request for periodic delivery is received and the specified data is transmitted in intervals.

Test Case 4 Send DAR status request ASTER ICC (B218.06.04)

This test verifies the capability to Send DAR status request. Testing verifies the ability to send status request to ASTER ICC. Testing is performed to support Release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with DAR. (interface may be simulated or stubbed). Issue command to send DAR status request to other sites
Input:	DAR status request sent to other sites as per request. Distribution log contains an entry for each distribution requests.
Expected Results:	DAR status request sent to other site.

Test Case 5 Send V0 Inventory search request to the V0 IMS using V0 system protocols (B218.06.05)

This test verifies the capability to send VO Inventory search request to the VO IMS using VO system protocols. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	VO Inventory search request. External interface with VO IMS. (interface may be simulated or stubbed). Issue command to send inventory search request.

Output: VO Inventory search request sent to VO IMS using VO system Protocols. Distribution log contains an entry for each distribution request and transfer of VO Inventory search request.

Expected Results: VO Inventory search request sent to VO IMS.

Test Case 6 Receive V0 Inventory requests from the V0 IMS using V0 system protocols (B218.06.06)

This test verifies the capability to receive VO inventory requests. With the use of VO system protocols, VO inventory request will be received from the VO IMS. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: VO Inventory requests. External interface with VO IMS. (interface may be simulated or stubbed). Ingest ready to receive data notification.

Output: Data ingest log contains an entry for the successful ingest of VO Inventory requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: VO Inventory requests written to the staging area.

Test Case 7 Receive browse request from the NOAA SAAs using VO system (B218.06.07)

This test verifies the capability to receive browse requests. With the use of VO system protocols, browse request will be received from the NOAA SAA's. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Browse requests. External interface with NOAA SAAs. (interface may be simulated or stubbed). Ingest ready to receive browse request.

Output: Data ingest log contains an entry for the successful ingest of browse requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: Browse requests written to the staging area.

Test Case 8 Send browse request to the NOAA SAAs using VO system protocols (B218.06.08)

This test verifies the capability to send browse request to NOAA SAAs using VO system protocols. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Browse request. External interface with NOAA. (interface may be simulated or stubbed). Issue command to send browse request.
Output:	Browse request sent to NOAA SAA via the VO system Protocols. Distribution log contains an entry for each distribution request and transfer of browse request.
Expected Results:	Browse request sent to NOAA SAA.

5.44 Enhanced Parameter Search Thread

5.44.1 Thread Objectives

The objectives of the Enhanced Parameter Search thread are as follows:

- Provide the capability to perform searches for AM-1, LANDSAT-7, COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3 data using keywords.
- Provide the capability to perform start and stop time searching.
- Provide the capability to perform sort results package by keywords for AM-1 and LANDSAT-7 data.
- Provide the capability to build complex query searches.

5.44.2 Thread Test Description

Verification that LANDSAT-7 and AM-1 data can be sorted by keywords will be tested. The ability to search for data based on a dataset start and stop times and start/stop revolution times will also be tested. Testing will be performed to verify that users can use logical operands in building complex queries to perform data searches.

The capability to search from data using keywords will also be tested for the following missions: AM-1, LANDSAT-7, COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3.

Dependencies: (If Applicable)

To verify the objectives of the Enhanced data dictionary thread, the following interface and functional capabilities are required:

- Write permissions to the defined data dictionary
- Ability to access the LIM schema to determine data locations.

- Access to DAAC and DAAC interfaces.
- Ability to access the DIM schema to determine data locations.
- Ability to access the data dictionary using views and contexts. Direct access to the top levels of the data server.
- Heterogeneous data server environment within a local site.
- Existence of an advertising service that contains a list of ECS services supported in Rel B. Ability to access the advertising service from a local workbench.
- LIM and DIM schema defined for heterogeneous data server environment. Write permissions to allow changes to the LIM and DIM schema.
- Simulated or actual services availability.
- File transfer interfaces.
- CSMS and SDPS interface.

Test Support Requirements

- Hardware:
  - TBS
- Software:
  -
- Data:
  -

5.44.2.1 Sequence 1- Data Search by Keyword

This sequence verifies that AM-1, LANDSAT-7, COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3 data can be searched on by the following fields: product ID, sensor name, and data center. The tester first generates a AM-1 data search list. The returned result package contains all the AM-1 data available. Then, each test case narrows the list by performing a search on the keyword. The returned result package is then verified for completeness of data by keyword. The test case also ensures no extraneous data is provided.

Test Case 1 AM-1 Data List Search by Product ID (T221-1.01.01)

This test case verifies that AM-1 data can be searched on by product ID. The tester generates a data search on AM-1 data specifying a product ID keyword. After the search result package has been received, the tester prints the data list and verify that the AM-1 data contains only data related to the product ID provided and that no extraneous data is included.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: AM-1 data search request by product ID.

Output: AM-1 data search result package.

Expected Results: The data list contains all the AM-1 data information related to the product ID keyword.

Test Case 2 AM-1 Data List Search By Sensor Name (T221-1.01.02)

This test case verifies that AM-1 data can be searched on by sensor name. The tester generates a data search on AM-1 data specifying a sensor name keyword. After the search result package has been received, the tester prints the data list and verifies that the AM-1 data contains only data related to the sensor name provided and that no extraneous data is included.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: AM-1 data search request by sensor name.

Output: AM-1 data search result package.

Expected Results: The data list contains all the AM-1 data information related to the sensor name keyword.

Test Case 3 AM-1 Data List Search By Data Center (T221-1.01.03)

This test case verifies that AM-1 data can be searched on by data center. The tester generates a data search on AM-1 data specifying a data center keyword. After the search result package has been received, the tester prints the data list and verifies that the AM-1 data contains only data related to the data center provided and that no extraneous data is included.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: AM-1 data search request by data center.

Output: AM-1 data search result package.

Expected Results: The data list contains all the AM-1 data information related to the data center keyword.

Test Case 4 Invalid AM-1 Data List Search (T221-1.01.04)

This test case verifies that if an invalid search criteria is entered, that the proper error messages are displayed. Not all search criteria are available for all data. The tester attempts to perform a search on a search criteria not applicable to AM-1 data. This action results in an error message indicated the search field is not applicable to AM-1 data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Invalid AM-1 data keyword search request.

Output: AM-1 data lists, alarm message indicating invalid search criteria.

Expected Results: The system generates an alarm message indicating an invalid keyword search criteria is selected.

Test Case 5 LANDSAT-7 Data List Search by Product ID (T221-1.01.05)

This test case verifies that LANDSAT-7 data can be searched on by product ID. The tester generates a data search on LANDSAT-7 data specifying a product ID keyword. After the search result package has been received, the tester prints the data list and verifies that the LANDSAT-7 data contains only data related to the product ID provided and that no extraneous data is included.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: LANDSAT-7 data search request by product ID.

Output: LANDSAT-7 data search result package.

Expected Results: The data list contains all the LANDSAT-7 data information related to the product ID keyword.

Test Case 6 LANDSAT-7 Data List Search By Sensor Name (T221-1.01.06)

This test case verifies that LANDSAT-7 data can be searched on by sensor name. The tester generates a data search on LANDSAT-7 data specifying a sensor name keyword. After the search result package has been received, the tester prints the data list and verifies that the LANDSAT-7 data contains only data related to the sensor name provided and that no extraneous data was included.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: LANDSAT-7 data search request by sensor name.

Output: LANDSAT-7 data search result package.

Expected Results: The data list contains all the LANDSAT-7 data information related to the sensor name keyword.

Test Case 7 LANDSAT-7 Data List Search By Data Center (T221-1.01.07)

This test case verifies that LANDSAT-7 data can be searched on by data center. The tester generates a data search on LANDSAT-7 data specifying a data center keyword.

After the search result package has been received, the tester prints the data list and verifies that the LANDSAT-7 data contains only data related to the data center provided and that no extraneous data was included.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	LANDSAT-7 data search request by data center.
Output:	LANDSAT-7 data search result package.
Expected Results:	The data list contains all the LANDSAT-7 data information related to the data center keyword.

Test Case 8 Invalid LANDSAT-7 Data List Search (T221-1.01.08)

This test case verifies that if an invalid search criteria is entered, that the proper error messages are displayed. Not all search criteria are available for all data. The tester attempts to perform a search on a search criteria not applicable to LANDSAT-7 data. This action results in an error message indicated the search field is not applicable to LANDSAT-7 data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Invalid LANDSAT-7 data keyword search request.
Output:	LANDSAT-7 data lists, alarm message indicating invalid search criteria.
Expected Results:	The system generates an alarm message indicating an invalid keyword search criteria was selected.

Test Case 9 All other instruments Data list search by product id (T221-1.01.09)

This test case verifies that all other instruments (COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3) data can be searched on by product ID. The tester generates a data search on all other instrument data specifying a product ID keyword. After the search result package has been received, the tester prints the data list and verify that all other instruments data contains only data related to the product ID provided and that no extraneous data was included.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	All other instruments data search request by product ID.
Output:	All other instruments data search result package.

Expected Results: The data list contains all other instruments data information related to the product ID keyword.

5.44.2.2 Sequence 2 - Data Sort by Keyword

This sequence verifies that when AM-1, LANDSAT-7, COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3 data is received after a search request that it can be sorted on the various fields of product ID, sensor name, and data center.

Test Case 1 AM-1 Data List Sort by Product ID (T221-1.02.01)

This test case verifies that AM-1 data can be sorted by product ID. The tester generates a data search on AM-1 data, requesting it to be sorted by data type. After the search result package has been received, the tester prints the data list. The tester then requests the data to be sorted by product ID. The data list is then sorted. The tester verifies that the sorted list includes all data from the original list, sorted by product ID.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: AM-1 data search request, sort request.

Output: AM-1 data lists, one sorted by data type, one sorted by product ID.

Expected Results: Both data lists contain the same information regardless of the order sorted.

Test Case 2 AM-1 Data List Sort By Sensor Name (T221-1.02.02)

This test case verifies that AM-1 data can be sorted by sensor name. The tester generates a data search on AM-1 data, requesting it to be sorted by data type. After the search result package has been received, the tester prints the data list. The tester then requests the data to be sorted by sensor name. The data list is then sorted. The tester verifies that the sorted list includes all data from the original listed, sorted by sensor name.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: AM-1 data search request, sort request.

Output: AM-1 data lists, one sorted by data type, one sorted by sensor name.

Expected Results: Both data lists contain the same information regardless of the order sorted.

Test Case 3 AM-1 Data List Sort By Data Center (T221-1.02.03)

This test case verifies that AM-1 data can be sorted by data center. The tester generates a data search on AM-1 data, requesting it to be sorted by data type. After the search result

package has been received, the tester prints the data list. The tester then requests the data to be sorted by data center. The data list is then sorted. The tester verifies that the sorted list includes all data from the original listed, sorted by data center.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	AM-1 data search request, sort request.
Output:	AM-1 data lists, one sorted by data type, one sorted by data center.
Expected Results:	Both data lists contain the same information regardless of the order sorted.

Test Case 4 Invalid AM-1 Data List Sort (T221-1.02.04)

This test case verifies that if an invalid sort criteria is entered, that the proper error messages are displayed. Not all sort criteria are available for all data. The tester requests and receives a AM-1 data list. The tester then attempts to perform a sort by TBD. This action results in an error message indicating the sort field is not applicable.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	AM-1 data search request, invalid sort request.
Output:	AM-1 data lists, alarm message indicating invalid sort criteria.
Expected Results:	The system generates an alarm message indicating an invalid sort criteria was selected.

Test Case 5 LANDSAT-7 Data List Sort by Product ID (T221-1.02.05)

This test case verifies that LANDSAT-7 data can be sorted by product ID. The tester generates a data search on LANDSAT-7 data, requesting it to be sorted by data type. After the search result package has been received, the tester prints the data list. The tester then requests the data to be sorted by product ID. The data is then sorted. The tester verifies that the sorted list includes all data from the original list, sorted by product ID.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	LANDSAT-7 data search request, sort request.
Output:	LANDSAT-7 data lists, one sorted by data type, one sorted by product ID.
Expected Results:	Both data lists contain the same information regardless of the order sorted.

Test Case 6 LANDSAT-7 Data List Sort By Sensor Name (T221-1.02.06)

This test case verifies that LANDSAT-7 data can be sorted by sensor name. The tester generates a data search on LANDSAT-7 data, requesting it to be sorted by data type. After the search result package has been received, the tester prints the data list. The tester then requests the data to be sorted by sensor name. The data list is then sorted. The tester verifies that the sorted list includes all data from the original listed, sorted by sensor name.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	LANDSAT-7 data search request, sort request.
Output:	LANDSAT-7 data lists, one sorted by data type, one sorted by sensor name.
Expected Results:	Both data lists contain the same information regardless of the order sorted.

Test Case 7 LANDSAT-7 Data List Sort By Data Center (T221-1.02.07)

This test case verifies that LANDSAT-7 data can be sorted by data center. The tester generates a data search on LANDSAT-7 data, requesting it to be sorted by data type. After the search result package has been received, the tester prints the data list. The tester then requests the data to be sorted by data center. The data list is then sorted. The tester verifies that the sorted list includes all data from the original listed, sorted by data center.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	LANDSAT-7 data search request, sort request.
Output:	LANDSAT-7 data lists, one sorted by data type, one sorted by data center.
Expected Results:	Both data lists contain the same information regardless of the order sorted.

Test Case 8 Invalid LANDSAT-7 Data List Sort (T221-1.02.08)

This test case verifies that if an invalid sort criteria is entered, that the proper error messages are displayed. Not all sort criteria are available for all data. The tester requests and receives a LANDSAT-7 data list. The tester then attempts to perform a sort by TBD. This action results in an error message indicating the sort field is not applicable.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager

Input: LANDSAT-7 data search request, invalid sort request.

Output: LANDSAT-7 data lists, alarm message indicating invalid sort criteria.

Expected Results: The system generates an alarm message indicating an invalid sort criteria was selected.

Test Case 9 All other Instruments Data List Sort by Product ID (T221-1.02.09)

This test case verifies that all other instruments (COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3) data can be sorted by product ID. The tester generates a data search on all other instruments data, requesting it to be sorted by data type. After the search result package has been received, the tester prints the data list. The tester then requests the data to be sorted by product ID. The data list is then sorted. The tester verifies that the sorted list includes all data from the original list, sorted by product ID.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: All other instruments data search request, sort request.

Output: All other Instruments data lists, one sorted by data type, one sorted by product ID.

Expected Results: Both data lists contain the same information regardless of the order sorted.

5.44.2.3 Sequence 3 - Start/Stop Time Searches

The following series of tests demonstrates the ability to search for data based on a data set start and stop times and start/stop revolution times. Valid and invalid combinations are tested. The test also verifies that no extraneous data was provided.

Test Case 1 Valid Data Set Start/Stop Time Combinations (T221-1.03.01)

This test verifies data search request results from using the data set start/stop time format. The tester inputs various combinations of data set start and stop times and inspects the returned results package to ensure that only data within the data set start and stop time specifications are returned.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Valid combinations of data set start/stop times for the search request.

Output: Returned search results package.

Expected Results: The returned search results package is verified for content.

Test Case 2 Invalid Data Set Start/Stop Time Format (T221-1.03.02)

This test verifies that a search request cannot be constructed using invalid formats for the data set start/stop time search criteria. The tester attempts to enter values outside the defined ranges for start and stop times. The system responds with an invalid format alarm.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Invalid combinations of data set start/stop time format for the search request.

Output: Invalid format alarms.

Expected Results: Alarm messages for invalid search criteria format are received for each attempt to enter an invalid format.

Test Case 3 Invalid Data Set Start/Stop Time Period (T221-1.03.03)

This test verifies that invalid time periods are detected. The tester attempts to enter a negative time period (stop time less than start time). Also, the tester enters a period for which their is no data (future time and time before data was collected). The system is able to respond to the invalid time periods prior to initiating a search request.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Negative time periods, time periods outside of valid collection period.

Output: Alarms indicating invalid periods detected.

Expected Results: Alarm messages are generated for each attempt toInput an invalid time period as well as an alarm stating the requested time period is outside of the data collection period.

Test Case 4 Valid Start/Stop Revolution Time Combinations (T221-1.03.04)

This test verifies data search request results from using the start/stop revolution time format. The tester inputs various combinations of start and stop revolution times and inspects the returned results package to ensure that only data within the start and stop revolution time specifications are returned.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Valid combinations of start/stop revolution times for the search request.

Output: Returned search results package.

Expected Results: The returned search results package is verified for content.

Test Case 5 Invalid Start/Stop Revolution Time Format (T221-1.03.05)

This test verifies that a search request cannot be constructed using invalid formats for the start/stop revolution time search criteria. The tester attempts to enter values outside the defined ranges for start and stop times. The system responds with an invalid format alarm.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Invalid combinations of start/stop revolution time format for the search request.

Output: Invalid format alarms.

Expected Results: Alarm messages for invalid revolution time format is received for each attempt to enter an invalid format.

Test Case 6 Invalid Start/Stop Revolution Time Period (T221-1.03.06)

This test verifies that invalid time periods are detected. The tester attempts to enter a negative time period (stop time less than start time). Also, the tester enters a period for which their is no data (future time and time before data was collected). The system is able to respond to the invalid time periods prior to initiating a search request.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Negative time periods, time periods outside of valid collection period.

Output: Alarms indicating invalid periods detected.

Expected Results: Alarm messages are generated for each attempt toInput an invalid time period as well as an alarm stating the requested time period is outside of the data collection period.

5.44.2.4 Sequence 4 - Building a Complex Query Search

Another option available to users is the use of the logical operands "and", "not", and "or" in building complex queries to perform data searches. The following tests exercise several options of complex queries.

Test Case 1 Complex query using "AND" (T221-1.04.01)

The tester inputs a complex query composed of multiple "and's". After the query is built, it is examined and submitted. The search results package is verified. The result package only contains character data in response to the search request, no graphical data is available.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Complex query composed with multiple "and" operators, expected results, search request.
Output:	Search result package.
Expected Results:	The search result package matches the expected results.

Test Case 2 Complex query using "OR" (T221-1.04.02)

The tester inputs a complex query composed of multiple "or's". After the query is built, it is examined and submitted. The search results package is verified. The result package only contains character data in response to the search request, no graphical data is available.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Complex query composed with multiple "or" operators, expected results, search request.
Output:	Search result package.
Expected Results:	The search result package matches the expected results.

Test Case 3 Complex query using "NOT" (T221-1.04.03)

The tester inputs a complex query composed of multiple "not's". After the query is built, it is examined and submitted. The search results package is verified. The result package only contains character data in response to the search request, no graphical data is available.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Complex query composed with multiple "not" operators, expected results, search request.
Output:	Search result package.
Expected Results:	The search result package matches the expected results.

Test Case 4 Multiple combination test (T221-1.04.04)

The tester inputs a complex query composed of multiple "and's", "or's", and "not's". After the query is built, it is examined and submitted. The search results package is verified. The result package only contains character data in response to the search request, no graphical data is available.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Complex query composed with multiple operators, expected results, search request.
Output:	Search result package.
Expected Results:	The search result package matches the expected results.

Test Case 5 Negative Complex Query (T221-1.04.05)

The tester inputs a complex query that excludes every data set in the system. The query is composed of multiple "not's" and "and's" in order to exclude everything. The search result package contain the appropriate messages to indicate that no data matched the search criteria.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Complex query composed of multiple negative operators, search request.
Output:	Search result package.
Expected Results:	The search result package contain a message indicating no data was found.

Test Case 6 All Encompassing Complex Query (T221-1.04.06)

The tester inputs a complex query that include every data set registered at a LIM. The query is composed of multiple operators in order to include everything. The search result package contain all data sets registered at the LIM. The result package only contains character data in response to the search request, no graphical data is available.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Complex query composed of multiple operators, search request.
Output:	Search result package.
Expected Results:	The search result package contain all data sets.

5.44.2.5 Sequence 5 - Document Data Server Performance Requirement

The following tests will demonstrate the capability by the document data server to search for specific documents specified in the level 4 requirements. Specifically, this tests will verify the search for a guide documents by a single keyword, multiple keyword in not exceeding 8 seconds.

Test Case 1 Search for a guide documents by a single keyword in not exceeding 8 seconds (T221-1.05.01)

This test verifies that a search for a guide document by a single keyword will not exceeding 8 seconds.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Entries of single guide document search are repeatedly tested to verify the performance requirement.
Output:	Performance statistics information
Expected Results:	Performance timing are met. Performance statistics shows 8 seconds transactions have been performed within specified level 4 requirement.

Test Case 2 Directory search using a single keyword in a period to exceed 8 seconds (T221-1.05.02)

This test verifies that a directory search using a single keyword in a period will not exceeding 8 seconds.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Entries of directory search are repeatedly tested to verify the performance requirement.
Output:	Performance statistics information
Expected Results:	Performance timing are met. Performance statistics shows 8 seconds transactions have been performed within specified level 4 requirement.

Test Case 3 Directory search using multiple keyword in a period not to exceed 8 seconds (T221-1.05.03)

This test verifies that a directory search using a multiple keyword in a period will not exceeding 8 seconds.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Entries of directory search are repeatedly tested to verify the performance requirement.
Output:	Performance statistics information
Expected Results:	Performance timing are met. Performance statistics shows 8 seconds transactions have been performed within specified level 4 requirement.

Test Case 4 Keywords search on a 1000 page document of not exceeding 3 seconds (T221-1.05.04)

This test verifies that a keyword search on a 1000 page document of not exceeding 8 seconds.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Entries of keyword search are repeatedly tested to verify the performance requirement.
Output:	Performance statistics information
Expected Results:	Performance timing are met. Performance statistics shows 8 seconds transactions have been performed within specified level 4 requirement.

5.45 Spatial Polygon Search Thread

5.45.1 Thread Objectives

The objectives of the Spatial Polygon Search thread are as follows:

- Provide the capability to perform spatial metadata searches to include global granules, points/radius, bounding box tools and polygon searches.
- Provide the capability character based inventory and guide searches.
- Provide the capability to perform graphical data searches to include directory, guide and inventory.

5.45.2 Thread Test Description

This thread test covers the means by which a user may prepare a search request for data and verify the results returned from a search request. Testing will be performed to demonstrate spatial metadata searches to include global granules, point/radius, bounding box tools and polygon searches.

Other test will include performing character based inventory and guide searches, graphical data searches to include directory, guide and inventory.

Dependencies: (If Applicable)

To verify the objectives of the Enhanced data dictionary thread, the following interface and functional capabilities are required:

- Write permissions to the defined data dictionary
- Ability to access the LIM schema to determine data locations.
- Access to DAAC and DAAC interfaces.
- Ability to access the DIM schema to determine data locations.
- Ability to access the data dictionary using views and contexts. Direct access to the top levels of the data server.
- Heterogeneous data server environment within a local site.
- Existence of an advertising service that contains a list of ECS services supported in Rel B. Ability to access the advertising service from a local workbench.
- LIM and DIM schema defined for heterogeneous data server environment. Write permissions to allow changes to the LIM and DIM schema.
- Simulated or actual services availability.
- File transfer interfaces.
- CSMS and SDPS interface.

Test Support Requirements

- Hardware:
  - TBS
- Software:
  -
- Data:
  -

5.45.2.1 Sequence 1- Spatial Metadata Search

The following series of tests verify a user can perform a spatial metadata graphical inventory search. A spatial metadata search can be expressed as global granules, points/radius, or bounding box using a map. All of these methods are tested in this sequence.

Test Case 1 Global Granule search (T221-2.01.01)

This test verifies that a user can perform a graphical inventory search using global land attributes. The tester uses the mapping tool to bring up a global view of the earth. The tester then performs a global land search on a selected data type. The search result package is verified against search criteria.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Mapping tool, global land request.
Output:	All data available for the selected data type.
Expected Results:	The search result package contains all the land data for the selected data type.

Test Case 2 Point/Radius Searches (T221-2.01.02)

This test verifies that a user can select a circular area of interest on a map and submit a search request on the area contained by the circle. The tester uses the cursor to draw a circle on a map and submit a search request. The result package is verified to insure the returned data falls within the circular boundaries. The result package is represented graphically.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Circle, search request.
Output:	Search result package.
Expected Results:	The returned search result package contains data within the circular boundaries.

Test Case 3 Point/Radius Search - No data (T221-2.01.03)

This test verifies that when a user selects a circular area of interest on a map (for which no data exists) and submits a search request on the area contained by the circle, that appropriate messages are returned in the search result package. The tester inputs the center point of the circle and the radius for a area which no data exits. The circle is drawn on the map and the tester can submit the request. The result package is verified to insure that appropriate messages are returned. The result package is represented graphically.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Center point, radius length, geographical reference, search request.
Output:	Search result package.
Expected Results:	The returned search result package contains appropriate messages indicating that no data was found.

Test Case 4 Bounding Box Search (T221-2.01.04)

This test verifies that a user can select a rectangular area of interest on a map and submit a search request on the area contained by the rectangle. The tester uses the cursor to draw a rectangle on a map and submit a search request. The result package is verified to insure the returned data falls within the rectangular boundaries. The result package is represented graphically.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Bounding box, search request.
Output:	Search result package.
Expected Results:	The returned search result package contains data within the rectangular boundaries.

Test Case 5 Polygon searches (T221-2.01.05)

This test verifies that a user can perform polygon searches. The tester uses the cursor to draw a polygon on a map and submit a search request. The result package is verified to insure the data is correct. The result package is represented graphically.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Polygon , search request.
Output:	Search result package.
Expected Results:	The returned search result package contains data within the boundaries.

5.45.2.2 Sequence 2 - Character Based Inventory Searches

This sequence of tests verifies that land and ocean data inventory can be searched using character specifications. The tester chooses options from each character category represented in the search window.

Test Case 1 Character Land Data Inventory Search (T221-2.02.01)

The tester constructs a request for land data using the various character search specifications available. The tester chooses options from each character category represented in the build search window. The tester then submits the request and verifies the returned search result package.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Search request, Valid character fields.
Output:	Search result package.
Expected Results:	The search result package contains all data matching the search criteria specified in the search request.

Test Case 2 Character Ocean Data Inventory Search (T221-2.02.02)

The tester constructs a request for ocean data using the various character search specifications available. The tester chooses options from each character category represented in the build search window. The tester then submits the request and verifies the returned search result package.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Search request, Valid character fields.
Output:	Search result package.
Expected Results:	The search result package contains all ocean data matching the search criteria specified in the search request.

Test Case 3 Character Land Data Inventory Search with no data found (T221-2.02.03)

The tester constructs a request for land data using the various character search specifications available. The options selected from each character category represented in the build search window results in no data being found. The tester then submits the request and verifies the returned search result package.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Search request, Character fields which results in no data being found.
Output:	Search result package.

Expected Results: The search result package reflects that no data was found.

Test Case 4 Character Ocean Data Inventory Search with no data found (T221-2.02.04)

The tester constructs a request for ocean data using the various character search specifications available. The options selected from each character category represented in the build search window results in no data being found. The tester then submits the request and verifies the returned search result package.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Search request, Character fields which results in no data being found.

Output: Search result package.

Expected Results: The search result package reflects that no data was found.

5.45.2.3 Sequence 3 - Core Metadata Searches

This sequence of tests verifies that search criteria can be constructed and executed from the list of core metadata attributes. Over 200 core metadata attributes have been defined. It is assumed that unit testing has verified that a search can be executed on each core metadata attribute. This sequence of tests verifies that combinations of graphical/character oriented attributes can be constructed and executed. The result package is graphically/character represented.

Test Case 1 Time Search (T221-2.03.01)

The tester graphically selects a period of time using the time line tool and selects a core metadata search. The result package reflects any metadata found within the time period selected.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data period with metadata available.

Output: Search result package.

Expected Results: The search result package contains a graphical representation of the metadata found within the specified time.

Test Case 2 Latitude/Longitude Search (T221-2.03.02)

The tester graphically selects a region on the map using the mapping tool and selects a core metadata search. The result package reflects any metadata found within the selected region.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Region with metadata available.

Output: Search result package.

Expected Results: The search result package contains a graphical representation of the metadata found within the specified region.

Test Case 3 Algorithm Search (T221-2.03.03)

The tester constructs a textual search entering data describing algorithm packages to be searched for. Any combinations of the listed inputs can be used. The search result package contains all algorithm packages which matches the selected criteria.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Valid Algorithm information to include: Algorithm Package Acceptance Date; Algorithm Package Description, Algorithm Package Intended Operating System; Algorithm Package Maturity Code, Algorithm Package Name, Algorithm Package Version, and Algorithm Test Data Description.

Output: Search result package.

Expected Results: The search result package contains all algorithms found which match the search criteria provided.

Test Case 4 Author/Date/Instrument Search (T221-2.03.04)

The tester constructs a textual search command entering data related to a documentation search. This command searches the core metadata available to match the author, date, and instrument parameters entered. The search result package matches the selected criteria.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Valid combination of search criteria to include author, dates, and instrument parameters to include: Author, Author of ATBD, Author of Design Document, Author of Diagram Document, Author of Proc Document, Date of Reference Paper, Date of ATBD, Date of Design Document, Date of Diagram Document, Date of Proc Document, and Instrument Short Name.

Output: Search result package.

Expected Results: The search result package contains information found based on the search criteria.

Test Case 5 Horizontal/Vertical Search (T221-2.03.05)

The tester constructs a textual search entering horizontal and vertical search criteria. This search string searches the core metadata available to match the search criteria. The search result package matches the selected criteria.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Valid combination of search criteria to include Horizontal Positional Accuracy Explanation, Horizontal Region Description Dataset, Horizontal Region Description Grouping, Horizontal Region Name, Horizontal Coverage Name Dataset, Horizontal Coverage Name Grouping, Horizontal Representation, Horizontal Spatial Coverage, Horizontal Spatial Format, Horizontal Spatial Resolution Representation, Horizontal Spatial Coverage Representation, Vertical Class, Vertical Coverage, Vertical Positional Accuracy, Vertical Region Description Dataset, Vertical Region Name, Vertical Spatial Coverage, Vertical Spatial Format, Vertical Spatial Resolution.

Output: Search Result Package.

Expected Results: The search result package contains a textual representation of data which matches theInput search criteria.

5.45.2.4 Sequence 4 - Inventory Search

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. Inventory Search attributes include Sensor/Platform, Time/Date, Location (position), Geographical Zone, Data Quality, Orbit Characteristics, Coincident Surface Data, Instrument Attributes and Geophysical Attributes. The Inventory shall individually describe each granule of EOSDIS data.

Test Case 1 Simple Inventory Search (T221-2.04.01)

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 a data server. Several searches will be performed and will be based on the data available in the data server.

Test Configuration: Hardware - Workstation, Data Dictionary DBMS Server,

Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object

Input: Search scenario based on available data

Output: Descriptions of granules meeting the search criteria.

Expected Results: This test is considered successful if each inventory search returns the granule descriptions of the granules meeting the search criteria. The client must provide informational messages to users indicating a query is being executed. The inventory search must also provide information concerning product processing schedules and processing history.

Test Case 2 Complex Inventory Search (T221-2.04.02)

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 as well as Boolean and relational operators. The search criteria will be developed based on user scenarios and data server information. The criteria will be designed to search across multiple data sets, if available, for coincident occurrences of data in space, time, and any other attribute(s) of metadata. The search will be executed and the data returned will be compared with the expected results. The GUI and the CHUI will be tested.

Test Configuration: Hardware - Workstation, Data Dictionary DBMS Server,

Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object

Input: Search scenarios based on available data.

Output: Descriptions of granules meeting the search criteria.

Expected Results: This test is considered successful if each inventory search returns the granule descriptions of the granules meeting the search criteria. The client must provide informational messages to users indicating a query is being executed. Errors obtained while the search is being performed must be reported to the user. The inventory search must also provide information concerning product processing schedules and processing history.

Test Case 3 Inventory Search - Dependent valid (T221-2.04.03)

This test demonstrates the ability of the Client to provide the user with a correct list of inventory search dependent valid. Each query will be developed such that the specific data sets are known in advanced. The tester will verify that only the allowable dependent valid are accessed when the query is formulated. The GUI and the CHUI will be tested.

Test Configuration: Hardware - Workstation, Data Dictionary DBMS Server,

Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object

Input: Search criteria

Output: Inventory results on data sets that meet the search criteria.

Expected Results: This test is considered successful if the inventory search displays the correct dependent valid while the query is being developed. The query must also return the correct descriptions of the granules meeting the search criteria.

5.45.2.5 Sequence 5 - Directory Search

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.

Test Case 1 Simple directory search (T221-2.05.01)

This test demonstrates the ability of the Client to provide access to the Global Change Master Directory (GCMD) database. Directory information consist of summary information on available data sets such as data set attributes, platforms, temporal coverage, and geographic coverage. Directory searches will be performed by specifying search criteria such as source, parameter, spatial coverage and temporal coverage. The GUI and the CHUI will be tested. The following tests verify the administrator's capabilities to manipulate the data in the data dictionary (add, delete, modify entries).

Test Configuration: Hardware - Workstation, Data Dictionary DBMS Server,

Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object

Input: Directory Search criteria

Output: Summary information on data sets and appropriate error messages

Expected Results: This test is considered successful if the directory search accesses the GCMD and returns the summary information on data sets that meet the search criteria. The client must also display appropriate error messages for searches that are performed but can not be satisfied.

Test Case 2 Directory Search - Dependent valid (T221-2.05.02)

This test demonstrates the ability of the Client to provide the user with a correct list of directory search dependent valid. Each query will be developed such that the specific data sets are known in advance. The tester will verify that while developing the query the client provides only the valid selectable options: source, platform, parameters, etc. The tester will also verify that the correct information is returned when the search is executed. The GUI and the CHUI will be tested.

Test Configuration:	Hardware - Workstation, Data Dictionary DBMS Server,
	Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object
Input:	Search criteria
Outputs:	Correct display of valid and summary information on data sets that meet the search criteria.
Expected Results:	This test is considered successful if the directory displays the correct valid and returns information only on the specific data sets requested. The client must also disp

5.45.2.6 Sequence 6 - Document Search

The Guide Search thread provides access to guide and other on-line documentation and reference materials about ECS and its data sets. The on-line guide will contain references on information such as: documentation of processing algorithms, results of science data quality assessments, bibliography of published and unpublished literature, product specifications, instrument specifications, inventory search options.

Test Case 1 Guide Search (T221-2.06.01)

This test demonstrates the ability of the Client to provide access to guide information. On-line documents will be accessed by browsing through available listings of guide documents and selecting specific documents for review. Documents will also be selected by entering a key word and performing a search on the key word. Several documents will be selected for display by browsing and by searching on key words. The performance of the Document Data Server will be measured by timing each search executed. The GUI and the CHUI will be tested.

Test Configuration:	Hardware - Workstation, Data Dictionary DBMS Server,
	Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object
Input:	Document search criteria
Output:	Guide documents

Expected Results: This test is considered successful if the specified guide documents are displayed on the screen. The guide documents must be readable and must correspond to the selected browse listing or the keywords used for searching. The client must display appropriate error messages for searches that are performed but can not be satisfied.

Test Case 2 Document access (T221-2.06.02)

This test case demonstrates the ability of the Document Data Server to provide access to all documents and data types held in the servers collection. The tester will identify the documents in the data server collection. This will be performed through consultation with the development team. The tester will then develop and execute a set of search criteria for each of the documents using appropriate search criteria. The GUI and the CHUI will be tested.

Test Configuration: Hardware - Workstation, Data Dictionary DBMS Server,

Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object

Input: Document search criteria

Output: Document

Expected Results: This test is considered successful if the tester is able to access all of the documents in the document collection. The documents must be readable and must correspond to the selected browse listing or the keywords used for searching. The client must display appropriate error messages for searches that are performed but can not be satisfied.

Test Case 3 Guide updates (T221-2.06.03)

This test demonstrates the ability of the Document Data Server to allow authorized users to provide data management services for the ECS Guide function. A set of document searches will be performed before any modifications are made to the on-line documents. The results of the document searches will be recorded. The tester will then login as an authorized user and begin adding, deleting and modifying the document data server database. Documentation that will be affected include documentation on processing algorithms, references to results of science data quality assessments of EOS data, bibliography information, instrument specifications, summaries of data sets, data describing subsetting, subsampling and transformation options and user supplied documentation. After modifying the data server database, the tester will log off of the system, re-login and execute the searches performed before the changes were made. The tester will verify the changes were made by comparing the results before and after the changes are made.

Test Configuration: Hardware - Workstation, Data Dictionary DBMS Server,

	Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object
Input:	Document search criteria
Output:	Guide Documents
Expected Results:	This test is considered successful if the tester is able to add, delete and modify the document server database. After the database is changed, the tester will execute a search for the added, deleted and modified documents. Added documents should be found when the correct search criteria are used. When a search is performed for the Deleted documents a message should be displayed stating the item could not be found. A search performed for the modified documents must result in a display of the document with the changes made.

5.46 Distributed Search Request Thread

5.46.1 Thread Objectives

The objectives of the Distributed Search Request thread are as follows:

- Provide the capability to perform guide and graphical searches.
- Provide search access to additional levels of the data pyramid for selected parameters and have capability for coincidence data viewing.
- Provide the capability to search through multiple data sets for coincident occurrence.

5.46.2 Thread Test Description

Testing will be performed to verify that a user can perform a graphical directory searches. A graphical search can utilize a LIM or a data server based on the context. The test cases which follow, access data from a LIM and a data server respectively. In order to perform these test cases, the tester must have knowledge of datasets which reside in unique LIM and a unique data server in order to validate the test results.

Testing will also be perform to very that additional levels of the data pyramid for selected parameters can be tested. Searching through multiple datasets for coincident occurrences and coincidence data viewing will be tested.

Dependencies: (If Applicable)

To verify the objectives of the Enhanced data dictionary thread, the following interface and functional capabilities are required:

- Write permissions to the defined data dictionary
- Ability to access the LIM schema to determine data locations.

- Access to DAAC and DAAC interfaces.
- Ability to access the DIM schema to determine data locations.
- Ability to access the data dictionary using views and contexts. Direct access to the top levels of the data server.
- Heterogeneous data server environment within a local site.
- Existence of an advertising service that contains a list of ECS services supported in Rel B. Ability to access the advertising service from a local workbench.
- LIM and DIM schema defined for heterogeneous data server environment. Write permissions to allow changes to the LIM and DIM schema.
- Simulated or actual services availability.
- File transfer interfaces.
- CSMS and SDPS interface.

Test Support Requirements

- Hardware:
  - TBS
- Software:
  -
- Data:
  -

5.46.2.1 Sequence 1- Guide Searches

The following series of tests verify a user can perform graphical and textual guide searches. A graphical guide search searches a DAAC for text type information. A textual guide search accepts text strings and returns related guide information.

Test Case 1 Build search string (T221-3.01.01)

This test verifies that a user can utilize the on-line help mechanisms while formulating a search string against a DAAC guide. The tester demonstrates the various help mechanisms (i.e., the data dictionary) in creating the search string. Once the string is completed, the search is initiated and the results of the guide search returned.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Graphical guide search request.
Output:	Search result package.

Expected Results: The returned search result package contains textual information which matches the information in the search string.

Test Case 2 Text search string (T221-3.01.02)

This test verifies that a user can input textual information to formulate a search string against a DAAC guide. The tester demonstrates how the system responds to input of meaningful textual strings. An example of this type of search is to input the string 'DAAC'. Submitting this string results in all documents concerning 'DAAC' issues being returned. Another example is to input the string 'snow and ice'. When this string is submitted, all documentation related to 'snow and ice' studies is returned.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Textual guide search request.

Output: Search result package.

Expected Results: The returned search result package contains textual information which matches the information in the search string.

Test Case 3 Non-existent graphical guide data search request (T221-3.01.03)

This test verifies that the search results package contains the appropriate messages for a graphical guide search containing no data. The tester must obtain knowledge of a region for which no guide data exists. The tester then submits the request and verifies the returned results package.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Search string for which there exits no data.

Output: Search result package.

Expected Results: The search result package reflecting no data was found.

Test Case 4 Non-existent textual guide search request (T221-3.01.04)

This test verifies that the search results package contains the appropriate messages for a textual directory search containing no data. The tester selects a text string unrelated to any documents in the system. The search result package reflects that no data was found.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Textual search string unrelated to any guide data.

Output: Search result package.

Expected Results: The search result package reflecting no data was found.

5.46.2.2 Sequence 2 - Graphical Searches

This sequence of tests verifies that land and ocean data inventory can be searched using graphical tools. The tester utilizes the mapping tool and the time line tool to construct the search requests.

Test Case 1 Graphical Land Data Inventory Search (T221-3.02.01)

The tester constructs a global request for land data using the mapping tool provided for this thread. After the global region is selected, the tester uses the graphical time line tool to select a time period for the global graphical data. The tester then submits the request and verifies the returned search result package.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Search request, Valid global region, Valid time period.

Output: Search result package.

Expected Results: The search result package contains all the data in the global region selected for the time period specified.

Test Case 2 Graphical Land Data Region Inventory Search with no data found (T221-3.02.02)

The tester constructs a global request for land data using the mapping tool provided for this thread. The region selected is one for which no data exists. The tester then submits the request and verifies the returned search result package.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Search request, Global region which contains no data.

Output: Search result package.

Expected Results: The search result package stating that no data was found for either of the regions selected.

Test Case 3 Graphical Land Data Time Line Inventory Search with no data found (T221-3.02.03)

The tester constructs a time line request for land data. The time period selected produces a search result with no data found. The tester then submits the request and verifies the returned search result package.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Search request, Time period for which no data exists.

Output: Search result package.

Expected Results: The search result package states that no data was found for the time period selected.

Test Case 4 Graphical Ocean Data Inventory Search (T221-3.02.04)

The tester constructs a global request for ocean data using the mapping tool. After the global region is selected, the tester uses the graphical lat/long line tool to select a more defined area for the graphical search. The tester then submits the request and verifies the returned search result package.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Search request, Valid ocean region containing data.

Output: Search result package.

Expected Results: The search result package contains all ocean data in the region selected for the lat/long positions specified.

Test Case 5 Graphical Ocean Data Region Inventory Search with no data found (T221-3.02.05)

The tester constructs a global request for ocean data using the mapping tool provided for this thread. The region selected is one for which no data exists. The tester then submits the request and verifies the returned search result package.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Search request, Global region which contains no data.

Output: Search result package.

Expected Results: The search result package states that no data was found for the region selected.

Test Case 6 Graphical Ocean Data Lat/Long Tool Inventory Search with no data found (T221-3.02.06)

The tester constructs a request for ocean data using the graphical lat/long tool. The area selected contains no ocean data. The tester then submits the request and verifies the returned search result package.

Test Configuration: Hardware - workstations

	Software - Scientist workbench, Storage device, Desktop manager
Input:	Search request, Time period for which no data exists.
Output:	Search result package.
Expected Results:	The search result package states that no data was found for either of the regions selected.

5.46.2.3 Sequence 3 - Coincidence Data Viewing

This sequence verifies that a returned search result package can be displayed in various formats at the same time. Each test case views the same search result package using a different COTS/public domain user interactive tool. The tester originates a search request and submit it. Once the search result package is returned, the tool is used to represent the data in various ways. Each method utilized is assessed to ensure that all data is represented.

Test Case 1 Display Footprints (T221-3.03.01)

This test case views the returned search result package as footprints of the images superimposed upon a regional map. The map representation is verified to ensure all data in the returned search result package is accounted for.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Search request, returned search result package.
Output:	Search result package data images superimposed upon a regional map.
Expected Results:	The map representation contains all the data that was in the original search result package.

Test Case 2 View Details (T221-3.03.02)

This test case views details, at all available levels, for the returned search result package. Data is verified at each level of detail.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Search request, returned search result package.
Output:	Search result package reviewed by detail.
Expected Results:	Each level of detail contains all the data that was in the original search result package.

Test Case 3 Alpha-numeric Table Representation (T221-3.03.03)

This test case converts the returned result package into an alpha-numeric table. The table is verified to ensure all data is accounted for.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Search request, returned search result package.
Output:	Search result package arranged in an alpha-numeric table.
Expected Results:	All data in the original search result package is accounted for and represented in alpha-numeric order.

5.46.2.4 Sequence 4 - Search request functions

This sequence verifies a lot of the search request functions such as saving search request parameters, retrieving previously saved search request and combining other research requests. The tester originates a search request and submit it. Once the search result package is returned, the tool is used to represent the data in various ways. Each method utilized is assessed to ensure that all data is represented.

Test Case 1 Save search request parameter (T221-3.04.01)

This test verifies the testers ability to save the results of a search request parameter for later reuse. After a search request has been carried out, the parameter is stored for later.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Initiate command to save search request parameters.
Output:	Search request parameters are stored are stored for later reuse. Log file is updated.
Expected Results:	Tester is able to store the search request parameters for later reuse.

Test Case 2 Retrieve previously saved search request parameters (T221-3.04.02)

This test verifies the testers ability to retrieve previously saved search request parameter.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Initiate command to retrieve previously saved search request parameters.
Output:	Previously saved search request parameters are displayed. Log file is updated.

Expected Results: Tester is able to retrieve previously saved search request parameters.

Test Case 3 Save results of search request (T221-3.04.03)

This test verifies the testers ability to save the results of a search request for later reuse. After a search request has been carried out, the results will be stored for later.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Initiate command to save search request results.

Output: Search request results are stored are stored for later reuse. Log file is updated.

Expected Results: Tester is able to store the search request results for later reuse.

Test Case 4 Retrieve saved search results, delete an item and resave them (T221-3.04.04)

This test verifies the testers ability to retrieve previously saved search results, delete certain items and resave the for future.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Initiate command to retrieve previously saved search results. Delete certain data from the results and save the result.

Output: The previously saved search result is retrieved, modified and resaved again. Log file is updated.

Expected Results: Tester is able to retrieve previously saved search result, delete certain items and resave it again.

Test Case 5 Save selected portions of search results (T221-3.04.05)

This test verifies the testers ability to save selected portions of a result. After a search request has been carried out, the user might want to save selected portions.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Display search results. Cut out the portions unwanted. Issue command to save search result.

Output: Portion of the search result is saved after cut. Log file is updated.

Expected Results: Tester is able to store the selected portion of search result.

Test Case 6 Combine search results (T221-3.04.06)

This test verifies the testers ability to combine search results with other search results.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Retrieve several search results and combine them.
Output:	Search results are combined. Log file is updated.
Expected Results:	Tester is able to combine search results.

Test Case 7 Request update of status of previously submitted search request (T221-3.04.07)

This test verifies the capability to request update of status of a previously submitted search request. This test case demonstrates the capability to retrieve status of service requests.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of service request.
Output:	Outputs include information regarding the status of service requests.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 8 Request workbench poll status (T216-4.04.08)

This test verifies the capability to request workbench poll status. This test case demonstrates the capability to retrieve status of a workbench poll.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Inputs includes the user intimating the request by clicking on the status of workbench poll.
Output:	Outputs include information regarding the status of workbench poll.
Expected Results:	This test is deemed successful if the status of the retrieval request is returned to the user.

Test Case 9 Request subsetted, subsampled and summary products (T216-4.04.09)

This test verifies the tester ability to request subsetted, subsampled and summary products.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Product request of subsetted, subsampled and summary.
Output:	Data Availability Notification to signal availability of data.
Expected Results:	Tester is able to access data via through the internet

Test Case 10 Data request for on demand data products (T216-4.04.10)

This test verifies the tester ability to initiate a data request for on demand data product . The test will confirm that User id, Request Priority and Data Id are all present.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Data request with (User Id., Request Priority and Data Id
Output:	Data Availability Notification to signal availability of data.
Expected Results:	Tester is able to access data via through the internet

5.47 Search Services Build

The Search Services Build is made up of the following threads:

- Distribution Search Request Thread
- Enhanced Parameter Search Thread
- Spatial Polygon Search Thread

5.47.1 Build Objectives

The objectives of the search services build are as follows:

- Provide the capability to perform spatial metadata searches to include global granules, points/radius, bounding box tools and polygon searches.
- Provide the capability to perform character based inventory and guide searches.
- Provide the capability to perform core metadata searching to include graphical, geographic and character based searches.
- Provide the capability to perform graphical data search to include directory, guide and inventory.

- Provide the capability to perform searches for AM-1, LANDSAT-7, COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3 data using keywords.
- Provide the capability to perform sort results package by keywords for AM-1 and LANDSAT-7 data.
- Provide the capability to perform start and stop time searching.
- Provide the capability to perform dependent valid methods of building a complex search criteria and insert new search methods.
- Provide search access to additional levels of the data pyramid for selected parameters and have capability for coincidence data viewing.
- Provide the capability to search through multiple data sets for coincident occurrences.

5.47.2 Build Test Description

This build test covers all the means by which a user may prepare a search request for data and verify the results returned from a search request. The tester builds search requests using each of the defined methods and examines the returned result package for validity and completeness.

Series of tests will be performed to verify a user can perform a spatial metadata graphical inventory search. Other tests include character inventory searches using LANDSAT-7, AM-1, COLOR, ADEOS II, Sage III and Meteor-3 data inventory. Sequences of test will be demonstrated to show that search criteria can be constructed and executed from the list of core metadata attributes for both graphical and character.

Testing will be also be performed to verify that a user can perform a graphical directory searches. A graphical directory search can utilize a LIM or a data server based on the context. The test cases which follow, access data from a LIM and a data server respectively. In order to perform these test cases, the tester must have knowledge of data sets which reside in unique LIM and a unique data server in order to validate the test results.

Verification that LANDSAT-7 and AM-1 data can be searched or sorted by keywords will be tested accordingly. The ability to search for data based on a dataset start and stop times and start/stop revolution times will be tested. Testing will also be performed to verify that users can use logical operands in building complex queries to perform data searches.

Finally, tests will be performed to demonstrate that the system has the capability to search through multiple data sets for coincident occurrences. Sequences will be developed to verify that a returned search result packages can be displayed in various formats at the same time.

Dependencies: (If Applicable)

In order to verify the objectives of the Search Services build, the following interface and functional capabilities are required:

- Fully loaded data server Landsat-7, AM-1, ADEOS II, Sage III, COLOR and Meteor-3 simulated data to include metadata and directory data.
- Functional data dictionary to use during search request generation.

- Functional LIM and DIM to respond to search requests.
- Access to the methods used to build search criteria to include map, time line and latitude/longitude tools.
- Simulated or actual services availability.
- File transfer interfaces.
- CSMS and SDPS interface.

Test Support Requirements

- Hardware:
  - TBS
- Software:
  - Graphical Map Search Selection Tool
  - Time Line Search Selection Tool
  - Graphical Latitude/Longitude Search Selection Tool
- Data:
  - AM-1 and Landsat 7 data
  - Metadata

5.47.2.1 Sequence 1- Search and Sort by Keyword Functions

This sequence verifies that AM-1, LANDSAT-7, COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3 data can be searched on by the following fields: product ID, sensor name, and data center. The tester first generates a AM-1 data search list. The returned result package contains all the AM-1 data available. Then, each test case narrows the list by performing a search on the keyword. The returned result package is then verified for completeness of data by keyword. The test case also ensures no extraneous data was provided.

Test Case 1 AM-1 Data List Search by Product ID (B221.01.01)

This test case verifies that AM-1 data can be searched on by product ID. The tester generates a data search on AM-1 data specifying a product ID keyword. After the search result package has been received, the tester prints the data list and verify that the AM-1 data contains only data related to the product ID provided and that no extraneous data was included.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	AM-1 data search request by product ID.
Output:	AM-1 data search result package.

Expected Results: The data list contains all the AM-1 data information related to the product ID keyword.

Test Case 2 AM-1 Data List Sort by Product ID (B221.01.02)

This test case verifies that AM-1 data can be sorted by product ID. The tester generates a data search on AM-1 data, requesting it to be sorted by data type. After the search result package has been received, the tester prints the data list. The tester then requests the data to be sorted by product ID. The data list is then sorted. The tester verifies that the sorted list includes all data from the original list, sorted by product ID.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: AM-1 data search request, sort request.

Output: AM-1 data lists, one sorted by data type, one sorted by product ID.

Expected Results: Both data lists contain the same information regardless of the order sorted.

Test Case 3 Valid Data Set Start/Stop Time Combinations (B221.01.03)

This test verifies data search request results from using the data set start/stop time format. The tester inputs various combinations of data set start and stop times and inspects the returned results package to ensure that only data within the data set start and stop time specifications are returned.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Valid combinations of data set start/stop times for the search request.

Output: Returned search results package.

Expected Results: The returned search results package is verified for content.

Test Case 4 Complex query using "AND" (B221.01.04)

The tester inputs a complex query composed of multiple "and's". After the query is built, it is examined and submitted. The search results package is verified. The result package only contains character data in response to the search request, no graphical data is available.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Complex query composed with multiple "and" operators, expected results, search request.

Output: Search result package.

Expected Results: The search result package matches the expected results.

5.47.2.2 Sequence 2 - Spatial Data Search Functions

The following series of tests verify a user can perform a spatial metadata graphical inventory search. A spatial metadata search can be expressed as global granules, points/radius, or bounding box using a map. All of these methods are tested in this sequence.

Test Case 1 Global Granule search (B221.02.01)

This test verifies that a user can perform a graphical inventory search using global land attributes. The tester uses the mapping tool to bring up a global view of the earth. The tester then performs a global land search on a selected data type. The search result package is verified against search criteria.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Mapping tool, global land request.

Output: All data available for the selected data type.

Expected Results: The search result package contains all the land data for the selected data type.

Test Case 2 Character Land Data Inventory Search (B221.02.02)

The tester constructs a request for land data using the various character search specifications available. The tester chooses options from each character category represented in the build search window. The tester then submits the request and verifies the returned search result package.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Search request, Valid character fields.

Output: Search result package.

Expected Results: The search result package contains all data matching the search criteria specified in the search request.

Test Case 3 Time Search (B221.02.03)

The tester graphically selects a period of time using the time line tool and selects a core metadata search. The result package reflects any metadata found within the time period selected.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data period with metadata available.

Output: Search result package.

Expected Results: The search result package contains a graphical representation of the metadata found within the specified time.

Test Case 4 Simple Inventory Search (B221.02.04)

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 a data server. Several searches will be performed and will be based on the data available in the data server.

Test Configuration: Hardware - Workstation, Data Dictionary DBMS Server,

Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object

Input: Search scenario based on available data

Output: Descriptions of granules meeting the search criteria.

Expected Results: This test is considered successful if each inventory search returns the granule descriptions of the granules meeting the search criteria. The client must provide informational messages to users indicating a query is being executed. The inventory search must also provide information concerning product processing schedules and processing history.

Test Case 5 Simple directory search (B221.02.05)

This test demonstrates the ability of the Client to provide access to the Global Change Master Directory (GCMD) database. Directory information consist of summary information on available data sets such as data set attributes, platforms, temporal coverage, and geographic coverage. Directory searches will be performed by specifying search criteria such as source, parameter, spatial coverage and temporal coverage. The GUI and the CHUI will be tested. The following tests verify the administrator's capabilities to manipulate the data in the data dictionary (add, delete, modify entries).

Test Configuration: Hardware - Workstation, Data Dictionary DBMS Server,

Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object

Input: Directory Search criteria

Output: Summary information on data sets and appropriate error messages

Expected Results: This test is considered successful if the directory search accesses the GCMD and returns the summary information on data sets that meet the search criteria. The client must also display appropriate error messages for searches that are performed but can not be satisfied.

Test Case 6 Guide Search (B221.02.06)

This test demonstrates the ability of the Client to provide access to guide information. On-line documents will be accessed by browsing through available listings of guide documents and selecting specific documents for review. Documents will also be selected by entering a key word and performing a search on the key word. Several documents will be selected for display by browsing and by searching on key words. The performance of the Document Data Server will be measured by timing each search executed. The GUI and the CHUI will be tested.

Test Configuration: Hardware - Workstation, Data Dictionary DBMS Server,

Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object

Input: Document search criteria

Output: Guide documents

Expected Results: This test is considered successful if the specified guide documents are displayed on the screen. The guide documents must be readable and must correspond to the selected browse listing or the keywords used for searching. The client must display appropriate error messages for searches that are performed but can not be satisfied.

5.47.2.3 Sequence 3 - Distributed Search Request Functions

The following series of tests verify a user can perform graphical and textual guide searches. A graphical guide search searches a DAAC for text type information. A textual guide search accepts text strings and returns related guide information.

Test Case 1 Build search string (B221.03.01)

This test verifies that a user can utilize the on-line help mechanisms while formulating a search string against a DAAC guide. The tester demonstrates the various help mechanisms (i.e., the data dictionary) in creating the search string. Once the string is completed, the search is initiated and the results of the guide search returned.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Graphical guide search request.

Output: Search result package.

Expected Results: The returned search result package contains textual information which matches the information in the search string.

Test Case 2 Text search string (B221.03.02)

This test verifies that a user can input textual information to formulate a search string against a DAAC guide. The tester demonstrates how the system responds to input of meaningful textual strings. An example of this type of search is to input the string 'DAAC'. Submitting this string results in all documents concerning 'DAAC' issues being returned. Another example is to input the string 'snow and ice'. When this string is submitted, all documentation related to 'snow and ice' studies is returned.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Textual guide search request.

Output: Search result package.

Expected Results: The returned search result package contains textual information which matches the information in the search string.

Test Case 3 Graphical Land Data Inventory Search (B221.03.03)

The tester constructs a global request for land data using the mapping tool provided for this thread. After the global region is selected, the tester uses the graphical time line tool to select a time period for the global graphical data. The tester then submits the request and verifies the returned search result package.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Search request, Valid global region, Valid time period.

Output: Search result package.

Expected Results: The search result package contains all the data in the global region selected for the time period specified.

Test Case 4 Display Footprints (B221.03.04)

This test case views the returned search result package as footprints of the images superimposed upon a regional map. The map representation is verified to ensure all data in the returned search result package is accounted for.

Test Configuration: Hardware - workstations

	Software - Scientist workbench, Storage device, Desktop manager
Input:	Search request, returned search result package.
Output:	Search result package data images superimposed upon a regional map.
Expected Results:	The map representation contains all the data that was in the original search result package.

5.48 Enhanced Production Management Thread

5.48.1 Thread Objectives

The objectives of the Enhanced Production Management Thread are:

- Provide the ability to enter and perform commands using the operations staff GUI.
- Provide the ability to send accountability and configuration management data to MSS.
- Provide the ability to provide DAAC QA enabling SW.

5.48.2 Thread Test Description

Testing will demonstrate the enhanced production management through verification of accountability management, configuration management, operations staff commands and DAAC QA enabling software. The GUI used by operations staff will be tested. On-demand and reprocessing production requests will be queried, updated, and canceled. Testing will verify that all accountability and configuration management data will be properly sent to MSS.

DAAC QA information related to data products will be exchanged between ECS and ASTER GDS. Testing will verify that the DAAC has performed QA on the product and has checked all dependent valid supplied by the scientist.

Dependencies: (If Applicable)

To verify the objectives of the Enhanced Production Management Thread, the following interface and functional capabilities are required:

- Interface between SDPS resource management and CSMS.
- Data server populated with data sets (i.e. metadata, algorithms, ancillary data, product data).
- Interface to the production queue for plan generation and manipulation.
- Interface to resource management for scheduling and execution.
- Test drivers to simulate remote site requests for plans and products.
- Interface between DAACs, EDOS, SDPF and SMC to resolve conflicts.

Test Support Requirements

- Hardware:
  - Production Planner Workstation
  - Planning Database Server host
- Software:
  - Resource Management COTS tool
  - GUI Interface for queue control and monitoring
  - CSMS LSM Services

    Configuration Management Applications

    Resource Scheduling Applications
- Data:
  - Simulated data granules
  - PGE scripts, metadata, algorithm executables, calibration data files, ECS data products and ancillary data products.

5.48.2.1 Sequence 1- Operations Staff

The following tests verify the operations staff commands, the GUI display, and warning messages. The operator can perform on-line functions such as entry/query/update/cancellation of reprocessing PRs and query/update/cancellation of on-demand PRs. Planning information will be sent and received. Resource usage thresholds will be specified.

Test Case 1 Enter Reprocessing PRs (T219-2.01.01)

This test verifies that an operator can command a project request to be reprocessed.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Enter valid and invalid reprocessing production requests. Display PRs.
Output:	Responses are displayed. PRs are incorporated into the active plan for reprocessing. PR information is displayed.
Expected Results:	PRs commanded to be reprocessed are placed into the current plan. Reprocessing of PRs is initiated.

Test Case 2 Query On-demand & Reprocessing PRs (T219-2.01.02)

This test verifies that an operator can query on-demand and reprocessing product requests.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Query on-demand and reprocessing requests. Enter in a variety of query criteria.

Output: On-demand and reprocessing PRs are displayed.

Expected Results: The on-demand and reprocessing PRs displayed correspond to the query criteria given. All PRs that satisfy the query criteria are displayed.

Test Case 3 Update On-demand & Reprocessing PRs (T219-2.01.03)

This test verifies that an operator can update on-demand and reprocessing product requests.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Update on-demand and reprocessing requests. Enter valid and invalid updates. Display updated PRs.

Output: Valid updates are accepted. Invalid updates are rejected. Responses are to updates are displayed. Display updated PRs.

Expected Results: Valid updates to PRs are accepted. Invalid update to PRs are rejected. Appropriate responses messages are displayed. Valid updates to PRs are noted on redisplayed PR information.

Test Case 4 Cancel On-demand & Reprocessing PRs (T219-2.01.04)

This test verifies that an operator can cancel on-demand and reprocessing product requests.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Cancel on-demand and reprocessing requests. Enter valid and invalid cancellation requests. Display PRs.

Output: Valid cancellations are accepted. Invalid cancellations are rejected. Responses to cancellations are displayed. Display PRs.

Expected Results: Valid cancellations of PRs are accepted. Invalid cancellations of PRs are rejected. Appropriate responses messages are displayed.

Valid cancellations of PRs are noted on redisplayed PR information.

Test Case 5 Specify Resource Usage Thresholds (T219-2.01.05)

This test verifies that an operator can specify the resource usage thresholds used to accept or defer on-demand production requests.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Specify the resource usage threshold. A number of on-demand production requests are present. Display the active plan.

Output: The resource usage threshold is accepted. Responses are displayed. On-demand production requests are accepted in the active plan or are deferred. The active plan is displayed.

Expected Results: On-demand production requests that met the new resource usage threshold are present in the active plan. On-demand production requests that do not met the new resource usage threshold are not present in the active plan. Appropriate responses are displayed.

Test Case 6 Send & Receive Routine Scheduling Information (T219-2.01.06)

This test verifies that routine scheduling information can be sent and received from other sites. Operations and management staff at a site will have the ability to command the sending of such scheduling information.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Routine scheduling information is present. The operations and management staff commands the information be sent to other sites.

Output: Routine scheduling information is sent to other sites. Other sites receive routine scheduling information. Response messages are returned to the operations and management staff.

Expected Results: Routine scheduling information can be properly sent and received from other sites.

Test Case 7 Send & Receive Scheduling Request Information (T219-2.01.07)

This test verifies that scheduling request information can be sent and received from other sites. Operations and management staff at a site will have the ability to command the sending of such information.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Scheduling request information is present. The operations and management staff commands the information be sent to other sites.
Output:	Scheduling request information is sent to other sites. Other sites receive scheduling request information. Response messages are returned to the operations and management staff.
Expected Results:	Scheduling request information can be properly sent and received from other sites.

Test Case 8 Send & Receive Schedule Conflict Alert Information (T219-2.01.08)

This test verifies that schedule conflict alert information can be sent and received from other sites. Operations and management staff at a site will have the ability to command the sending of such scheduling information.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Schedule conflict alert information is present. Operations and management staff commands the information be sent to other sites.
Output:	Schedule conflict alert information is sent to other sites. Other sites receive schedule conflict alert information. Response messages are returned to the operations and management staff.
Expected Results:	Schedule conflict alert information can be properly sent and received from other sites.

Test Case 9 Send & Receive Emergency Scheduling Information (T219-2.01.09)

This test verifies that emergency scheduling information can be sent and received from other sites. Operations and management staff at a site will have the ability to command the sending of such scheduling information.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Emergency scheduling information is present. Operations and management staff commands the information be sent to other sites.
Output:	Emergency scheduling information is sent to other sites. Other sites receive emergency scheduling information. Response messages are returned to the operations and management staff.
Expected Results:	Emergency scheduling information can be properly sent and received from other sites.

Test Case 10 Display Warning of Revised Completion Times (T219-2.01.10)

This test verifies that warning messages are displayed to the operations staff indicating revised completion times if processing will not complete a request per the original schedule.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Requests with revised completion times.
Output:	Message is displayed to the operations staff.
Expected Results:	Warning messages are displayed to the operations staff when a request has a revised completion time.

Test Case 11 Display will Conform to Style Guide (T219-2.01.11)

This test verifies that graphical user interfaces (GUIs) conform to the guidelines in version 5.1 of the ECS User Interface Style Guide.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Display planning GUIs. Check to see if conform with the Style Guide. A checklist will be provided from the Style Guide.
Output:	Planning GUIs are displayed.
Expected Results:	The GUI conforms to the guidelines of the ECS User Interface Style Guide.

5.48.2.2 Sequence 2- Support Title & Spatial-based Output Granules

The following tests verify the maintenance of product generation executives (PGEs) information and lists of input granules in order to support the production of tile or spatial-based output granules.

Test Case 1 Maintain PGEs Information (T219-2.02.01)

This test verifies that the product generation executives (PGEs) information necessary to support the production of tile or spatial-based output granules is maintained.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	PGE information.
Output:	PGE information is maintained.
Expected Results:	The PGE information necessary to support the production of tile or spatial-basedOutput granules is maintained.

Test Case 2 Maintain Lists of Input Granules (T219-2.02.02)

This test verifies that lists of input granules in order to support the production of tile or spatial-based output granules are maintained.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Lists ofInput granules
Output:	Lists ofInput granules are maintained.
Expected Results:	Lists ofInput granules necessary to support the production of tile or spatial-basedOutput granules are maintained.

5.48.2.3 Sequence 3- Interface with MSS

The following sequences will verify the interfaces with MSS.

Test Case 1 Accounting (T219-2.03.01)

This test verifies that accounting management data is provided to the MSS using a MSS provided accounting management API.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host

	Software - AutoSys, AutoXpert, Production Management DBMS, MSS accounting management API
Input:	Accounting management data.
Output:	Accounting management data is provided to the MSS API.
Expected Results:	Accounting management data is successfully provided to the MSS provided accounting management API.

Test Case 2 Configuration (T219-2.03.02)

This test verifies that configuration management data is provided to the MSS using a MSS provided configuration management API.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS, MSS accounting management API
Input:	Configuration management data.
Output:	Configuration management data is provided to the MSS API.
Expected Results:	Configuration management data is successfully provided to the MSS provided configuration management API.

5.49 Enhanced Production Plan Thread

5.49.1 Thread Objectives

The objectives of the Enhanced Production Plan Thread are:

- Provide the ability to accept on-demand requests and incorporate them into an active or candidate plan.
- Provide the ability to prioritize distributed requests.
- Provide the ability to integrate DAAC plans and implement complex strategies with string load balancing.
- Provide the ability to automatically transition from one plan to the next.

5.49.2 Thread Test Description

Testing will demonstrate the ability to manage production planning through verification of plan creation, plan activation and planning database modification. Prioritization of a number of distributed requests and the integration of DAAC plans will be verified. Testers will influence processing schedules by sending large on-demand requests, or numerous on-demand requests. Automatic transition from one plan to the next, implementation of complex strategies and string load balancing will be demonstrated.

Dependencies: (If Applicable)

To verify the objectives of the Enhanced Production Plan Thread, the following interface and functional capabilities are required:

- Interface between SDPS resource management and CSMS.
- Data server populated with data sets (i.e. metadata, algorithms, ancillary data, product data).
- Interface to the production queue for plan generation and manipulation.
- Interface to resource management for scheduling and execution.
- Test drivers to simulate remote site requests for plans and products.
- Interface between DAACs, EDOS, SDPF and SMC to resolve conflicts.

Test Support Requirements

- Hardware:
  - Production Planner Workstation
  - Planning Database Server host
- Software:
  - GUI Interface for queue control and monitoring
  - CSMS LSM Services

    Configuration Management Applications
- Data:
  - Simulated data granules
  - PGE scripts, metadata, algorithm executables, calibration data files, ECS data products and ancillary data products.

5.49.2.1 Sequence 1- Plan Creation

The following tests verify the ability to create a candidate plan. This includes the ability to receive data availability schedules (DAS) from remote ECS sites, EDOS, IPs, and ODCs. Candidate plans will satisfy production requests for reprocessing and on-demand data products. Candidate plans will also consolidate any outstanding data processing requests in the current active plan.

Test Case 1 Data Subscriptions for DAS (T219-1.01.01)

This test verifies that data subscriptions for data availability schedules (DAS) can be submitted to remote ECS sites, EDOS, IPs, and ODCs.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Data subscriptions for data availability schedules are submitted to remote ECS sites, EDOS, IPs, and ODCs. This includes the SMC
Output:	Data subscriptions are accepted and are sent to the appropriate sites.
Expected Results:	Subscriptions are accepted and are sent to the appropriate sites.

Test Case 2 DAS Received and Accepted (T219-1.01.02)

This test verifies that data availability schedules (DAS) can received and accepted. Notices indicating arrival of DASs are accepted.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Data subscriptions for data availability schedules are submitted to remote sites.
Output:	Data subscriptions are accepted and are sent to the appropriate sites. Notices indicating DAS arrival are received. DASs are accepted from other sites.
Expected Results:	DASs are sent from requested sites including the SMC.

Test Case 3 Satisfy DASs in Candidate Plan (T219-1.01.03)

This test verifies the creation of a candidate plan that will satisfy DASs. The candidate plan will specify a timeline for PGE execution.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	A number of DASs are entered into the planning system. Initiate the creation of a candidate plan. Display the candidate plan.
Output:	A candidate plan is created. The candidate plan is displayed.
Expected Results:	The candidate plan is successfully created and satisfies present DASs.

Test Case 4 Satisfy Reprocessing & On-demand PRs (T219-1.01.04)

This test verifies the creation of a candidate plan that will satisfy production requests for reprocessing and on-demand data products. Product requests will include intermediate results such as metadata fields of input data. The candidate plan will specify a timeline for PGE execution.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of reprocessing and on-demand data product requests are entered into the planning system. Initiate the creation of a candidate plan. Display the candidate plan.

Output: A candidate plan is created. The candidate plan is displayed.

Expected Results: The candidate plan is successfully created and satisfies production requests for reprocessing and on-demand data products.

Test Case 5 Consolidate Outstanding DPRs (T219-1.01.05)

This test verifies the creation of a candidate plan that will consolidate any outstanding data processing requests in the current active plan.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of data processing requests that will not be accommodated in the active plan are entered into the planning system. Initiate the creation of a candidate plan. Display the candidate plan.

Output: A candidate plan is created. The candidate plan is displayed.

Expected Results: The candidate plan is successfully created and incorporates any outstanding data processing requests.

Test Case 6 Automatic Extract of Pertinent Scheduling Information (T219-1.01.06)

This test verifies pertinent scheduling information can be automatically extracted based on user supplied criteria.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: User supplied criteria is entered.

Output: Pertinent scheduling information is automatically extracted.

Expected Results: Pertinent scheduling information is automatically extracted based on user supplied criteria.

Test Case 7 Generate DAS and Send to Data Server (T219-1.01.07)

This test verifies the ability to create a data availability schedule (DAS) and send it to the data server. The DAS reflects the data products expected to be generated in the active plan.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host Software - AutoSys, AutoXpert, Production Management DBMS
Input:	An active plan is present. A DAS is created and displayed. Send DAS to the data server.
Output:	A DAS is created and displayed. DAS is sent to the data server.
Expected Results:	The DAS is successfully created and sent to the data server. The DAS reflects the data products expected to be generated in the active plan.

5.49.2.2 Sequence 2- Production Strategies

The following tests verify maintenance of multiple production strategies defined by sets of production rules to be used when preparing a production plan.

Test Case 1 Maintain Multiple Production Strategies (T219-1.02.01)

This test verifies that multiple production strategies can be maintained. Production strategies are defined by sets of production rules and are used when preparing a candidate plan.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host Software - AutoSys, AutoXpert, Production Management DBMS
Input:	A number of production strategies are created. Each production strategy contains a set of production rules. Initiate the creation of a number of candidate plans using a specific production strategy. Display the candidate plans.
Output:	Production strategies containing sets of production rules are accepted. Candidate plans are created and displayed.
Expected Results:	The candidate plans are successfully created. Production strategies are successfully used in creating the candidate plans.

Test Case 2 Operations Staff Update the Production Strategies (T219-1.02.02)

This test verifies that operators can update the production strategies. Production strategies are defined by sets of production rules and are used when preparing a candidate plan.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of production strategies are present. Each production strategy contains a set of production rules. Modify and delete a number of production strategies using the operators interface. Initiate the creation of a number of candidate plans using a specific production strategy. Display the candidate plans.

Output: Production strategies containing sets of production rules are accepted. Updates to production strategies are accepted. Candidate plans are created and displayed.

Expected Results: The candidate plans are successfully created. Production strategies are successfully used in creating the candidate plans.

5.49.2.3 Sequence 3- On-Demand Production Request

The following tests verify proper handling of on-demand production requests. Valid and invalid on-demand production requests are tested along with updates to requests. On-demand production requests are scheduled in the active plan unless the active plan can not accommodate the production of the request. If the active plan can not accommodate the request, the request is scheduled in the candidate plan.

Test Case 1 Scheduled in the Active Plan (T219-1.03.01)

This test verifies that on-demand requests that can be accommodated in the active plan will be scheduled in the active plan.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of on-demand production requests that will be accommodated in the active plan are entered into the planning system. Display the active plan.

Output: The on-demand production requests are accepted into the active plan. The active plan is displayed.

Expected Results: The on-demand production requests are accepted. The active plan successfully incorporates the requests.

Test Case 2 Scheduled in a Candidate Plan (T219-1.03.02)

This test verifies that on-demand requests that can not be accommodated in the active plan will be scheduled in a candidate plan.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of on-demand production requests that will not be accommodated in the active plan are entered into the planning system. Initiate the creation of a candidate plan. Display the candidate plan.

Output: The on-demand production requests are rejected from the active plan. A candidate plan is created. The candidate plan is displayed.

Expected Results: The on-demand production requests are accepted. The candidate plan is successfully created and incorporates on-demand requests that can not be processed in the active plan.

Test Case 3 Valid Request (T219-1.03.03)

This test verifies that valid on-demand requests are accepted.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of on-demand production requests are created.

Output: The on-demand production requests are accepted and incorporated into a plan.

Expected Results: The on-demand production requests are accepted.

Test Case 4 Invalid Request (T219-1.03.04)

This test verifies that invalid on-demand requests are rejected. If the processing completion deadline cannot be met, the on-demand requests are rejected. A response message indicating why the request is rejected is sent to the data server.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of invalid on-demand production requests are created.

Output: The on-demand production requests are rejected and a response message is sent to the data server.

Expected Results: The on-demand production requests are rejected and an appropriate response message is sent.

Test Case 5 Updated Request (T219-1.03.05)

This test verifies that on-demand requests can be updated. A response message indicating acceptance/rejection status of the updates is sent to the data server.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of valid and invalid on-demand production request updates are submitted.

Output: The on-demand production request updates are accepted and rejected. A response message is sent to the data server indicating acceptance/rejection status of the updates.

Expected Results: The on-demand production requests are accepted or rejected successfully and an appropriate response message is sent.

5.49.2.4 Sequence 4- Re-processing Production Request

The following tests verify proper handling of re-processing production requests. Valid and invalid re-processing production requests are tested along with updates to requests. Re-processing production requests are scheduled in a candidate plan.

Test Case 1 Valid Request (T219-1.04.01)

This test verifies that valid re-processing production requests are accepted.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of re-processing production requests are created.

Output: The re-processing production requests are accepted and incorporated into a plan.

Expected Results: The re-processing production requests are accepted.

Test Case 2 Invalid Request (T219-1.04.02)

This test verifies that invalid re-processing production requests are rejected. If the processing completion deadline cannot be met, the re-processing production requests are rejected. A response message indicating why the request is rejected is sent to the data server.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	A number of invalid re-processing production requests are created.
Output:	The re-processing production requests are rejected and a response message is sent to the data server.
Expected Results:	The re-processing production requests are rejected and an appropriate response message is sent.

Test Case 3 Updated Request (T219-1.04.03)

This test verifies that re-processing production requests can be updated. A response message indicating acceptance/rejection status of the updates is sent to the data server.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	A number of valid and invalid re-processing production request updates are submitted.
Output:	The re-processing production request updates are accepted and rejected. A response message is sent to the data server indicating acceptance/rejection status of the updates.
Expected Results:	The re-processing production requests are accepted or rejected successfully and an appropriate response message is sent.

Test Case 4 Production Rules for Breaking up Large Requests (T219-1.04.04)

This test verifies that production rules will be provided to break up large reprocessing production request.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of production rules are created. These production rules specify how a large reprocessing production request is broken up. Large reprocessing production requests are entered. Initiate the creation of candidate plans. Display the candidate plans.

Output: Production rules are accepted. Large reprocessing production requests are accepted. Candidate plans are created and displayed.

Expected Results: Reprocessing requests are successfully broken up according to production rules.

5.49.2.5 Sequence 5- Cross DAAC Scheduling

The following tests verify the ability to integrate and coordinate cross-DAAC scheduling. This includes accepting scheduling information on external events, identifying data dependencies and conflicts that may arise, and the ability to make plans available to other DAAC sites present in release B.

Test Case 1 Accept Scheduling Information on External Events (T219-1.05.01)

This test verifies that scheduling information on external events which affect processing resources and operations are accepted and incorporated in plan updates.

Test Configuration: Hardware - Production Planner workstations, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Notification of an external event is sent to the planning subsystem. A candidate plan is created and displayed.

Output: The notification of an external event is accepted. A candidate plan is created and displayed.

Expected Results: The external event is reflected in the candidate plan.

Test Case 2 Identify Scheduling Conflicts (T219-1.05.02)

This test verifies that scheduling conflicts will be identified and alerts will be displayed.

Test Configuration: Hardware - Production Planner workstations, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of DPRs that will be scheduled in conflict.

Output: Alerts will be displayed to the operator.

Expected Results: Schedule conflicts are correctly identified.

Test Case 3 Conflict Resolution Information from the SMC (T219-1.05.03)

This test verifies that conflict resolution information from the SMC can be displayed. Conflict resolution information will contain request id, data type, priority modifications, account balance modifications, when request will be serviced and SMC contact point.

Test Configuration: Hardware - Production Planner workstations, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of DPRs that will be scheduled in conflict.

Output: Alerts will be displayed to the operator. Conflict resolution information will be sent from the SMC. Conflict resolution information is displayed.

Expected Results: Conflict resolution information is displayed and contains request id, data type, priority modifications, account balance modifications, when request will be serviced and SMC contact point.

Test Case 4 Priorities and Planned Execution Times for Conflicts (T219-1.05.04)

This test verifies that priorities and planned execution times of jobs causing scheduling conflicts within and between the DAACs are provided to operations personnel.

Test Configuration: Hardware - Production Planner workstations, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of DPRs that will be scheduled in conflict. Information about the DPRs is requested.

Output: Alerts will be displayed to the operator. Information about the DPRs is displayed.

Expected Results: Schedule conflicts are correctly identified. Priorities and planned execution times of requested jobs are displayed.

Test Case 5 Identify Conflicts due to Dependencies (T219-1.05.05)

This test verifies that scheduling conflicts caused by cross-DAAC data dependencies will be identified and alerts will be displayed.

Test Configuration: Hardware - Production Planner workstations, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of DPRs that will use the same cross-DAAC data dependencies will be scheduled in conflict.

Output: Alerts will be displayed to the operator.

Expected Results: Schedule conflicts caused by cross-DAAC data dependencies are correctly identified.

Test Case 6 Display Cross-DAAC data Dependencies (T219-1.05.06)

This test verifies the ability to display cross-DAAC data dependencies.

Test Configuration: Hardware - Production Planner workstations, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Mult-DAAC data resources are present. Data processing requests are present. The displaying of data dependencies for a number of data processing requests is requested.

Output: Cross-DAAC data dependencies are displayed for each requested data processing request.

Expected Results: Cross-DAAC data dependencies are properly displayed for a given data processing request.

Test Case 7 Provide Plans to Other Sites (T219-1.05.07)

This test verifies that plans are provided to other sites upon request.

Test Configuration: Hardware - Production Planner workstations, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Data subscriptions for candidate and active plans from another sites. Display candidate and active plans.

Output: Data subscriptions are accepted. Notifications are sent to the requesting sites. Candidate and active plans are sent to the requesting sites.

Expected Results: The requesting sites successfully receive the candidate and active plans.

Test Case 8 Account for Data Dependencies in Plans Generated (T219-1.05.08)

This test verifies the ability to account for cross-DAAC data dependencies in the plans generated.

Test Configuration: Hardware - Production Planner workstations, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Cross-DAAC data dependencies are present. Data processing requests are present. The displaying of data dependencies for a number of data processing requests is requested. A candidate plan is generated and displayed.

Output: Cross-DAAC data dependencies are displayed for each requested data processing request. A candidate plan is generated and displayed.

Expected Results: Cross-DAAC data dependencies are properly displayed for a given data processing request. Candidate plans do not contain any cross-DAAC data dependencies conflicts.

Test Case 9 Integrate Multiple DAAC Plans (T219-1.05.09)

This test verifies that multiple DAAC plans are integrated and coordinated into generated candidate plans.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Data availability schedules are present from other sites. A number of candidate plans are generated and displayed.

Output: Candidate plans are generated and displayed.

Expected Results: The candidate plans generated successfully incorporate data availability schedules from other sites.

5.49.2.6 Sequence 6- FOS Plans and Schedules

The following tests verify the ability to submit data subscriptions and retrieve FOS plans and schedules from the data server. The ability to create DASs based on FOS plans and schedules is also tested.

Test Case 1 Manually Submit Data Subscription (T219-1.06.01)

This test verifies the ability to manually submit data subscriptions for FOS plans and schedules from the data server.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Data subscriptions for FOS plans and schedules is sent to the data server.

Output: Data subscriptions are accepted and are sent to the data server.

Expected Results: Data subscriptions are successfully sent to the data server and are accepted.

Test Case 2 Receive DAS Notices (T219-1.06.02)

This test verifies that DAS notices indicating the arrival of FOS plans and schedules are received and displayed to the operator.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Data subscriptions for FOS plans and schedules are present for a DAS. A DAS notice is sent to planning.

Output: A DAS notice is received and displayed.

Expected Results: A DAS notice is received and displayed when DAS for FOS plans and schedules are available.

Test Case 3 Retrieve FOS Plans & Schedules from the Data Server (T219-1.06.03)

This test verifies the ability to retrieve FOS plans and schedules from the data server. A response message is sent to the data server upon receiving the FOS plans and schedules.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Data subscriptions for FOS plans and schedules are sent to the data server.

Output: Data subscriptions are accepted and are sent to the data server. FOS plans and schedules are received. A response message is sent to the data server.

Expected Results: FOS plans and schedules are successfully retrieved from the data server. The appropriate response message is sent to the data server.

Test Case 4 Create a DAS for EDOS (T219-1.06.04)

This test verifies the ability to create a data availability schedule (DAS) for EDOS based on FOS plans and schedules.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	FOS plans and schedules are present from the data server. A DAS is created and displayed.
Output:	A DAS is created and displayed.
Expected Results:	The DAS is successfully created and reflexes the FOS plans and schedules presented by the data server.

5.50 Planning Build

The Planning Build is an integrated build of the following threads:

- Enhanced Production Plan Thread
- Enhanced Production Management Thread

5.50.1 Build Objectives

The objectives of the Planning build are:

- Provide the ability to prioritize and monitor processing of distributed requests.
- Provide the ability to accept on-demand requests and incorporate them into an active or candidate plan.
- Provide the ability to integrate DAAC plans and implement complex strategies with string load balancing.
- Provide the ability to automatically transition from one plan to the next.
- Provide the ability to provide DAAC QA enabling SW.

5.50.2 Build Test Description

Testing will demonstrate the ability to plan production through verification of planning tools, resource management, and DAAC QA enabling software. Testing will demonstrate the allocation of resources for use by a queued request. Testing also verifies the resolution of resource conflicts scheduled for usage and the reprocessing of an ASTER, ADEOS II, and SAGE III request for ECS products. Prioritization of a number of distributed requests and the integration of DAAC plans will be verified. Testers will influence processing schedules by sending large on-demand requests, or numerous on-demand requests. Automatic transition from one plan to the next, implementation of complex strategies and string load balancing will be demonstrated.

DAAC QA information related to data products will be exchanged between ECS and ASTER GDS. The tester will verify that the DAAC has performed QA on the product and has checked all dependent valid supplied by the scientist. Accountability management, configuration management, and operations staff commands will also be demonstrated.

Dependencies: (If Applicable)

To verify the objectives of the Planning build, the following interface and functional capabilities are required:

- Interface between SDPS resource management and CSMS.
- Data server populated with data sets (i.e. metadata, algorithms, ancillary data, product data).
- Interface to the production queue for plan generation and manipulation.
- Interface to resource management for scheduling and execution.
- Test drivers to simulate remote site requests for plans and products.
- Interface between DAACs, EDOS, SDPF and SMC to resolve conflicts.

Test Support Requirements

- Hardware:
  - Production Planner Workstation
  - Planning Database Server host
- Software:
  - Resource Management COTS tool
  - GUI Interface for queue control and monitoring
  - CSMS LSM Services

    Configuration Management Applications

    Resource Scheduling Applications
- Data:
  - Simulated data granules
  - PGE scripts, metadata, algorithm executables, calibration data files, ECS data products and ancillary data products.

5.50.2.1 Sequence 1- Production Management

The following tests verify the operations staff commands, the GUI display, and warning messages. The operator can perform on-line functions such as entry/query/update/cancellation of reprocessing PRs and query/update/cancellation of on-demand PRs. Planning information will be sent and received. Resource usage thresholds will be specified. The production support of title & spatial-based output granule will also be tested.

Test Case 1 Operations Staff Commands (B219.01.01)

This test verifies that an operator can query, update, and cancel on-demand and reprocessing product requests. Operators can also enter reprocessing product requests.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Query, update, and cancel on-demand and reprocessing requests. Enter reprocessing requests. Valid and invalid updates, cancellations and entries will be made. Display PRs.
Output:	Valid updates, cancellations, and entries are accepted. Invalid updates, cancellations, and entries are rejected. On-demand and reprocessing PRs are displayed. Responses to operators commands are displayed.
Expected Results:	Valid updates, cancellations, and entries of PRs are accepted. Invalid updates, cancellations, and entries of PRs are rejected. Appropriate responses messages are displayed. Valid updates, cancellations, and entries of PRs are noted on redisplayed PR information. The on-demand and reprocessing PRs displayed correspond to the query criteria given. All PRs that satisfy the query criteria are displayed.

Test Case 2 Send & Receive Information (B219.01.02)

This test verifies that routine scheduling, scheduling request, emergency scheduling, and schedule conflict alert information can be sent and received from other sites. Operations and management staff at a site will have the ability to command the sending of such scheduling information.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Routine scheduling, scheduling request, emergency scheduling, and schedule conflict alert information is present. The operations and management staff commands the information be sent to other sites.
Output:	Routine scheduling, scheduling request, emergency scheduling, and schedule conflict alert information is sent to other sites. Other sites receive routine scheduling, scheduling request, emergency scheduling, and schedule conflict alert information. Response messages are returned to the operations and management staff.
Expected Results:	Routine scheduling, emergency scheduling, and schedule conflict alert information can be properly sent and received from other sites.

Test Case 3 Display Warning of Revised Completion Times (B219.01.03)

This test verifies that warning messages are displayed to the operations staff indicating revised completion times if processing will not complete a request per the original schedule.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Requests with revised completion times.
Output:	Message is displayed to the operations staff.
Expected Results:	Warning messages are displayed to the operations staff when a request has a revised completion time.

Test Case 4 Support Production to Tile & Spatial-based Output Granules (B219.01.04)

This test verifies the maintenance of product generation executives (PGEs) information and lists of input granules in order to support the production of tile or spatial-based output granules.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	PGE information. Lists ofInput granules.
Output:	PGE information and lists ofInput granules are maintained.
Expected Results:	The PGE information and lists ofInput granules necessary to support the production of tile or spatial-basedOutput granules is maintained.

5.50.2.2 Sequence 2- Production Planning

The following tests verify the ability to create a candidate plan. This includes the ability to receive data availability schedules (DAS) from remote ECS sites, EDOS, IPs, and ODCs. Candidate plans will satisfy production requests for reprocessing and on-demand data products. Candidate plans will also consolidate any outstanding data processing requests in the current active plan. Production strategies will be properly used when creating a candidate plan.

Test Case 1 Remote DASs (B219.02.01)

This test verifies that data availability schedules (DAS) can be obtained through subscriptions submitted to remote ECS sites, EDOS, IPs, ODCs, and to the data server for FOS plans and schedules. Subscriptions will be submitted, notification of indicating DAS arrival will be received, and DASs will be accepted.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Data subscriptions for data availability schedules are submitted to remote ECS sites, EDOS, IPs, ODCs, and to the data server for FOS plans and schedules. This includes the SMC.
Output:	Data subscriptions are accepted and are sent to the appropriate sites. Notices indicating arrival are received. DASs are accepted from other sites.
Expected Results:	DASs are sent from requested sites including the SMC.

Test Case 2 Plan Creation (B219.02.02)

This test verifies the creation of a candidate plan that will satisfy production requests for reprocessing, on-demand data products, and outstanding data processing requests in the current active plan.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	A number of reprocessing requests, on-demand data product requests, and data processing requests that will not be accommodated in the active plan are entered into the planning system. Display the candidate plan.
Output:	A candidate plan is created and displayed.
Expected Results:	The candidate plan is successfully created and satisfies production requests for reprocessing and on-demand data products. The candidate plan incorporates any outstanding data processing requests.

Test Case 3 Production Strategies (B219.02.03)

This test verifies that multiple production strategies can be maintained. Production strategies are defined by sets of production rules and are used when preparing a candidate plan.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of production strategies are created. Each production strategy contains a set of production rules. Initiate the creation of a number of candidate plans using a specific production strategy. Display the candidate plans.

Output: Production strategies containing sets of production rules are accepted. Candidate plans are created and displayed.

Expected Results: The candidate plans are successfully created. Production strategies are successfully used in creating the candidate plans.

Test Case 4 On-Demand Production Requests (B219.02.04)

This test verifies proper handling of on-demand production requests. Valid and invalid on-demand production requests are tested along with updates to requests. On-demand production requests are scheduled in the active plan unless the active plan can not accommodate the production of the request. If the active plan can not accommodate the request, the request is scheduled in the candidate plan.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of valid and invalid on-demand production requests and updates. A number of the PRs will and will not be accommodated in the active plan. Display the active plan. Initiate the creation of a candidate plan. Display the candidate plan.

Output: Valid on-demand production requests or updates are accepted. Invalid on-demand production requests or updates are rejected. A response message is sent to the data server indicating acceptance/rejection status. The active plan is displayed. A candidate plan is created. The candidate plan is displayed.

Expected Results: The valid on-demand production requests and updates are accepted. The invalid on-demand production requests and updates are rejected. The active plan successfully incorporates the requests that can be accommodated in the active plan. The candidate plan successfully incorporates the requests that can not be accommodated in the active plan.

Test Case 5 Re-processing Production Requests (B219.02.05)

This test verifies proper handling of re-processing production requests. Valid and invalid re-processing production requests are tested along with updates to requests. Re-processing production requests are scheduled in a candidate plan.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host Software - AutoSys, AutoXpert, Production Management DBMS
Input:	A number of valid and invalid re-processing production requests and updates. Initiate the creation of a candidate plan. Display the candidate plan.
Output:	Valid re-processing production requests or updates are accepted. Invalid re-processing production requests or updates are rejected. A response message is sent to the data server indicating acceptance/rejection status. A candidate plan is created. The candidate plan is displayed.
Expected Results:	The valid re-processing production requests and updates are accepted. The invalid re-processing production requests and updates are rejected. The candidate plan successfully incorporates the requests.

Test Case 6 Cross DAAC Scheduling (B219.02.06)

This test verifies the ability to integrate and coordinate cross-DAAC scheduling. This includes accepting scheduling information on external events, identifying data dependencies and conflicts that may arise, and the ability to make plans available to other DAAC sites present in release B.

Test Configuration:	Hardware - Production Planner workstations, Planning Database Server host Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Multiple DAAC plans and notification of an external events. A number of DPRs that will be scheduled in conflict. Conflicts will be due to scheduling and data dependencies. A candidate plan is created and displayed. Data subscriptions from other sites requesting candidate and active plans.
Output:	Notification of an external event is accepted. A candidate plan is created and displayed. Alerts will be displayed to the operator. Conflict resolution information is sent from the SMC. Data subscriptions are accepted. Notifications are sent to the requesting sites.

Expected Results: External events, data dependencies, and multiple DAAC plans are reflected in the candidate plan. Schedule conflicts are correctly identified and resolved. Plans are available to other DAAC sites.

5.51 Predictive Data Staging Thread

5.51.1 Thread Objectives

The objectives of the Predictive Data Staging Thread are:

- Provide the ability to predict data staging.
- Provide the ability to manage staged data when a DPR is canceled
- Provide the ability to manage staged data when a PGE is suspended

5.51.2 Thread Test Description

Testing will demonstrate the ability to manage data staging through verification of predictive data staging. Testing will also demonstrate correct handling of staged data for canceled DPRs and suspended PGEs. Data staging is canceled when the requesting DPR is canceled. Staged data is deleted if no other DPR is requesting it. When a PGE is suspended during the time of staging, the staging of data is completed successfully.

Dependencies: (If Applicable)

To verify the objectives of the Predictive Data Staging Thread, the following interface and functional capabilities are required:

- Interface between SDPS resource management and CSMS.
- Data server populated with data sets (i.e., metadata, algorithms, ancillary data, product data).
- Interface to the production queue for plan generation and manipulation.
- Interface to resource management for scheduling and execution.
- Test drivers to simulate remote site requests for plans and products.
- Interface between DAACs, EDOS, SDPF and SMC to resolve conflicts.

Test Support Requirements

- Hardware:
  - Production Planner Workstation
  - Planning Database Server host
- Software:
  - Resource Management COTS tool
  - GUI Interface for queue control and monitoring

– CSMS LSM Services

Configuration Management Applications

Resource Scheduling Applications

- Data:
  - Simulated data granules
  - PGE scripts, metadata, algorithm executables, calibration data files, ECS data products and ancillary data products.

5.51.2.1 Sequence 1- Initiate Data Staging

The following tests verify correct initiation and staging of input data. Data staging will be initiated in a timely manner in order not to waste resources. Data staging will also avoid deadlock situations which may potentially arise.

Test Case 1 Timing of Data Staging (T220-1.01.01)

This test verifies that data will begin staging at a time far enough in advance to complete staging of input data prior to the predicted start of the PGE execution. Data staging will not begin too far in advance of PGE execution in such a way that unnecessary disk space is utilized.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Active plan in progress.Input data is available to be staged.
Output:	Input data staging is initiated. PGE execution is initiated.
Expected Results:	Input data staging completes before predicted start of PGE execution. A short time is present between the completion of data staging and the start of the PGE execution

Test Case 2 Avoid Deadlock Situations (T220-1.01.02)

This test verifies that input data staging avoids the creation of deadlock situations. No PGE is released for execution until all resources required are available and allocated.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Active plan contains situations which may result in a deadlock situation. Several PGEs require the sameInputs.
Output:	Input data staging is initiated. PGE execution is initiated.

Expected Results: Input data staging avoids deadlock situations.

5.51.2.2 Sequence 2- Changes to DPRs

The following tests verify correct handling of staged data for canceled DPRs and suspended PGEs. Data staging is canceled when the requesting DPR is canceled. Staged data is deleted if no other DPR is requesting it. When a PGE is suspended during the time of staging, the staging of data is completed successfully.

Test Case 1 Canceled DPR, Staged Data is not Needed (T220-1.02.01)

This test verifies that input data staging will be canceled if the DPR that initiated it is canceled. The staged data will be deleted if no other DPR needs it.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Active plan in progress.Input data is available to be staged. Data staging is initiated. DPRs are canceled.Input data from canceled DPRs is not used by another DPR.

Output: Input data staging is initiated. DPRs are canceled.Input data staging is canceled. Data staged by canceled DPRs is deleted. Response messages are displayed.

Expected Results: Data staging is canceled when a DPR is canceled. Data staged by canceled DPR is deleted when no other DPR requests the staged data.

Test Case 2 Canceled DPR, Staged Data is Needed (T220-1.02.02)

This test verifies that input data staging will be canceled if the DPR that initiated it is canceled. The staged data will not be deleted if another DPR needs it.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Active plan in progress.Input data is available to be staged. Data staging is initiated. DPRs are canceled.Input data from canceled DPRs is used by another DPR.

Output: Input data staging is initiated. DPRs are canceled.Input data staging is canceled. Data staged by canceled DPRs is not deleted. Response messages are displayed.

Expected Results: Data staging is canceled when a DPR is canceled. Data staged by canceled DPR is not deleted when another DPR requests the staged data.

Test Case 3 Suspend PGE (T220-1.02.03)

This test verifies that input data staging will be completed when a PGE job is suspended at the time of data staging.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Active plan in progress.Input data is available to be staged. Data staging is initiated. Suspension command is submitted for a number of PGEs.

Output: Input data staging is initiated. Suspension command is accepted.Input data staging is completed. PGE is suspended.

Expected Results: Data staging is completed when a PGE is suspended.

5.52 Product Support Build

The Product Support Build is an integrated build of the following threads and builds:

- Planning Build
- Predictive Data Staging Thread

5.52.1 Build Objectives

The objectives of the Product Support build are:

- Provide the ability to generate automated accounting information for distributed data.
- Provide the ability to prioritize and monitor processing of distributed requests.
- Provide the ability to accept on-demand requests and incorporate them into an active or candidate plan.
- Provide the ability to integrate DAAC plans and implement complex strategies with string load balancing.
- Provide the ability to automatically transition from one plan to the next.
- Provide the ability to manage resources.
- Provide the ability to provide DAAC QA enabling SW.

5.52.2 Build Test Description

Testing will demonstrate the ability to manage production generation through verification of automated accounting, production planning, resource management, and DAAC QA enabling software. The tester verifies the Data Server's ability to generate resource utilization statistics as input to the billing process, and Data Server, via the LSM, will generate required accounting information for distributed data.

Testing will also demonstrate the allocation, staging, deallocation and de-staging of resources for use by a queued request. Testing also verifies the resolution of resource conflicts scheduled for usage and the reprocessing of an ASTER, ADEOS II, and SAGE III request for ECS products. Prioritization of a number of distributed requests and the integration of DAAC plans will be verified. EDC DAAC will send all needed information to process ASTER L1 and higher products to ASTER GDS. JPL DAAC will send all needed information to process ADEOS II L1b and higher products. LaRC DAAC will send all needed information to process SAGE III L1B and higher products. During product generation, schedule monitoring against the original production plan will be observed and any needed feedback from the system will occur. Testers will influence processing schedules by sending large on-demand requests, or numerous on-demand requests. Automatic transition from one plan to the next, implementation of complex strategies and string load balancing will be demonstrated.

DAAC QA information related to data products will be exchanged between ECS and ASTER GDS. The tester will verify that the DAAC has performed QA on the product and has checked all dependent valid supplied by the scientist. Accountability management, configuration management, and operations staff commands will also be demonstrated.

Dependencies: (If Applicable)

To verify the objectives of the Product Support build, the following interface and functional capabilities are required:

- Interface between SDPS resource management and CSMS.
- Data server populated with data sets (i.e. metadata, algorithms, ancillary data, product data).
- Interface to the production queue for plan generation and manipulation.
- Interface to resource management for scheduling and execution.
- Test drivers to simulate remote site requests for plans and products.
- Interface between DAACs, EDOS, SDPF and SMC to resolve conflicts.

Test Support Requirements

- Hardware:
  - Production Planner Workstation
  - Planning Database Server host

- Software:
  - Resource Management COTS tool
  - GUI Interface for queue control and monitoring
  - CSMS LSM Services

    Configuration Management Applications

    Resource Scheduling Applications
- Data:
  - Simulated data granules
  - PGE scripts, metadata, algorithm executables, calibration data files, ECS data products and ancillary data products.

5.52.2.1 Sequence 1- Planning

The following tests verify the ability to create a candidate plan. This includes the ability to receive data availability schedules (DAS) from remote ECS sites, EDOS, IPs, and ODCs. Candidate plans will satisfy production requests for reprocessing and on-demand data products. Candidate plans will also consolidate any outstanding data processing requests in the current active plan. Production strategies will be properly used when creating a candidate plan.

Test Case 1 Remote DASs (B220.01.01)

This test verifies that data availability schedules (DAS) can be obtained through subscriptions submitted to remote ECS sites, EDOS, IPs, ODCs, and to the data server for FOS plans and schedules. Subscriptions will be submitted, notification of indicating DAS arrival will be received, and DASs will be accepted.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Data subscriptions for data availability schedules are submitted to remote ECS sites, EDOS, IPs, ODCs, and to the data server for FOS plans and schedules. This includes the SMC.
Output:	Data subscriptions are accepted and are sent to the appropriate sites. Notices indicating arrival are received. DASs are accepted from other sites.
Expected Results:	DASs are sent from requested sites including the SMC.

Test Case 2_ Plan Creation (B220.01.02)

This test verifies the creation of a candidate plan that will satisfy production requests for reprocessing, on-demand data products, and outstanding data processing requests in the current active plan. The plan will be generated using specified production strategies and DASs. Some requests entered will include intermediate results. Conflicts and dependencies will be identified.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of reprocessing requests, on-demand data product requests, and data processing requests that will not be accommodated in the active plan are entered into the planning system. Initiate the creation of a candidate plan using a specific production strategy. Display the candidate plan.

Output: A candidate plan is created and displayed. Plans are sent to the data server for archival and data access.

Expected Results: The candidate plan is successfully created and satisfies production requests for reprocessing and on-demand data products. The candidate plan incorporates any outstanding data processing requests. Production Strategies and DASs are successfully used in creating the candidate plans.

5.52.2.2 Sequence 2- Production Management

The following tests verify the operations staff commands, the GUI display, and warning messages. The operator can perform on-line functions such as entry/query/update/cancellation of reprocessing PRs and query/update/cancellation of on-demand PRs. Planning information will be sent and received.

Test Case 1_ Operations Commands (B220.02.01)

This test verifies that an operator can query, update, and cancel on-demand and reprocessing product requests. Operators can also enter reprocessing product requests. Planning information will be sent and received

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Query, update, and cancel on-demand and reprocessing requests. Enter reprocessing requests. Valid and invalid updates, cancellations and entries will be made. Display PRs. Send planning information to other sites.

Output: Valid updates, cancellations, and entries are accepted. Invalid updates, cancellations, and entries are rejected. On-demand and reprocessing PRs are displayed. Responses to operators commands are displayed. Planning information is sent to other sites.

Expected Results: Valid updates, cancellations, and entries of PRs are accepted. Invalid updates, cancellations, and entries of PRs are rejected. Appropriate responses messages are displayed. Valid updates, cancellations, and entries of PRs are noted on redisplayed PR information. The on-demand and reprocessing PRs displayed correspond to the query criteria given. All PRs that satisfy the query criteria are displayed. Planning information is successfully sent to other sites.

Test Case 2 Display Warning of Revised Completion Times (B220.02.02)

This test verifies that warning messages are displayed to the operations staff indicating revised completion times if processing will not complete a request per the original schedule.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Requests with revised completion times.

Output: Message is displayed to the operations staff.

Expected Results: Warning messages are displayed to the operations staff when a request has a revised completion time.

5.52.2.3 Sequence 3- Data Staging

The following tests verify correct initiation and staging of input data. Data staging will be initiated in a timely manner in order not to waste resources. Data staging will also avoid deadlock situations which may potentially arise. Correct handling of staged data for canceled DPRs and suspended PGEs will also be tested.

Test Case 1 Predictive Staging (B220.03.01)

This test verifies correct initiation and staging of input data. Data staging will be initiated in a timely manner. Data staging will also avoid deadlock situations. No PGE is released for execution until all resources required are available and allocated.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Active plan in progress.Input data is available to be staged. Data staging is initiated. Active plan contains situations which may result in a deadlock situation. Several PGEs require the sameInputs.

Output: Input data staging is initiated. PGE execution is initiated.

Expected Results: Input data staging completes before predicted start of PGE execution. A short time is present between the completion of data staging and the start of the PGE execution.Input data staging avoids deadlock situations.

Test Case 2 Changes to DPR (B220.03.02)

This test verifies correct initiation and staging of input data. Correct handling of staged data for canceled DPRs and suspended PGEs will be tested.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Active plan in progress.Input data is available to be staged. Data staging is initiated. Several DPRs are canceled and suspended.

Output: Input data staging is initiated. DPRs are canceled and suspended.Input data staging is canceled for canceled DPRs. Some data staged by canceled DPRs is deleted. Response messages are displayed.

Expected Results: Data staging is canceled when a DPR is canceled. Data staged by canceled DPR is deleted when no other DPR requests the staged data. Data staging is completed when a PGE is suspended.

5.53 Integrated Data Access Build 4

The Integrated Data Access Build 4 is an integrated build of the following threads:

- Data Server Management Build
- Data Access Services Build
- Search Services Build
- Product Support Build

5.53.1 Build Objectives

The objectives of the Integrated data access build 4 are:

- Provide methods to populate guides, directories and inventories with data and automatically update and insert metadata into the inventory.

- Provide the capability to archive multiple data versions and have full integrated archive management.
- Provide the capability to submit/delete data server subscriptions and distribute data by means of subscriptions.
- Provide the capability to perform graphical data searches to include the directory, guide and inventory.
- Sorting and searching for AM-1, COLOR, LANDSAT-7, ADEOS II, Meteor-3 data using keywords.
- Provide the capability to perform product support functions such as generating automated accounting information for distributed data, prioritization of distributed requests, and scheduled adjustments.

5.53.2 Build Test Description

Testing will be performed to verify the ability to populate guides, directories and inventories with AM-1/LANDSAT-7 data. Automatic update of inventory metadata will also be demonstrated. Other tests to be performed will verify that the user environment supports the ability to archive multiple data versions and have a fully integrated management system to handle archived data. The capability to manipulate archive inventory and directory database will be verified.

Testing will also involve the capability to accept subscriptions from clients. Included with subscription request will be specification of a well-defined advertised event and the actions to be triggered upon its occurrence will be delete subscription, add subscription and update subscription.

Testing will also be performed to verify that a user can perform graphical directory searches. A graphical directory search can utilize a LIM or a data server based on the context. In order to test these functions, testers must have knowledge of data sets which reside in a unique LIM and a unique data server in order to validate the test results.

Verification that LANDSAT-7, AM-1. COLOR, ADEOS II, Meteor-3 data can be searched or sorted by keywords will also be tested accordingly by performing different keyword searches and sorts.

This test build will also perform product support functions such as verification of automated accounting, production planning, resource management, and DAAC QA enabling software.

Dependencies: (If Applicable)

In order to verify the objectives of the Integrated data access build 4, the following interface and functional capabilities are required:

- Network environment (LAN and WAN)
- Data server containing AM-1, LANDSAT-7, ADEOS II, COLOR, and Meteor-3 simulated data

- Capability to write and store from the directory and inventory
- Access to data stored in directory and inventory (for test verification purposes)
- Functional data dictionary
- Functional LIM and DIM
- Resource management COTS tool
- Application programming interfaces for storage & retrieval services
- Interface to data server, dictionary, LIM and DIM for data access
- Simulated or actual services availability
- File transfer interfaces
- CSMS and SDPS interface

Test Support Requirements

- Hardware:
  - TBS
- Software:

5.53.2.1 Sequence 1 - Data Server Management Functions

The following tests verify the ability of the Document Data Server to receive, and insert into the archive, documentation in various formats. Other tests include the ability of the Document Server to accept and appropriately respond to search requests. Ability to manipulate data in the archive. The following tests verify the ability to perform operations on sessions. Accept distribution requests for distribution of data on physical media. Monitor the Data Server System, manage the storage archive devices and appropriately respond to system faults.

Test Case 1 Document Addition API Test (B222.01.01)

This test verifies the ability to provide application programming interfaces which will support the development of extensions for additions of documents. This will be used as Guide data for DAAC-specific Data Products.

Test Configuration:	Hardware - workstation
	Software - DDSRV
Input:	Using the API, extensions are generated to allow document additions. These additions support storage of Guide data for DAAC specific Data Products.
Output:	Documents submitted will be in Guide.
Expected Results:	All documents submitted will be in the Guide.

Test Case 2 Guide Search Performance Test (B222.01.02)

This test verifies the capability to complete a search for a guide document. The software will be able to do this by a single keyword; however, the search is not to exceed 8 seconds.

Test Configuration:	Hardware - workstation
	Software - DDSRV
Input:	Submit single keyword searches to guide and collect information on search time.
Output:	Submit searches successfully and return guide data.
Expected Results:	Search will not take any longer than 8 seconds for a single keyword search.

Test Case 3 File Directory Record Deletion Test (B222.01.03)

This test verifies the capability to provide a mechanism to delete records from the File Directory.

Test Configuration:	Hardware - workstation
	Software - STMGT
Input:	A series of commands are submitted to view the File Directory and delete existing records from the File Directory.
Output:	File Directory display.
Expected Results:	All commands are received. The File Directory is viewed before and after File Directory record deletion. Appropriate files are deleted.

Test Case 4 Metadata Update Test (B222.01.04)

This test verifies the ability of Data Server software to update metadata under the following circumstances:

- purged data item
- relocation of data item
- addition of metadata fields

Test Configuration:	Hardware - workstation
	Software - SDSRV
Input:	Commands are submitted to view metadata. Operator requests are submitted to purge, update, and relocate data.

Output: Metadata is displayed.

Expected Results: Commands to purge, relocate and update metadata are accepted and processed. Metadata is viewed before and after purge, update, and relocate commands are processed. The appropriate metadata changes are made.

Test Case 5 Operations Suspension of Client Session Test (B222.01.05)

This test verifies the capability to provide the operations staff with the ability to suspend all active client sessions.

Test Configuration: Hardware - workstation

Software - SDSRV

Input: Several client sessions are opened. Operational commands are submitted for suspension of all sessions active.

Output: Notification of session suspension.

Expected Results: All active sessions are suspended upon request. Complete and appropriate notification is sent to the requester.

Test Case 6 Operations Resumption of Client Session Test (B222.01.06)

This test verifies the capability to provide the operations staff with the ability to resume all active client sessions.

Test Configuration: Hardware - workstation

Software - SDSRV

Input: Several client sessions are suspended. Operational commands are submitted for resumption of all sessions active.

Output: Notification of session resumption.

Expected Results: All active sessions are resumed upon request. Complete and appropriate notification is sent to the requester.

Test Case 7 Operations Termination of Client Session Test (B222.01.07)

This test verifies the capability to provide the operations staff with the ability to terminate an active client session.

Test Configuration: Hardware - workstation

Software - SDSRV

Input: Operational commands are submitted for the termination the session.

Output: Notification of session resumption.

Expected Results: All active sessions are resumed upon request. Complete and appropriate notification is sent to the requester.

Test Case 8 4mm Tape Distribution Test (B222.01.08)

This test verifies the capability to distribute information on 4mm tapes.

Test Configuration: Hardware - workstation

Software - DDIST

Input: Operator commands to copy requesting physical media distribution on 4mm tape. Operator commands are submitted to retrieve data and place the data on the media.

Output: Notifications to the operators console display successful transfer of data onto media. The data requested is placed on 4mm tape.

Expected Results: Data on the physical media when compared to data in storage, finds no significant differences.

Test Case 9 Storage Operating Parameter Test (B222.01.09)

This test verifies the capability to provide the operations staff with a mechanism to display/view a storage system operating parameters which affect storage system performance and scheduling. Also, this test verifies the capability to provide the operations staff the ability to change storage system operating parameters which affect storage system performance. Operating parameters are TBD.

Test Configuration: Hardware - workstation

Software - STMGT

Input: Operational commands to display operating parameters. Operational commands are submitted to modify operational parameters.

Output: Operational parameter displays.

Expected Results: Operational commands for display and modification of operating parameters are received. Operational parameters are noted before and after modifications. Parameters changes reflect the commands submitted.

Test Case 10 Archive Media Removal Test (B222.01.10)

This test verifies the capability to provide the operations staff the ability to alter the criteria that determines removal of archive media from storage devices to allow insertion of new or different archive media in the storage device. Note, that in determining the archive media that should be removed, the criteria shall consider the media's capacity for

storing additional data, the last time data was accessed on the media and whether the media is currently in use to store or retrieve data.

Test Configuration:	Hardware - workstation Software - STMGT
Input:	Operational commands are submitted to display the criteria of media device removal. Operational commands are submitted to modify the criteria. At least one request for each criteria selection is submitted. A series of Service Requests are submitted, enough to cause removal of media.
Output:	Media criteria device display.
Expected Results:	All operational commands are accepted and criteria information is displayed or modified according to the command. Archive is successfully removed according to current parameter criteria.

Test Case 11 Archive Performance Monitoring Test (B222.01.11)

This test verifies the capability to provide the ability to monitor the performance of the ECS archival storage system. Also, the operations staff is provided with the capability to view/display performance information on the storage system.

Test Configuration:	Hardware - workstation Software - STMGT
Input:	A series of Service Requests are submitted for the purpose of collecting storage system performance data. Commands are submitted to display performance information.
Output:	Reports are displayed.
Expected Results:	Reports accurately display performance information.

Test Case 12 Archive Storage Cost Test (B222.01.12)

This test verifies that archive storage costs, based on distribution size, are correctly recorded.

Test Configuration:	Hardware - workstation Software - DDIST
Input:	A series of Distribution Requests is submitted to include requests for data of various size.
Output:	Files containing archive storage costs.
Expected Results:	All Distribution Requests submitted are processed successfully. Archive storage costs are generated and successfully recorded.

Test Case 13_ Administrative Service Request API Test (B222.01.13)

This test verifies the capability to provide an application program interface, for the submission of Administrative Service Requests.

Test Configuration:	Hardware - workstation
	Software - SDSRV
Input:	Administrative Services Requests are submitted, via the API.
Output:	Processing results for the Service Request.
Expected Results:	All Administrative Services Requests submitted are successfully received and processed. The requester is notified of Administrative Service Request Processing results.

5.53.2.2 Sequence 2- Search Services Functions

The following series of tests demonstrates the search for instruments by product id and sort them by product id. Another option available to users is the use of the logical operands "and", "not", and "or" in building complex queries to perform data searches. Other tests include user capability to perform spatial metadata graphical inventory search. This sequence of tests also verifies that combinations of graphical/character oriented attributes can be constructed and executed. The result package is graphically/character represented. The Inventory Search verifies the capability to perform queries of metadata describing granules or aggregations of granules.

Test Case 1_ All other instruments Data list search by product id (B222.02.01)

This test case verifies that all other instruments (COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3) data can be searched on by product ID. The tester generates a data search on all other instrument data specifying a product ID keyword. After the search result package has been received, the tester prints the data list and verify that all other instruments data contains only data related to the product ID provided and that no extraneous data is included.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	All other instruments data search request by product ID.
Output:	All other instruments data search result package.
Expected Results:	The data list contains all other instruments data information related to the product ID keyword.

Test Case 2 All other Instruments Data List Sort by Product ID (B222.02.02)

This test case verifies that all other instruments (COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3) data can be sorted by product ID. The tester generates a data search on all other instruments data, requesting it to be sorted by data type. After the search result package has been received, the tester prints the data list. The tester then requests the data to be sorted by product ID. The data list is then sorted. The tester verifies that the sorted list includes all data from the original list, sorted by product ID.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	All other instruments data search request, sort request.
Output:	All other Instruments data lists, one sorted by data type, one sorted by product ID.
Expected Results:	Both data lists contain the same information regardless of the order sorted.

Test Case 3 Valid Data Set Start/Stop Time Combinations (B222.02.03)

This test verifies data search request results from using the data set start/stop time format. The tester inputs various combinations of data set start and stop times and inspects the returned results package to ensure that only data within the data set start and stop time specifications are returned.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Valid combinations of data set start/stop times for the search request.
Output:	Returned search results package.
Expected Results:	The returned search results package is verified for content.

Test Case 4 Complex query using "AND" (B222.02.04)

The tester inputs a complex query composed of multiple "and's". After the query is built, it is examined and submitted. The search results package is verified. The result package only contains character data in response to the search request, no graphical data is available.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager

Input: Complex query composed with multiple "and" operators, expected results, search request.

Output: Search result package.

Expected Results: The search result package matches the expected results.

Test Case 5 Complex query using "OR" (B222.02.05)

The tester inputs a complex query composed of multiple "or's". After the query is built, it is examined and submitted. The search results package is verified. The result package only contains character data in response to the search request, no graphical data is available.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Complex query composed with multiple "or" operators, expected results, search request.

Output: Search result package.

Expected Results: The search result package matches the expected results.

Test Case 6 Complex query using "NOT" (B222.02.06)

The tester inputs a complex query composed of multiple "not's". After the query is built, it is examined and submitted. The search results package is verified. The result package only contains character data in response to the search request, no graphical data is available.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Complex query composed with multiple "not" operators, expected results, search request.

Output: Search result package.

Expected Results: The search result package matches the expected results.

Test Case 7 Global Granule search (B222.02.07)

This test verifies that a user can perform a graphical inventory search using global land attributes. The tester uses the mapping tool to bring up a global view of the earth. The tester then performs a global land search on a selected data type. The search result package is verified against search criteria.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Mapping tool, global land request.

Output: All data available for the selected data type.

Expected Results: The search result package contains all the land data for the selected data type.

Test Case 8 Polygon searches (B222.02.08)

This test verifies that a user can perform polygon searches. The tester uses the cursor to draw a polygon on a map and submit a search request. The result package is verified to insure the data is correct. The result package is represented graphically.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Polygon , search request.

Output: Search result package.

Expected Results: The returned search result package contains data within the boundaries.

Test Case 9 Time Search (B222.02.09)

The tester graphically selects a period of time using the time line tool and selects a core metadata search. The result package reflects any metadata found within the time period selected.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data period with metadata available.

Output: Search result package.

Expected Results: The search result package contains a graphical representation of the metadata found within the specified time.

Test Case 10 Simple Inventory Search (B222.02.10)

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 a data server. Several searches will be performed and will be based on the data available in the data server.

Test Configuration: Hardware - Workstation, Data Dictionary DBMS Server, Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object

Input:	Search scenario based on available data
Output:	Descriptions of granules meeting the search criteria.
Expected Results:	This test is considered successful if each inventory search returns the granule descriptions of the granules meeting the search criteria. The client must provide informational messages to users indicating a query is being executed. The inventory search must also provide information concerning product processing schedules and processing history.

Test Case 11 Simple directory search (B222.02.11)

This test demonstrates the ability of the Client to provide access to the Global Change Master Directory (GCMD) database. Directory information consist of summary information on available data sets such as data set attributes, platforms, temporal coverage, and geographic coverage. Directory searches will be performed by specifying search criteria such as source, parameter, spatial coverage and temporal coverage. The GUI and the CHUI will be tested. The following tests verify the administrator's capabilities to manipulate the data in the data dictionary (add, delete, modify entries).

Test Configuration:	Hardware - Workstation, Data Dictionary DBMS Server, Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object
Input:	Directory Search criteria
Output:	Summary information on data sets and appropriate error messages
Expected Results:	This test is considered successful if the directory search accesses the GCMD and returns the summary information on data sets that meet the search criteria. The client must also display appropriate error messages for searches that are performed but can not be satisfied.

5.53.2.3 Sequence 3 - Data Access Service Functions

The following tests demonstrates the ability for data services to support a data administration utilities. Such services include advertising services, LIM activities, DIM activities, Data Dictionary functions and the ability to receive and send FDF data, L0-L4 equivalent data sets from other DAACs. Also being able to send and receive advertisement data from NOAA SAAs, data centers and VO IMS.

Test Case 1 On-line full Backup (B222.03.01)

The following tests the authorized user's capability to perform on-line full backup. All the advertising service operations that will be performed before the recovery, such as executing several data/service searches and browsing through the available advertisements will be recorded.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Desktop manager
Input:	Enter full backup data command.
Output:	Fully backed-up advertising Service Database. Administrative log contains an entry for the above function.
Expected Results:	This test is considered successful if all the files have been backup up completely.

Test Case 2 On-line Incremental Backup (B222.03.02)

The following tests the authorized user's capability to perform on-line incremental backup. A set of advertising service operations will be performed before the recovery, such as executing several data/service searches and browsing through the available advertisements. The results of this operation is recorded.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Desktop manager
Input:	Enter incremental backup data command.
Output:	Incremented back-up of advertising Service Database. Administrative log contains an entry for the above function.
Expected Results:	This test is considered successful if all the incremented backup files have been backed-up completely.

Test Case 3 Perform Data Export (B222.03.03)

The following tests the authorized user's capability to perform data exports. The export utility will be used to export advertising service data to a file.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Desktop manager
Input:	Enter the advertising service export command.
Output:	Exported advertising service data into a file. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful if the file has the imported advertising data in it.

Test Case 4 Create subscription (B222.03.04)

The following test demonstrates the ability to support the creation of subscriptions. The client will provide GUI interface to create subscription.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Select create subscription option from GUI interface

Output: Subscription is created for the user. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful when the user's subscription is created and displayed.

Test Case 5 Delete Data Server subscription (B222.03.05)

The following test demonstrates the ability to support deletion of subscriptions. The client will provide GUI interface to delete subscription.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Select delete subscription option from GUI interface

Output: Subscription is delete from the subscription list. Administrative log reflects an entry for the above function.

Expected Results: This test is considered successful when the subscription list for that particular user does not show his subscription in the list.

Test Case 6 Read Advertising Data (B222.03.06)

This test verifies the capability to read advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Workbench interface to read advertisement data.

Output: User able to read advertising information. Information provided is the advertising information requested. Event log contains an entry for the activation of the read access.

Expected Results: User able to read advertising information pertaining to the advertising service.

Test Case 7 Delete Advertising Data (B222.03.07)

This test verifies the capability to delete advertising information from the advertising service.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Desktop manager
Input:	Workbench interface to delete advertisement data.
Output:	User able to delete advertising information. Information indicate a delete did take place. Event log contains an entry for the activation of the delete access.
Expected Results:	User able to delete advertising information pertaining to the advertising service.

Test Case 8 Add New Data to LIM Schema (B222.03.08)

This test verifies the administrator's capability to add new data to the LIM schema. After the data is added to the LIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, add of new data type, new product, etc.
Output:	New data type, etc has been added to the LIM schema and is accessible to the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.
Expected Results:	The LIM database contains the updated information.

Test Case 9 Delete Data from LIM Schema (B222.03.09)

This test verifies the administrator's capability to delete existing data from the LIM schema. After the data is deleted from the LIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, deletion of an existing data set and its associated information.
Output:	The data set is deleted, the LIM schema is updated and the deleted data set is no longer accessible by the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.
Expected Results:	The LIM database no longer has the data set information.

Test Case 10 Add New Data to DIM Schema (B222.03.10)

This test verifies the administrator's capability to add new data to the DIM schema. After the data is added to the DIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, add of new data type, new product, etc.
Output:	New data type, etc has been added to the DIM schema and is accessible to the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.
Expected Results:	The DIM database contains the updated information.

Test Case 11 Delete Data from DIM Schema (B222.03.11)

This test verifies the administrator's capability to delete existing data from the DIM schema. After the data is deleted from the DIM, an attempt is made to access the data.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Administrator tool, deletion of an existing data set and its associated information.
Output:	The data set is deleted, the DIM schema is updated and the deleted data set is no longer accessible by the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.
Expected Results:	The DIM database no longer has the data set information.

Test Case 12 Add an entry in DD (B222.03.12)

This test verified the capability of adding an individual entry to the data dictionary

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Data dictionary information, administration account and DDS administration tool.
Output:	The data dictionary contains a new entry. Administration log contains record of new entry being added to the DD.
Expected Results:	The new item is properly entered into the DD and is accessible by all users.

Test Case 13 Delete an Entry in DD (B222.03.13)

This test verifies the capability to delete an individual entry in the data dictionary.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Data dictionary information, administration account and DDS administration tool.
Output:	The data dictionary entry is deleted. Administration log contains record of the deleted entry.
Expected Results:	The entry is deleted in the DD and no longer accessible by the users.

Test Case 14 Receive FDF Orbit Data (B222.03.14)

This test verifies the capability to receive orbit data. Testing verifies the ability to receive data from the FDF. Testing is performed to support release testing of the AM-1.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Orbit data. External interface with FDF. (interface may be simulated or stubbed). Ingest ready to receive data notification.
Output:	Data ingest log contains an entry for the successful ingest of orbit data from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.
Expected Results:	Orbit data written to the staging area.

Test Case 15 Send DAR status request ASTER ICC (B222.03.15)

This test verifies the capability to Send DAR status request. Testing verifies the ability to send status request to ASTER ICC. Testing is performed to support Release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	External interface with DAR. (interface may be simulated or stubbed). Issue command to send DAR status request to other sites
Input:	DAR status request sent to other sites as per request. Distribution log contains an entry for each distribution requests.
Expected Results:	DAR status request sent to other site.

Test Case 16 Receive V0 Inventory requests from the V0 IMS using V0 system protocols (B222.03.16)

This test verifies the capability to receive VO inventory requests. With the use of VO system protocols, VO inventory request will be received from the VO IMS. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	VO Inventory requests. External interface with VO IMS. (interface may be simulated or stubbed). Ingest ready to receive data notification.
Output:	Data ingest log contains an entry for the successful ingest of VO Inventory requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.
Expected Results:	VO Inventory requests written to the staging area.

Test Case 17 Send browse request to the NOAA SAAs using VO system protocols (B222.03.17)

This test verifies the capability to send browse request to NOAA SAAs using VO system protocols. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Browse request. External interface with NOAA. (interface may be simulated or stubbed). Issue command to send browse request.
Output:	Browse request sent to NOAA SAA via the VO system Protocols. Distribution log contains an entry for each distribution request and transfer of browse request.
Expected Results:	Browse request sent to NOAA SAA.

5.53.2.4 Sequence 4- Product Support Functions

The following tests verify the ability to create a candidate plan. This includes the ability to receive data availability schedules (DAS) from remote ECS sites, EDOS, IPs, and ODCs. Candidate plans will satisfy production requests for reprocessing and on-demand data products. Candidate plans will also consolidate any outstanding data processing requests in the current active plan. Planning information will be sent and received.

Test Case 1 Remote DASs (B222.04.01)

This test verifies that data availability schedules (DAS) can be obtained through subscriptions submitted to remote ECS sites, EDOS, IPs, ODCs, and to the data server for FOS plans and schedules. Subscriptions will be submitted, notification of indicating DAS arrival will be received, and DASs will be accepted.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Data subscriptions for data availability schedules are submitted to remote ECS sites, EDOS, IPs, ODCs, and to the data server for FOS plans and schedules. This includes the SMC.
Output:	Data subscriptions are accepted and are sent to the appropriate sites. Notices indicating arrival are received. DASs are accepted from other sites.
Expected Results:	DASs are sent from requested sites including the SMC.

Test Case 2 Plan Creation (B222.04.02)

This test verifies the creation of a candidate plan that will satisfy production requests for reprocessing, on-demand data products, and outstanding data processing requests in the current active plan.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	A number of reprocessing requests, on-demand data product requests, and data processing requests that will not be accommodated in the active plan are entered into the planning system. Display the candidate plan.
Output:	A candidate plan is created and displayed.
Expected Results:	The candidate plan is successfully created and satisfies production requests for reprocessing and on-demand data products. The candidate plan incorporates any outstanding data processing requests.

Test Case 3 Cross DAAC Scheduling (B222.04.03)

This test verifies the ability to integrate and coordinate cross-DAAC scheduling. This includes accepting scheduling information on external events, identifying data dependencies and conflicts that may arise, and the ability to make plans available to other DAAC sites present in release B.

Test Configuration: Hardware - Production Planner workstations, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Multiple DAAC plans and notification of external events. A number of DPRs that will be scheduled in conflict. Conflicts will be due to scheduling and data dependencies. A candidate plan is created and displayed. Data subscriptions from other sites requesting candidate and active plans.

Output: Notification of an external event is accepted. A candidate plan is created and displayed. Alerts will be displayed to the operator. Conflict resolution information is sent from the SMC. Data subscriptions are accepted. Notifications are sent to the requesting sites.

Expected Results: External events, data dependencies, and multiple DAAC plans are reflected in the candidate plan. Schedule conflicts are correctly identified and resolved. Plans are available to other DAAC sites.

Test Case 4 On-Demand and Re-processing Production Requests (B222.04.04)

This test verifies proper handling of on-demand production requests. Valid and invalid on-demand and re-processing production requests are tested along with updates to requests. On-demand production requests are scheduled in the active plan unless the active plan can not accommodate the production of the request. If the active plan can not accommodate the request, the request is scheduled in the candidate plan. Re-processing production requests are scheduled in a candidate plan.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of valid and invalid on-demand and re-processing production requests and updates. A number of the on-demand PRs will and will not be accommodated in the active plan. Display the active plan. Initiate the creation of a candidate plan. Display the candidate plan.

Output: Valid on-demand and re-processing production requests or updates are accepted. Invalid on-demand and re-processing production requests or updates are rejected. A response message is sent to the data server indicating acceptance/rejection status. The active plan is displayed. A candidate plan is created. The candidate plan is displayed.

Expected Results: The valid on-demand and re-processing production requests and updates are accepted. The invalid on-demand and re-processing production requests and updates are rejected. The active plan successfully incorporates the on-demand requests that can be accommodated in the active plan. The candidate plan successfully incorporates the on-demand requests that can not be accommodated in the active plan. The re-processing requests are accommodated in the candidate plan.

Test Case 5 Send & Receive Information (B222.04.05)

This test verifies that routine scheduling, scheduling request, emergency scheduling, and schedule conflict alert information can be sent and received from other sites. Operations and management staff at a site will have the ability to command the sending of such scheduling information.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Routine scheduling, scheduling request, emergency scheduling, and schedule conflict alert information is present. The operations and management staff commands the information be sent to other sites.

Output: Routine scheduling, scheduling request, emergency scheduling, and schedule conflict alert information is sent to other sites. Other sites receive routine scheduling, scheduling request, emergency scheduling, and schedule conflict alert information. Response messages are returned to the operations and management staff.

Expected Results: Routine scheduling, emergency scheduling, and schedule conflict alert information can be properly sent and received from other sites.

5.54 Integrated Communication Services Build 5

The Integrated Communication Service Build 5 is an integrated build of the following builds:

- System Services Build 2
- Integrated Data Access Build 4
- Integrated Client Services Build 3

5.54.1 Build Objectives

The objectives of the Integrated Communication Service Build 5 are:

- Provide the capability to perform Integrated system service including site and network communication management services, network services, ingest services and system initialization.
- Provide the capability to perform integrated data access services including search services, data access services, and product support.
- Provide the capability to perform integrated client services including system security and monitoring, client services and system setup.

5.54.2 Build Test Description

Testing is performed to verify that site and network management tools are available and functional to the user. Verification of client and data server functions such as population of guides, directories and inventories with data will be demonstrated. Other functions tested will be archiving of multiple data versions.

The ECS desktop environment will be utilized to request products and also perform search functions such as graphical data searches to include directory, guide and inventory. The testing will also encompass verifying that certain ingest functions are available and functional.

Testers will also verify that the system security tools respond to system faults and produce valid reports using network statistics. Accounting information for distributed data will be tested to see if this information can be generated automatically. Prioritization of distributed requests and scheduled adjustments will be tested and available to client.

Testers will also verify that data access functions such as the capabilities to submit/delete data server subscriptions and distribute data by means of subscriptions can function at a system level.

Dependencies: (If Applicable)

In order to verify the objectives of the Integrated Communication Services build 5, the following interface and functional capabilities are required:

- Interface to network communication management tools
- Interface to data server and data dictionary
- Interface to EOSView for data visualization
- Interface to product generation system to create plans and manipulate production queues.
- Interface to data server, dictionary, LIM and DIM for data access
- Simulated or actual services availability
- File transfer Interface
- CSMS and SDPS Interface

Test Support Requirements

- Hardware:
  - TBD
- Software:
  -
- Data:
  -

5.54.2.1 Sequence 1- Integrated System Services function

This testing will verify the System Initialization functionality when the System Initialization software is integrated with the INGST, Network services, and MLCI Build software. Also verifying the capability for the ingest software, data server client software and storage management software to successfully interface to perform data insertion into secondary storage. The following tests will also verify the capability for each DAAC to simultaneously accept, process and store data and documents from various external interface. Testing will verify that the network services functionality when the Network services software is integrated with the INGST, System Initialization, and MLCI Build software.

Test Case 1 Concurrent execution of operational mode and test mode (B223.01.01)

This test verifies that the capability of the concurrent execution of operational mode and test mode.

Test Configuration: Hardware - Workstation, X terminal

Software - mode management application

Input: Initialize the operational mode environment in the mode management script.

Output: The message is displayed the execution of the operational mode and test mode.

Expected Results: The HP OpenView shows the successful execution of the operational and test system environment.

Test Case 2 Concurrent execution of operational mode and training mode (B223.01.02)

This test verifies that the capability of the concurrent execution of operational mode and training mode.

Test Configuration: Hardware - Workstation, X terminal

Software - mode management application

Input: Initialize the operational mode environment in the mode management script.

Output: The message is displayed the execution of the operational mode and training mode.

Expected Results: The HP OpenView shows the successful execution of the operational and training system environment.

Test Case 3 Operational mode performance statistics (B223.01.03)

This test verifies that the capability of the mode management service to monitor and provide the operational mode performance statistics.

Test Configuration: Hardware - Workstation, X terminal

Software - mode management application

Input: To request to display the performance statistics of the operational mode environment in the mode management script.

Output: The performance statistics of operational mode is displayed.

Expected Results: The HP OpenView shows the statistics.

Test Case 4 Operational mode fault detection (B223.01.04)

This test verifies that the capability of the mode management service to monitor and provide the operational mode fault detection and isolation information.

Test Configuration: Hardware - Workstation, X terminal

Software - mode management application

Input: To bring down the subsystem process.

Output: The message is displayed to indicate the fault occurs.

Expected Results: The HP OpenView shows the fault information.

Test Case 5 Operational mode management statistics (B223.01.05)

This test verifies that the capability of the mode management service to monitor and provide the test mode management statistics.

Test Configuration: Hardware - Workstation, X terminal

Software - mode management application

Input: To request to display the management statistics of the test mode environment in the mode management script.

Output: The management statistics of test mode is displayed.

Expected Results: The HP OpenView shows the statistics.

Test Case 6 Document Data Insertion (B223.01.06)

This test verifies the capability for ingest software to interface with data server and storage management software for insertion of documentation into the archive. Status is provided by data server to the ingest software.

Test Configuration: Hardware - workstation

Software - DDSRV, SDSRV, INGST, STMGT, Advertising, CSMS

Input: A series of Data Requests are submitted to insert documentation. Status requests are submitted.

Output: Status is returned to the provider. Notification of successful insertion into the Data Archive.

Expected Results: Documentation is successfully inserted into the Document Archive.

Test Case 7 Science Data Insertion (B223.01.07)

This test verifies the capability for ingest software to interface with data server and storage management software for insertion of science data into the archive. Status is provided by data server to the ingest software.

Test Configuration: Hardware - workstation

Software - SDSRV, INGST, STMGT, Advertising, CSMS

Input: A series of Data Requests are submitted to insert data and metadata. Status requests are submitted.

Output: Status is returned to the provider. Notification of successful insertion into the Data Archive.

Expected Results: Data is successfully inserted into the Archive.

Test Case 8 ASF Simultaneous Data Insert (B223.01.08)

This test verifies the capability to simultaneously interface with multiple data providers for data ingest. External providers include: SAR, RGS, SPS, RADARSAT, RADAR-ALT, ERS-1, ERS-2, and JERS-1, V0, and SCF. The ingest software interfaces with data server client software and storage management software for data archiving.

Test Configuration: Hardware - workstations

Software - INGST, SDSRV, STMGT, Advertising, CSMS

Input: Several simultaneous ingest requests are submitted at incremental time periods. The size of the data requests vary.

Output: The system is monitored to determine status of data archive. Performance data may also be collected. Status messages are returned to the data provider.

Expected Results: All submitted requests are accepted, processed and the data is archived. Ingest and data server logs are updated to reflect the data archived. Status messages returned to the data providers are accurate, complete, and readable.

Test Case 9 ASF Simultaneous Data Insert with Invalid Request (B223.01.09)

This test verifies the capability to simultaneously interface with multiple data providers for data ingest. External providers include: SAR, RGS, SPS, RADARSAT, RADAR-ALT, ERS-1, ERS-2, and JERS-1, V0, and SCF. The ingest software interfaces with data server client software and storage management software for data archiving. Some requests submitted for ingest are invalid. Invalid requests include : TBD

Test Configuration: Hardware - workstations

Software - INGST, SDSRV, STMGT, Advertising, CSMS

Input: Several simultaneous ingest requests are submitted at incremental time periods. Some requests are invalid.

Output: The system is monitored to determine status of data archive. Performance data may also be collected. Status messages are returned to the data provider. Error messages are recorded in a log.

Expected Results: All valid requests are accepted, processed and the data is archived. Ingest and data server logs are updated to reflect the data archived. All invalid requests result in unsuccessful archive. Status messages returned to the data providers are accurate, complete, and readable.

Test Case 10 EDC Simultaneous Data Insert (B223.01.10)

This test verifies the capability to simultaneously interface with multiple data providers for data ingest. External data providers include: Landsat 7 LPS, Landsat 7 IGS, and Landsat 7 IAS, V0, and SCF. The ingest software interfaces with data server client software and storage management software for data archiving.

Test Configuration: Hardware - workstations

Software - INGST, SDSRV, STMGT, Advertising, CSMS

Input: Several simultaneous ingest requests are submitted at incremental time periods. The size of the data requests vary.

Output: The system is monitored to determine status of data archive. Performance data may also be collected. Status messages are returned to the data provider.

Expected Results: All submitted requests are accepted, processed and the data is archived. Ingest and data server logs are updated to reflect the data archived. Status messages returned to the data providers are accurate, complete, and readable.

Test Case 11 LaRC Simultaneous Data Insert (B223.01.11)

This test verifies the capability to simultaneously interface with multiple data providers for data ingest. External data providers include: ACRIM, SDPF, EDOS, SAGE III, V0, and SCF. The ingest software interfaces with data server client software and storage management software for data archiving.

Test Configuration: Hardware - workstations

Software - INGST, SDSRV, STMGT, Advertising, CSMS

Input: Several simultaneous ingest requests are submitted at incremental time periods. The size of the data requests vary.

Output: The system is monitored to determine status of data archive. Performance data may also be collected. Status messages are returned to the data provider.

Expected Results: All submitted requests are accepted, processed and the data is archived. Ingest and data server logs are updated to reflect the data archived. Status messages returned to the data providers are accurate, complete, and readable.

Test Case 12 Change directory remotely (B223.01.12)

This test verifies that the file access service allows user to change directory (cd) on the remote host.

Test Configuration: Hardware - Workstation, X-terminal.

Software - DFS application, XRunner.

Input: Logon on to the remote host, and enter "cd <directory name>".

Output: The list of directory shows the directory has been changed.

Expected Results: The new directory is located.

Test Case 13 PC dial-up to the host (B223.01.13)

This test verifies that the capability of the CSS to accept the dial-in call to host to request the remote session. Use various modems and speeds for PC to dial-up to the host.

Test Configuration: Hardware - Workstation, X-terminal.

Software - PC communication package.

Input: Dial-up the number to the port on the host.

Output: The accepts the call and start the communications.

Expected Results: PC user receives the system prompt from the host.

Test Case 14 Post Office Protocol support (B223.01.14)

This test verifies that the capability of the e-mail to support the Post Office Protocol.

Test Configuration: Hardware - Workstation, X-terminal.

Software - E-mail application and protocol analyzer.

Input: Deliver a mail message via POP function.

Output: Protocol analyzer displays the packet of the message in the POP format.

Expected Results: The packet confirms the POP standard.

Test Case 15 Package Software, Databases, and Documentation for Delivery to Destinations (B223.01.15)

This test verifies the ability of the Configuration Management Application Service to package software, databases, and documentation for delivery to destinations at both ECS and ECS-connected sites.

Test Configuration: Hardware - workstations

Software - MSS Configuration Management Application Service

Input: The tester simulating a software delivery, attempts to package software, databases, and documentation for delivery to destinations at both ECS and ECS-connected sites.

Output: Messages indicating that the software, databases, and documentation for delivery to the destinations are packaged.

Expected Results: The software, databases, and documentation for delivery to the destinations are packaged for both ECS and ECS-connected sites.

Test Case 16 Schedule Automatic and Operator-Assisted Distribution of Software Packages (B223.01.16)

This test verifies the ability of the Configuration Management Application Service to schedule via the EMC Planning and Scheduling Service automatic and operator-assisted distribution of software packages.

Test Configuration: Hardware - workstations

Software - MSS Configuration Management Application Service, EMC Planning and Scheduling Service

Input: The tester simulating a software delivery, attempts to schedule both automatic and operator-assisted distribution of software packages via the EMC Planning and Scheduling Service.

Output: Messages indicating that the both automatic and operator-assisted distribution of software packages are scheduled.

Expected Results: The both automatic and operator-assisted distribution of software packages are scheduled via the EMC Planning and Scheduling Service.

Test Case 17 Push Software Packages from a Central Distribution Point (B223.01.17)

This test verifies the ability of the Configuration Management Application Service to push software packages from a central distribution point/depot to remote target platforms (servers and workstations).

Test Configuration: Hardware - workstations

Software - MSS Configuration Management Application Service

Input: The tester simulating a software delivery, attempts to push a software package from a central distribution point/depot to a remote target platform.

Output: Messages indicating that a software package is pushed.

Expected Results: The a software package is pushed from a central distribution point/depot to a remote target platform.

Test Case 18 Pull Distribution Packages from Central Distribution Points (B223.01.18)

This test verifies the ability of the Configuration Management Application Service to at the site pull distribution packages from central distribution points/depots onto individual target destinations.

Test Configuration: Hardware - workstations

Software - MSS Configuration Management Application Service

Input: The tester simulating a software delivery, attempts to pull a software package from a central distribution point/depot onto a remote target platform.

Output: Messages indicating that a software package is pulled.

Expected Results: The a software package is pulled from a central distribution point/depot onto a remote target platform.

Test Case 19 Report Consolidated Spare Parts Order Information at the SMC (B223.01.19)

Testing will demonstrate the capability to generate consolidated reports on site spare parts inventory order information. The reported information will include a description, quantity on hand, quantity on order, prescribed stock level, name of supplier, location of supplier, point of contact for supplier, estimated delivery date, actual delivery date, and order status for a given spare part.

Test Configuration: Hardware - workstations

Software - ILS Management

Input: A spare part will be selected to report on it's order information for all sites.

Output: The description, quantity on hand, quantity on order, prescribed stock level, name of supplier, location of supplier, point of contact for supplier, estimated delivery date, actual delivery date, and order status for the selected spare part for all sites will be reported.

Expected Results: The spare parts inventories at all sites will be accessed to generate a report containing the description, quantity on hand, quantity on order, prescribed stock level, name of supplier, location of supplier, point of contact for supplier, estimated delivery date, actual delivery date, and order status for the selected spare part.

Test Case 20 Schedule Training Events via the MSS Planning and Scheduling Service (B223.01.20)

This test verifies the ability of the Training Management Application Service to schedule training events via the MSS Planning and Scheduling Service.

Test Configuration: Hardware - workstations

Software - MSS Training Management Application Service

Input: The tester, using the Training Management Application Service, attempts to schedule training events via the MSS Planning and Scheduling Service.

Output: Messages confirming the scheduling of training events.

Expected Results: The training events will be scheduled as requested by the tester.

Test Case 21 Prepare, Update, Store, View/Print, and Disseminate Training Course Information (B223.01.21)

This test verifies the ability of the Training Management Application Service at the SMC to prepare, update, store, view/print, and disseminate training courses descriptions, course prerequisites, resource requirements, and schedules.

Test Configuration:	Hardware - workstations
	Software - MSS Training Management Application Service
Input:	The tester at a simulated SMC, using the Training Management Application Service, attempts to prepare, update, store, view/print, and disseminate a training course description, course prerequisites, resource requirements, and schedule.
Output:	Messages indicating the preparation, update, and storage of training course description, course prerequisites, resource requirements, and schedule. The display and hard copy of training course description, course prerequisites, resource requirements, and schedule.
Expected Results:	The tester successfully completes the preparation, update, and storage of training course description, course prerequisites, resource requirements, and schedule. The tester is able to produce a display and hard copy of training course description, course prerequisites, resource requirements, and schedule.

Test Case 22 Produce PM and Corrective Maintenance Reports (B223.01.22)

This test verifies the ability of the Maintenance Management Application Service to provide the M&O staff the capability to produce PM and corrective maintenance reports based on operator entered criteria.

Test Configuration:	Hardware - workstations
	Software - MSS Maintenance Management Application Service
Input:	The tester will attempt to produce PM and corrective maintenance reports by entering a criteria.
Output:	The PM and corrective maintenance reports will be displayed.
Expected Results:	The PM and corrective maintenance reports will be displayed, and will contain information pertaining to the criteria entered by the tester.

Test Case 23 Receive Specified Site Maintenance Data at the SMC (B223.01.23)

This test verifies the ability of the Maintenance Management Application Service to receive specified site maintenance data at the SMC for use in maintenance trends analysis.

Test Configuration:	Hardware - workstations
	Software - MSS Maintenance Management Application Service

Input: The tester at a simulated SMC, using the MSS Maintenance Management Application Service, will attempt to receive specified site maintenance data for use in maintenance trends analysis.

Output: Statistics based on site maintenance data for use in maintenance trends analysis will be displayed.

Expected Results: The tester will successfully receive specified site maintenance data into the simulated SMC, and view the statistics based on the site maintenance data.

Test Case 24 Input, Store, Maintain, and View/Print PM Information for Site Equipment (B223.01.24)

This test verifies the ability of the Maintenance Management Application Service to input, store, maintain, and view/print Preventive Maintenance (PM) information for site equipment.

Test Configuration: Hardware - workstations

Software - MSS Maintenance Management Application Service

Input: The tester will attempt toInput, store, maintain, and view/print PM information for a unit of site equipment.

Output: Messages indicating theInput, storage, and update of PM information for a unit of site equipment. The PM information will be viewed and printed.

Expected Results: The PM information entered by the tester will beInput, stored and updated. The PM information will be viewed and printed.

Test Case 25 Schedule Maintenance Events via the MSS Planning and Scheduling Service (B223.01.25)

This test verifies the ability of the Maintenance Management Application Service to schedule maintenance events via the MSS Planning and Scheduling Service.

Test Configuration: Hardware - workstations

Software - MSS Maintenance Management Application Service, MSS Planning and Scheduling Service

Input: The tester, using the Maintenance Management Application Service, will attempt to schedule maintenance events via the MSS Planning and Scheduling Service.

Output: Messages indicating that maintenance events have been scheduled.

Expected Results: The requested maintenance events will be scheduled via the MSS Planning and Scheduling Service.

5.54.2.2 Sequence 2- Integrated Data Access function

The following tests verify the ability of the integrated data access to perform certain functions such as search service functions, data server management functions, and product support functions.

Test Case 1 Guide Search Performance Test (B223.02.01)

This test verifies the capability to complete a search for a guide document. The software will be able to do this by a single keyword; however, the search is not to exceed 8 seconds.

Test Configuration:	Hardware - workstation
	Software - DDSRV
Input:	Submit single keyword searches to guide and collect information on search time.
Output:	Submit searches successfully and return guide data.
Expected Results:	Search will not take any longer than 8 seconds for a single keyword search.

Test Case 2 Archive Performance Monitoring Test (B223.02.02)

This test verifies the capability to provide the ability to monitor the performance of the ECS archival storage system. Also, the operations staff is provided with the capability to view/display performance information on the storage system.

Test Configuration:	Hardware - workstation
	Software - STMGT
Input:	A series of Service Requests are submitted for the purpose of collecting storage system performance data. Commands are submitted to display performance information.
Output:	Reports are displayed.
Expected Results:	Reports accurately display performance information.

Test Case 3 Global Granule search (B223.02.03)

This test verifies that a user can perform a graphical inventory search using global land attributes. The tester uses the mapping tool to bring up a global view of the earth. The tester then performs a global land search on a selected data type. The search result package is verified against search criteria.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager

Input: Mapping tool, global land request.

Output: All data available for the selected data type.

Expected Results: The search results package contains all the land data for the selected data type.

Test Case 4 Polygon searches (B223.02.04)

This test verifies that a user can perform polygon searches. The tester uses the cursor to draw a polygon on a map and submit a search request. The results package is verified to insure the data is correct. The results package is represented graphically.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Polygon , search request.

Output: Search results package.

Expected Results: The returned search results package contains data within the boundaries.

Test Case 5 Simple Inventory Search (B223.02.05)

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 a data server. Several searches will be performed and will be based on the data available in the data server.

Test Configuration: Hardware - Workstation, Data Dictionary DBMS Server,

Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object

Input: Search scenario based on available data

Output: Descriptions of granules meeting the search criteria.

Expected Results: This test is considered successful if each inventory search returns the granule descriptions of the granules meeting the search criteria. The client must provide informational messages to users indicating a query is being executed. The inventory search must also provide information concerning product processing schedules and processing history.

Test Case 6 Read Advertising Data (B223.02.06)

This test verifies the capability to read advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Workbench interface to read advertisement data.

Output: User able to read advertising information. Information provided is the advertising information requested. Event log contains an entry for the activation of the read access.

Expected Results: User able to read advertising information pertaining to the advertising service.

Test Case 7 Add New Data to LIM Schema (B223.02.07)

This test verifies the administrator's capability to add new data to the LIM schema. After the data is added to the LIM, an attempt is made to access the data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Administrator tool, add of new data type, new product, etc.

Output: New data type, etc has been added to the LIM schema and is accessible to the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.

Expected Results: The LIM database contains the updated information.

Test Case 8 Add New Data to DIM Schema (B223.02.08)

This test verifies the administrator's capability to add new data to the DIM schema. After the data is added to the DIM, an attempt is made to access the data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Administrator tool, add of new data type, new product, etc.

Output: New data type, etc has been added to the DIM schema and is accessible to the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.

Expected Results: The DIM database contains the updated information.

Test Case 9 Add an entry in DD (B223.02.09)

This test verified the capability of adding an individual entry to the data dictionary

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input:	Data dictionary information, administration account and DDS administration tool.
Output:	The data dictionary contains a new entry. Administration log contains record of new entry being added to the DD.
Expected Results:	The new item is properly entered into the DD and is accessible by all users.

Test Case 10 Receive FDF Orbit Data (B223.02.10)

This test verifies the capability to receive orbit data. Testing verifies the ability to receive data from the FDF. Testing is performed to support release testing of the AM-1.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Orbit data. External interface with FDF. (interface may be simulated or stubbed). Ingest ready to receive data notification.
Output:	Data ingest log contains an entry for the successful ingest of orbit data from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.
Expected Results:	Orbit data written to the staging area.

Test Case 11 Plan Creation (B223.02.11)

This test verifies the creation of a candidate plan that will satisfy production requests for reprocessing, on-demand data products, and outstanding data processing requests in the current active plan. The plan will be generated using specified production strategies and DASs. Some requests entered will include intermediate results. Conflicts and dependencies will be identified.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	A number of reprocessing requests, on-demand data product requests, and data processing requests that will not be accommodated in the active plan are entered into the planning system. Initiate the creation of a candidate plan using a specific production strategy. Display the candidate plan.
Output:	A candidate plan is created and displayed. Plans are sent to the data server for archival and data access.

Expected Results: The candidate plan is successfully created and satisfies production requests for reprocessing and on-demand data products. The candidate plan incorporates any outstanding data processing requests. Production Strategies and DASs are successfully used in creating the candidate plans.

Test Case 12 Operations Commands (B223.02.12)

This test verifies that an operator can query, update, and cancel on-demand and reprocessing product requests. Operators can also enter reprocessing product requests. Planning information will be sent and received

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Query, update, and cancel on-demand and reprocessing requests. Enter reprocessing requests. Valid and invalid updates, cancellations and entries will be made. Display PRs. Send planning information to other sites.

Output: Valid updates, cancellations, and entries are accepted. Invalid updates, cancellations, and entries are rejected. On-demand and reprocessing PRs are displayed. Responses to operators commands are displayed. Planning information is sent to other sites.

Expected Results: Valid updates, cancellations, and entries of PRs are accepted. Invalid updates, cancellations, and entries of PRs are rejected. Appropriate responses messages are displayed. Valid updates, cancellations, and entries of PRs are noted on redisplayed PR information. The on-demand and reprocessing PRs displayed correspond to the query criteria given. All PRs that satisfy the query criteria are displayed. Planning information is successfully sent to other sites.

5.54.2.3 Sequence 3 - Integrated Client Services function

This test sequence verifies the integrated client service functions which include geographic metadata.

Test Case 1 Geographic Metadata (B223.03.01)

This test verifies that query of geographic metadata by geographic name using text input shall be supported.

Test Configuration: Hardware - workstations

Software - Earth Science Search Tool, Desktop, Workbench

Input:	Request a query of geographic metadata by geographic name. Use textInputs.
Output:	Results from query of geographic metadata.
Expected Results:	The query of geographic metadata by geographic name using textInput is supported.

Test Case 2 Non-geographic Metadata (B223.03.02)

This test verifies that query of non-geographic metadata is supported. A combination of exact word match, exact phrase match, character set, wild card, character range, logical and Boolean operator, and min/max range search criteria will be used to form query requests.

Test Configuration:	Hardware - workstations
	Software - Earth Science Search Tool, Desktop, Workbench
Input:	Request a query of non-geographic metadata. Use a variety of search criteria.
Output:	Results from query of non-geographic metadata.
Expected Results:	The query of non-geographic metadata by exact word match, exact phrase match, character set, wild card, character range, logical and Boolean operator, and min/max range search criteria is supported.

Test Case 3 Phenomenological Search Criteria (B223.03.03)

This test verifies that searches can be performed using phenomenological search criteria for attributes supported by the data server schema. Phenomenological search criteria can be related to search criteria containing values for searchable attributes supported in the data server schema.

Test Configuration:	Hardware - workstations
	Software - Earth Science Search Tool, Desktop, Workbench
Input:	Search request using phenomenological search criteria. Relate phenomenological search criteria to search criteria containing values for searchable attributes.
Output:	Results from search.
Expected Results:	Searches can be performed using phenomenological search criteria. Phenomenological search criteria can be related to search criteria containing values for searchable attributes.

Test Case 4 Data Requests based on Search Results (B223.03.04)

This test verifies that users can formulate a data request based on the results of searching the inventory core metadata attributes and inventory product specific metadata attributes.

Test Configuration:	Hardware - workstations
	Software - Earth Science Search Tool, Desktop, Workbench
Input:	Search results from searching the inventory core metadata attributes and inventory product specific metadata attributes. Form a data request.
Output:	Data request is displayed.
Expected Results:	A data request is formulated based on the results of searching the inventory core metadata attributes and inventory product specific metadata attributes.

Test Case 5 Search and Acquire Library Holdings (B223.03.05)

This test verifies that the user can search and acquire library holdings.

Test Configuration:	Hardware - workstations
	Software - Earth Science Search Tool, Desktop, Workbench
Input:	Search library holdings. Request library holdings.
Output:	Results from library search are displayed. Library holdings requested are displayed.
Expected Results:	Searches can be performed on library holdings. Library holdings can be acquired.

Test Case 6 Search Documents (B223.03.06)

This test verifies that the client supports hierarchical searching of documents in HTML format.

Test Configuration:	Hardware - workstations
	Software - Earth Science Search Tool, Desktop, Workbench
Input:	Search documents in HTML format. Searches will be hierarchical.
Output:	Results from search.
Expected Results:	Hierarchical searches can be performed on documents in HTML format.

Test Case 7 Request Services Available (B223.03.07)

This test verifies that services available for individual items in the output of a metadata search can be requested.

Test Configuration:	Hardware - workstations
	Software - Earth Science Search Tool, Desktop, Workbench
Input:	Output of metadata searches. Request services available for individual items in theOutput of the metadata searches.
Output:	Services are requested and accessed.
Expected Results:	Services available for individual items in theOutput of a metadata search are successfully requested.

Test Case 8 Search Production History (B223.03.08)

This test verifies that the user can search production history on any combination of production history metadata attributes.

Test Configuration:	Hardware - workstations
	Software - Earth Science Search Tool, Desktop, Workbench
Input:	Production history is present. Search production history on any combination of production history metadata attributes. Display search results.
Output:	Search results are returned and displayed.
Expected Results:	The user successfully searched production history on any combination of production history metadata attributes.

Test Case 9 Receive Data Dictionary Information (B223.03.09)

This test verifies that data dictionary is received by the client.

Test Configuration:	Hardware - workstations
	Software - Data Dictionary, Earth Science Search Tool, Desktop, Workbench
Input:	Information from the data dictionary.
Output:	Information is received and displayed.
Expected Results:	Data dictionary information is received by the client.

Test Case 10 Search Data Dictionary Information (B223.03.10)

This test verifies that the user can search the data dictionary information to obtain the precise definitions of terms used within ECS.

Test Configuration:	Hardware - workstations
	Software - Data Dictionary, Earth Science Search Tool, Desktop, Workbench

Input: Data dictionary information. Search for precise definitions.

Output: Results from search.

Expected Results: The data dictionary information can be searched to obtain the precise definitions of terms used within ECS.

Test Case 11 Send Data Dictionary Information (B223.03.11)

This test verifies that the user can send data dictionary information requests, consisting of any combination of earth science data types, core metadata attributes, and product specific metadata.

Test Configuration: Hardware - workstations

Software - Data Dictionary, Earth Science Search Tool, Desktop, Workbench

Input: Data dictionary information requests. Requests consist of a combination of earth science data types, core metadata attributes, and product specific metadata.

Output: Requests are sent to data dictionary.

Expected Results: Data dictionary information requests are successfully sent to the data dictionary.

Test Case 12 Data Definitions (B223.03.12)

This test verifies that the user can access data definitions. Earth science data types and services descriptions, core metadata attribute definitions, valid values, synonyms for valid values, and product specific metadata will be accessed.

Test Configuration: Hardware - workstations

Software - Data Dictionary, Earth Science Search Tool, Desktop, Workbench

Input: Access earth science data types and services descriptions, core metadata attribute definitions, valid values, synonyms for valid values, and product specific metadata.

Output: Information requested is accessed and displayed.

Expected Results: The user can access data definitions requested.

Test Case 13 View DAR Parameters (B223.03.13)

This test verifies that the user can view valid values for DAR parameters.

Test Configuration: Hardware - workstations

Software - DAR Tool, Desktop, Workbench

Input: Valid values for DAR parameters are present. View valid values.

Output: Valid values are displayed.

Expected Results: Valid values for DAR parameters are successfully viewed.

Test Case 14 Retrieve Saved DAR Parameters (B223.03.14)

This test verifies that the user can retrieve any previously saved DAR parameter into a new DAR, edit the parameters, save the modified parameters, and/or submit the new DAR.

Test Configuration: Hardware - workstations

Software - DAR Tool, Desktop, Workbench

Input: Save DAR parameters. Retrieve DAR parameters into new DAR. Edit parameters. Save modified parameters. Submit the new DAR.

Output: DAR parameters are saved. DAR parameters are displayed in new DAR. DAR parameters are saved again. DAR is submitted.

Expected Results: Previously saved DAR parameters are successfully brought into a new DAR, edited, and saved. DARs are successfully submitted.

Test Case 15 Validate DAR Parameters (B223.03.15)

This test verifies that DAR parameters are constraint checked and validated. A DAR disposition is provided in response to the submittal of a DAR.

Test Configuration: Hardware - workstations

Software - DAR Tool, Desktop, Workbench

Input: Submit DARs with valid and invalid parameters.

Output: Invalid parameters are rejected and a response message is displayed. Valid parameters are accepted. DAR disposition is provided.

Expected Results: DAR parameters are successfully constraint checked and validated. DAR disposition is provided in response to the submittal of a DAR.

Test Case 16 Default DAR Parameters (B223.03.16)

This test verifies that instrument specific default settings for DAR instrument configurable parameters are provided.

Test Configuration: Hardware - workstations

Software - DAR Tool, Desktop, Workbench

Input: Display DARs that contain instrument configurable parameters.

Output: DARs are displayed.

Expected Results: Instrument specific default settings for DAR instrument configurable parameters are provided.

Test Case 17 Parameterize ASTER DARs (B223.03.17)

This test verifies that the user can parameterize ASTER DARs with ASTER DAR parameters.

Test Configuration: Hardware - workstations

Software - Earth Science Search Tool, Desktop, Workbench

Input: ASTER DAR parameters. Parameterize ASTER DARs

Output: ASTER DARs are displayed.

Expected Results: ASTER DARs are successfully parameterized using ASTER DAR parameters.

Test Case 18 Time-related Data (B223.03.18)

This test verifies that time-related data for DARs will be synchronized. Selection of a time range on a DAR timeline tool will be translated into date/time ranges in a DAR submission window. Typing a date/time range in a DAR submission window will be graphically displayed as a blocked out time range on a DAR timeline window.

Test Configuration: Hardware - workstations

Software - DAR Tool, Desktop, Workbench

Input: Display DAR submission window. Display DAR timeline window. Enter date/time ranges in DAR submission window. Select time range on DAR timeline tool.

Output: For date/time range entries the DAR timeline window is updated. For selection of time ranges the DAR submission window is updated.

Expected Results: Time-related data in the DAR timeline window and in the DAR submission window is synchronized.

Test Case 19 Geographic Selection Criteria (B223.03.19)

This test verifies that geographic selection criteria will be synchronized. Selection of an area on a DAR map display will be translated into lat/lon coordinates in a DAR submission window. Typing lat/lon coordinates in a DAR submission window will be graphically displayed as a blocked out area on a DAR map display.

Test Configuration: Hardware - workstations

Software - DAR Tool, Desktop, Workbench

Input:	Display DAR submission window. Display DAR map display. Enter lat/lon coordinates in DAR submission window. Select area on DAR map display.
Output:	For lat/lon coordinate entries the DAR map display is updated. For selection of area the DAR submission window is updated.
Expected Results:	Geographic data in the DAR map display and in the DAR submission window is synchronized.

Test Case 20 Spacecraft Location Projections (B223.03.20)

This test verifies that EOS-AM spacecraft location projections are provided as a reference aid to the creation of ASTER DARs.

Test Configuration:	Hardware - workstations
	Software - DAR Tool, Desktop, Workbench
Input:	Display DAR submission window. Display EOS-AM spacecraft location projections. Complete and submit DAR.
Output:	DAR submission window and EOS-AM spacecraft location projections are displayed. DAR is submitted. Response message is displayed.
Expected Results:	The DAR submission window and EOS-AM spacecraft location projections can be displayed at the same time. The EOS-AM spacecraft location projections are provided as a reference aid to the creation of ASTER DARs.

Test Case 21 Guide Access (B223.03.21)

This test verifies that the user can access the guide during DAR formulation and submittal.

Test Configuration:	Hardware - workstations
	Software - DAR Tool, Desktop, Workbench
Input:	Display DAR submission window. Access the guide. Complete and submit DAR.
Output:	DAR submission window and guide are displayed. DAR is submitted. Response message is displayed.
Expected Results:	The guide is successfully accessed while the DAR is formulated and submitted.

Test Case 22_ View Swaths (B223.03.22)

This test verifies that visualizations of ASTER instrument nominal view swaths and non-nominal view swaths are provided. View swaths are based on user supplied angles and are used as a reference aid in the creation of ASTER DARs.

Test Configuration:	Hardware - workstations
	Software - DAR Tool, Desktop, Workbench
Input:	Display DAR submission window. Display ASTER instrument nominal and non-nominal view swaths. Supply a variety of view angles. Complete and submit DARs.
Output:	DAR submission window and view swaths are displayed. DAR is submitted. Response message is displayed.
Expected Results:	The nominal and non-nominal view swaths are correctly displayed based on the supplied angles. The view swaths are successfully used as a reference aid in the creation of ASTER DARs.

Test Case 23_ Service Requests (B223.03.23)

This test verifies that service requests for changes to existing DARs from the science user will be accepted. Invalid service requests will also be tested.

Test Configuration:	Hardware - workstations
	Software - DAR Tool, Desktop, Workbench
Input:	DARs are present. Submit service requests to change existing DARs from a science user. Submit service requests to change existing DARs from a non-science user. Submit service requests to change non-existing DARs.
Output:	Valid service requests are accepted and processed. Service requests for non-existing DARs and/or from a non-science user are rejected. Response messages are displayed.
Expected Results:	Service requests for changes to existing DARs from the science user are successfully accepted. Invalid service requests are rejected and a response message is returned.

Test Case 24_ Associated Product Request (B223.03.24)

This test verifies that the user can construct a product request associated with a DAR.

Test Configuration:	Hardware - workstations
	Software - DAR Tool, Desktop, Workbench

Input: Display DAR submission window. Formulate a DAR. Construct a product request associated with the DAR. Submit the product request and the DAR.

Output: The DAR submission window is displayed. A DAR is formulated and submitted. A product request is constructed, associated with a DAR and submitted. Response messages are displayed.

Expected Results: A product request is successfully constructed and associated with a DAR.

Test Case 25 View DARs in Session Log (B223.03.25)

This test verifies that the user can view the DARs recorded in the user session log.

Test Configuration: Hardware - workstations

Software - DAR Tool, Desktop, Workbench

Input: Submit a number of DARs. Display the user session logs.

Output: DARs are accepted and a response message is displayed. DAR submittal is recorded in user session logs. User session logs are displayed.

Expected Results: All DARs submitted are successfully viewed in user session log.

Test Case 26 Status of DARs (B223.03.26)

This test verifies that DAR status is displayed when requested by the user.

Test Configuration: Hardware - workstations

Software - DAR Tool, Desktop, Workbench

Input: A number of DARs are present. DARs are in a variety of states. Request DAR status.

Output: Request for DAR status is accepted. DAR status is displayed.

Expected Results: DAR status is displayed to the user upon request.

Test Case 27 Data Acquisition Schedules and Plans (B223.03.27)

This test verifies that data acquisition schedules and plans are accessible to authorized users on request. Testing will be performed to show unauthorized users do not have access to data acquisition schedules and plans. ASTER data acquisition schedules will be accessible. The workbench shall also be expandable to allow access to current data acquisition schedules and plans for U.S. instruments on foreign spacecraft for the IP information management system or an equivalent IP facility.

Test Configuration: Hardware - workstations

	Software - DAR Tool, Desktop, Workbench
Input:	Authorized users request data acquisition schedules and plans. Display data acquisition schedules and plans. Unauthorized users request data acquisition schedules and plans.
Output:	Requests from authorized users are accepted. Schedules and plans are displayed. Requests from unauthorized users are rejected. Response messages are returned.
Expected Results:	Authorized users successfully access data acquisition schedules and plans. Unauthorized users are denied access.

Test Case 28 Subscription Request Associated with a DAR (B223.03.28)

This test verifies that the user can issue a subscription request associated with a DAR.

Test Configuration:	Hardware - workstations
	Software - DAR Tool, Desktop, Workbench
Input:	Display DAR submission window. Formulate a DAR. Issue a subscription request associated with the DAR.
Output:	The DAR submission window is displayed. A DAR is formulated and submitted. A subscription request is issued, associated with a DAR. Response messages are displayed.
Expected Results:	A subscription request is successfully issued and associated with a DAR.

Test Case 29 Request Standard Product SW and Documentation (B223.03.29)

This test verifies that the user can request standard product software and associated documentation to be distributed off-line or on-line.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench
Input:	Submit a number of requests. Half of the requests ask for off-line distribution the other half asks for on-line distribution.
Output:	Requests are submitted and accepted. A response message is returned.
Expected Results:	The user can successfully request standard product software and associated documentation to be distributed off-line or on-line.

Test Case 30 Production Requests (B223.03.30)

This test verifies that the user can construct and submit production requests. The user will be provided with confirmation or rejection of their requests. Confirmation or rejection will contain requester identification, request identification, request status, and the reason for rejection if rejected.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench
Input:	Construct and submit a verity of production requests. Production requests will contain valid and invalid requests.
Output:	Production requests are constructed. Production requests are submitted. Confirmation or rejection is returned to user.
Expected Results:	Production requests are successfully constructed and submitted. Confirmation or rejection is returned to the user. Confirmation or rejection contains requester identification, request identification, request status, and the reason for rejection if rejected.

Test Case 31 Production Requests based on Geographical Location (B223.03.31)

This test verifies that the user can issue production requests for the ad-hoc processing of subsetted, subsampled, and summary products based on geographical location (x, y, z - spatial with rectangular boundaries).

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench
Input:	Construct and submit production requests for ad-hoc processing of subsetted, subsampled, and summary products based on geographical location.
Output:	Production requests are constructed. Production requests are submitted. Confirmation or rejection is returned to user.
Expected Results:	Production requests are successfully constructed and submitted. Confirmation or rejection is returned to the user.

Test Case 32 Production Requests based on Spectral Band (B223.03.32)

This test verifies that the user can issue production requests for the ad-hoc processing of subsetted, subsampled, and summary products based on spectral band.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench

Input:	Construct and submit production requests for ad-hoc processing of subsetted, subsampled, and summary products based on spectral band.
Output:	Production requests are constructed. Production requests are submitted. Confirmation or rejection is returned to user.
Expected Results:	Production requests are successfully constructed and submitted. Confirmation or rejection is returned to the user.

Test Case 33 Production Requests based on Time (B223.03.33)

This test verifies that the user can issue production requests for the ad-hoc processing of subsetted, subsampled, and summary products based on time.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench
Input:	Construct and submit production requests for ad-hoc processing of subsetted, subsampled, and summary products based on time.
Output:	Production requests are constructed. Production requests are submitted. Confirmation or rejection is returned to user.
Expected Results:	Production requests are successfully constructed and submitted. Confirmation or rejection is returned to the user.

Test Case 34 Geographic Selection Criteria (B223.03.34)

This test verifies that geographic selection criteria will be synchronized. Selection of an area on a product request map display will be translated into lat/lon coordinates in a product request submission window. Typing lat/lon coordinates in a product request submission window will be graphically displayed as a blocked out area on a product request map display.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench
Input:	Display product request submission window. Display product request map display. Enter lat/lon coordinates in product request submission window. Select area on product request map display.
Output:	For lat/lon coordinate entries the product request map display is updated. For selection of area the product request submission window is updated.
Expected Results:	Geographic data in the product request map display and in the product request submission window is synchronized.

Test Case 35_ Time-related Data (B223.03.35)

This test verifies that time-related data for product requests will be synchronized. Selection of a time range on a product request timeline tool will be translated into date/time ranges in a product request submission window. Typing a date/time range in a product request submission window will be graphically displayed as a blocked out time range on a product request timeline window.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench
Input:	Display product request submission window. Display product request timeline window. Enter date/time ranges in product request submission window. Select time range on product request timeline tool.
Output:	For date/time range entries the product request timeline window is updated. For selection of time ranges the product request submission window is updated.
Expected Results:	Time-related data in the product request timeline window and in the product request submission window is synchronized.

Test Case 36_ Priority Processing (B223.03.36)

This test verifies that the user can request priority processing of production requests.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench
Input:	Construct a verity of production requests. Request priority processing of production requests. Submit requests.
Output:	Production requests are constructed. Production requests are submitted. Response messages are returned.
Expected Results:	Priority processing is successfully requested for production requests.

Test Case 37_ Universal References in Distribution Requests (B223.03.37)

This test verifies that the user can request inclusion of universal references to the appropriate documentation for the requested data, the tools needed to read the requested data, and an ASCII file describing each of these references.

Test Configuration:	Hardware - workstations
	Software - Request Tool, Desktop, Workbench

Input: For data requests. Request inclusion of universal references to the appropriate documentation for the requested data, the tools needed to read the requested data, and an ASCII file describing each reference. Submit data requests.

Output: Data requests are formed and submitted. Response messages are returned.

Expected Results: The data requests successfully included the request for universal references to the appropriate documentation for the requested data, the tools needed to read the requested data, and an ASCII file describing each of these references. Confirmation messages are received.

Test Case 38 Update Distribution Requests (B223.03.38)

This test verifies that the user can update distribution requests prior to the shipment of data.

Test Configuration: Hardware - workstations

Software - Request Tool, Desktop, Workbench

Input: Distribution requests are present. Submit an update to distribution requests prior to the shipment of data. Submit an update to distribution requests after the shipment of data. Submit an invalid update.

Output: Valid updates are accepted. Invalid updates are rejected. Response messages are returned.

Expected Results: The user can successfully update distribution requests prior to the shipment of data.

Test Case 39 Time Estimates (B223.03.39)

This test verifies that the user will automatically be provided with estimates of how long it will take before products are ready for delivery.

Test Configuration: Hardware - workstations

Software - Product Request Tool, Desktop, Workbench

Input: Construct and submit production requests.

Output: Production requests are constructed. Production requests are submitted. Confirmation or rejection is returned to user. Estimates of how long before product is ready for delivery are sent and displayed.

Expected Results: Once a product request is successfully submitted, time estimates of how long it will take before the products are ready for delivery are automatically sent to the user.

Test Case 40 Amount of Data to be Returned (B223.03.40)

This test verifies that the user will automatically be provided with the amount of data expected to be returned as the result of a product request.

Test Configuration: Hardware - workstations

Software - Product Request Tool, Desktop, Workbench

Input: Construct and submit production requests.

Output: Production requests are constructed and submitted. Confirmation or rejection is returned to user. Messages indicating the amounts of data expected to be returned are sent and displayed.

Expected Results: Once a product request is successfully submitted, messages indicating the amounts of data expected to be returned are automatically sent to the user.

Test Case 41 Revisions of a Document (B223.03.41)

This test verifies that the user can issue subscription requests for revisions of given documents.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: A number of documents are present in the system. Submit a number of requests for revisions of given documents.

Output: Requests are submitted and accepted. A response message is returned.

Expected Results: The user can successfully issue subscriptions to request revisions of a given document.

Test Case 42 New Documents based on Topical Keywords (B223.03.42)

This test verifies that the user can issue subscription requests for new documents, based on topical keywords.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: Submit a number of requests for new documents based on topical keywords.

Output: Requests are submitted and accepted. A response message is returned.

Expected Results: The user can successfully issue subscriptions to request new documents based on topical keywords.

Test Case 43 Service Requests (B223.03.43)

This test verifies that service requests for subscriptions for data are accepted.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: Submit a number of service requests for subscriptions for data.

Output: Service requests are submitted and accepted. A response message is returned.

Expected Results: Service requests for subscriptions for data are successfully accepted.

Test Case 44 Access to Spacecraft Schedules (B223.03.44)

This test verifies that authorized users can access spacecraft schedules on request. Invalid requests from unauthorized users will be tested.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: Spacecraft schedules are present in the system. Authorized and unauthorized users request spacecraft schedules. Display spacecraft schedules.

Output: Requests are submitted. Authorized users are given access to the spacecraft schedules. Unauthorized user's requests are rejected. Response messages are returned.

Expected Results: Only authorized users can successfully access spacecraft schedules.

Test Case 45 Display Spacecraft Schedules (B223.03.45)

This test verifies that spacecraft schedules can be displayed as timelines.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: Access spacecraft schedules. Display spacecraft schedules as timelines.

Output: Spacecraft schedules are accessed. Spacecraft schedules are displayed.

Expected Results: Spacecraft schedules are successfully displayed as timelines.

Test Case 46 Display Processing Schedules (B223.03.46)

This test verifies that users can display processing schedules.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: Processing schedules are present. Display processing schedules.

Output: Processing schedules are displayed.

Expected Results: Processing schedules are successfully displayed.

Test Case 47 Conclusion of Processing (B223.03.47)

This test verifies that the user will receive a data request status at the conclusion of the processing of a data request.

Test Configuration: Hardware - workstations

Software - Request Tool, Desktop, Workbench

Input: A number of data requests are present. Several of the data requests have concluded processing.

Output: A data request status is received and displayed.

Expected Results: The user successfully receives a data request status at the conclusion of the processing of a data request.

Test Case 48 Reprocessing Status (B223.03.48)

This test verifies that the user can determine the reprocessing status of products which are being reprocessed.

Test Configuration: Hardware - workstations

Software - Product Request Tool, Desktop, Workbench

Input: A number of products are being reprocessed. Request reprocessing status of products.

Output: Reprocessing status is displayed.

Expected Results: The user can successfully determine the reprocessing status of products which are being reprocessed.

Test Case 49 Periodic Distribution Status (B223.03.49)

This test verifies that the desktop will issue periodic distribution status requests for a user-specified distribution request, at time intervals specified by the user.

Test Configuration:	Hardware - workstations
	Software - Request Tool, Desktop, Workbench
Input:	Distribution requests are present. Specify distribution request and time interval.
Output:	Desktop issues periodic distribution status request. Responses are returned.
Expected Results:	The desktop successfully issues periodic distribution status requests for a user-specified distribution request, at time intervals specified by the user.

Test Case 50 Delay Notification for Processing (B223.03.50)

This test verifies that the user will be provided notification when processing will not be completed within the estimated time.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench
Input:	Product requests are present. A number of the requests will not be completed within the estimated time.
Output:	Notification is displayed to the user.
Expected Results:	The user is successfully provided notification when processing will not be completed within the estimated time.

Test Case 51 Delay Notification for Distribution (B223.03.51)

This test verifies that the user will be provided product delay notification when products will not be distributed within the estimated time.

Test Configuration:	Hardware - workstations
	Software - Request Tool, Desktop, Workbench
Input:	Product requests are present. A number of the requests will not be distributed within the estimated time.
Output:	Notification is displayed to the user.
Expected Results:	The user is successfully provided product delay notification when products will not be distributed within the estimated time.

Test Case 52_ Conflict Adjudication Request (B223.03.52)

This test verifies that the user can submit a conflict adjudication request to the SMC, in the event a processing conflict cannot be resolved the data server, the science user, and the data processing subsystem. A conflict adjudication response will be provided from the SMC after submitting a conflict adjudication request.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench, SMC
Input:	Product request conflicts are present. Submit a conflict adjudication request to the SMC.
Output:	Conflict adjudication request is created and submitted to the SMC. A conflict adjudication response is returned from the SMC.
Expected Results:	A conflict adjudication request is successfully submitted in response to a conflict. A conflict adjudication response is successfully returned from the SMC.

Test Case 53_ Preview Billing Prior to Data Request (B223.03.53)

This test verifies that the user can preview billing costs for non-EOSDIS data products prior to data request submission.

Test Configuration:	Hardware - workstations
	Software - Request Tool, Desktop, Workbench
Input:	Display request submission window. Complete data request for non-EOSDIS data products. Request to preview billing costs.
Output:	Request submission window is displayed. Preview of billing costs is provided.
Expected Results:	The user can successfully preview billing costs of non-EOSDIS data products prior to data request submission.

Test Case 54_ Cost Estimates Prior to Search (B223.03.54)

This test verifies that when a user submits a distribution request, they shall be given an opportunity to review the total amount that will be billed for the order and affirm, cancel or modify the search request.

Test Configuration:	Hardware - workstations
	Software - Request Tool, Desktop, Workbench
Input:	Display search request submission window. Complete a number of search requests. Submit requests. Affirm, cancel and modify a

number of search requests after reviewing the total amount that will be billed.

Output: Request submission window is displayed. Review of billing costs is provided. Search requests are affirmed, canceled or modified according to request.

Expected Results: The user can successfully review the total amount that will be billed for an order and affirm, cancel or modify the search request.

Test Case 55 DAAC-Specific Products (B223.03.55)

This test verifies that APIs will be provided to support development of extensions for support of data visualization utilities for DAAC-specific products.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: Data files used in visualization utilities.

Output: Data files are passed through API with out corruption. Expected conversations take place.

Expected Results:

Test Case 56 DAAC-Unique Metadata Searching Services (B223.03.56)

This test verifies that APIs will be provided to support development of local user interface client accessing DAAC-unique metadata searching services.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: TBD

Output: TBD

Expected Results: TBD

Test Case 57 Bypass the Delivered ECS Interface (B223.03.57)

This test verifies that APIs will be provided that are capable of supporting the development of a local user interface that can bypass the delivered ECS user interface for accessing DAAC-unique metadata searching services.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: TBD

Output: TBD

Expected Results: TBD

Test Case 58 Independent DAAC Unique Search and Services (B223.03.58)

This test verifies that APIs will be provided to support development of DAAC unique metadata search and access services that will operate independent of the delivered ECS services.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: TBD

Output: TBD

Expected Results: TBD

Test Case 59 DAAC Specific Data Analysis Utilities (B223.03.59)

This test verifies that APIs will be provided to support DAAC specific data analysis utilities.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: TBD

Output: TBD

Expected Results: TBD

Test Case 60 Create Documents in HTML (B223.03.60)

This test verifies that the user can create documents in HTML format.

Test Configuration: Hardware - workstations

Software - Desktop, Workbench

Input: Create documents in HTML format. Save documents.

Output: Documents saved in HTML format.

Expected Results: The user can successfully create documents in HTML format.

Test Case 61 Metadata Content (B223.03.61)

This test verifies that the standard product related metadata accessible to users shall include keywords and glossary from investigators. Metadata will also include keywords, synonyms, and glossary for cross-product and cross-directory referencing.

Configuration: Hardware - workstations

	Software - Desktop, Workbench
Input:	Access standard product related metadata. Display metadata.
Output:	Metadata is access and displayed.
Expected Results:	Metadata will include keywords and glossary from investigators. It will also include keywords, synonyms, and glossary for cross-product and cross-directory referencing.

Test Case 62 Data Products Electronically (B223.03.62)

This test verifies that the workbench can receive data products electronically.

Test Configuration:	Hardware - workstations
	Software - Desktop, Workbench
Input:	Data products are sent electronically to the workbench.
Output:	Data products are received and stored.
Expected Results:	Data products are successfully received electronically.

Test Case 63 Executables on Hosts (B223.03.63)

This test verifies that workbench executables can be run on <TBD> hosts.

Test Configuration:	Hardware - workstations
	Software - Desktop, Workbench
Input:	Run workbench executables.
Output:	Executables are run. Logs are collected.
Expected Results:	Executables are run successfully on <TBD> hosts.

Test Case 64 Access via a Network Link (B223.03.64)

This test verifies that the user can access ECS services via a network link.

Test Configuration:	Hardware - workstations
	Software - Desktop, Workbench
Input:	Logon via a network link. Access ECS services by entering a number of service requests.
Output:	Logon accepted. Service requests are accepted and processed.
Expected Results:	The user successfully accesses ECS services via a network link.

Test Case 65 Access via a Direct Connection (B223.03.65)

This test verifies that the user can access ECS services via a direct connection.

Test Configuration:	Hardware - workstations
	Software - Desktop, Workbench
Input:	Logon via a direct connection. Access ECS services by entering a number of service requests.
Output:	Logon accepted. Service requests are accepted and processed.
Expected Results:	The user successfully accesses ECS services via a direct connection.

Test Case 66 Access via a Dialup Link (B223.03.66)

This test verifies that the user can access ECS services via a dialup link.

Test Configuration:	Hardware - workstations
	Software - Desktop, Workbench
Input:	Logon via a dialup link. Access ECS services by entering a number of service requests.
Output:	Logon accepted. Service requests are accepted and processed.
Expected Results:	The user successfully accesses ECS services via a dialup link.

Test Case 67 Predicted Time for Resumption (B223.03.67)

This test verifies that the user will be provided the predicted time for resumption of ECS services which are temporarily unavailable.

Test Configuration:	Hardware - workstations
	Software - Desktop, Workbench
Input:	ECS services become temporarily unavailable.
Output:	Predicted time for resumption is displayed to the user.
Expected Results:	The user is successfully provided with the predicted time for resumption of ECS services which are temporarily unavailable.

5.55 Ancillary Preprocessing Thread

5.55.1 Thread Objectives

The objectives of the ancillary preprocessing thread are:

- Provide the ability to provide coordination and status of on-demand pre-processing.
- Provide the ability to pre-process AM-1, ADEOS II, and SAGE III ancillary data.
- Provide the ability to provide the SDPTK will required data.

5.55.2 Thread Test Description

Notification will be sent if the products have been reprocessed. Log report generation will be tested and status updates will be noted.

Testing will verify all needed information for product generation is sent from the DAACs to PGS. The data that is required is tested for accuracy and completeness. Ancillary preprocessing will be monitored for completion. Proper handling of errors during PGE execution, data server communication, and processing resources will be tested.

Transference of data, in the proper format, to the SDPTK is assured. Quality information is also transferred to the SDPTK.

Operator functions such as suspending, resuming and modifying a data processing request will also be tested.

Dependencies: (If Applicable)

To verify the objectives of the ancillary preprocessing thread, the following interface and functional capabilities are required:

- Interface to the production queue for plan generation and manipulation.
- Test drivers to simulate remote site requests for plans and products.
- Interface to resource management for scheduling and execution.
- The data server must contain data which can be used in the production generation process
- The PGS toolkit file I/O and COTS math package is available.

Test Support Requirements

- Hardware:
  - Workstation.
- Software:
  - Ingest client interface, ingest data preprocessor, FDF-ephemeris data preprocessor, and the EDOS L0 data preprocessor.
- Data:
  - Processing control parameter/resource files, FDF-generated orbit data, CCSDS-formatted EOS-AM spacecraft ancillary data, and EDOS LO data.

5.55.2.1 Sequence 1 - Producing Ancillary Support Data Set

This sequence tests for the ability to accept orbit and attitude data. The incoming data is assessed for quality.

Test Case 1 FDF-generated definitive orbit data (T224-1.01.01)

This test verifies that ASCII/binary-formatted definitive orbit data for preprocessing will be accepted and the identification information will be identified.

Test Configuration:	Hardware - workstation.
	Software - ingest client interface, ingest data preprocessor.
Input:	ASCII/binary formatted FDF-generated definitive orbit data.
Output:	A message acknowledging successful receipt of the data.
Expected Results:	Verification of the identification information contained in the FDF definitive header. A message acknowledging successful receipt. The successful receipt of the ancillary data.

Test Case 2 Accept orbit data (T224-1.01.02)

This test verifies that CCSDS-formatted EOS-AM spacecraft ancillary data containing onboard orbit data for preprocessing will be accepted.

Test Configuration:	Hardware - workstation.
	Software - ingest client interface, ingest data preprocessor.
Input:	CCSDS-formatted EOS-AM spacecraft ancillary data containing onboard orbit data.
Output:	A message acknowledging successful receipt of the data.
Expected Results:	A message acknowledging successful receipt. The successful receipt of the ancillary data.

Test Case 3 Assess quality of Onboard Orbit Data (T224-1.01.03)

This test verifies that the quality of the onboard orbit data is assessed. Data will be checked for missing or erroneous data. Notification shall be sent if the missing or erroneous data is more than a specified number or exceed limits over a specified time interval.

Test Configuration:	Hardware - workstation.
	Software - ingest client interface, ingest data preprocessor.
Input:	ASCII/binary formatted FDF-generated definitive orbit data of varying quality.
Output:	A message indicating the quality of the data.
Expected Results:	A message indicating the correct quality of the data. The entry into the metadata of any missing and/or erroneous data. If the missing

data is more than a TBD number, notification is sent requesting FDF-repaired orbit data.

Test Case 4 Accept FDF repaired orbit data (T224-1.01.04)

This test verifies that FDF repaired orbit data in ASCII/binary format will be accepted.

Test Configuration: Hardware - workstation.

Software - ingest client interface, ingest data preprocessor.

Input: FDF repaired orbit data in ASCII/binary format.

Output: A message acknowledging successful receipt of the data.

Expected Results: A message acknowledging successful receipt. The successful receipt of the ancillary data.

Test Case 5 Accept attitude data (T224-1.01.05)

This test verifies that CCSDS-formatted EOS-AM spacecraft ancillary data containing onboard attitude data for preprocessing will be accepted.

Test Configuration: Hardware - workstation.

Software - ingest client interface, ingest data preprocessor.

Input: CCSDS-formatted EOS-AM spacecraft ancillary data containing onboard attitude data.

Output: A message acknowledging successful receipt of the data.

Expected Results: A message acknowledging successful receipt. The successful receipt of the ancillary data.

Test Case 6 Assess quality of onboard attitude data (T224-1.01.06)

This test verifies that the quality of the onboard attitude data contained in the EOS-AM spacecraft ancillary data is assessed properly. Missing and erroneous data will be detected and noted in the metadata.

Test Configuration: Hardware - workstation.

Software - ingest client interface, ingest data preprocessor.

Input: CCSDS-formatted EOS AM spacecraft ancillary data containing onboard attitude data of varying quality.

Output: A message indicating the quality of the data.

Expected Results: A message indicating the correct quality of the data. Entry into the metadata of any missing and/or erroneous data.

5.55.2.2 Sequence 2 - Provide Data to SDP Toolkit

This sequence tests for the ability to provide the SDPTK with ephemeris files, metadata, L0 telemetry, L0 data, and header and quality information.

Test Case 1 Provide data to SDPTK (T224-1.02.01)

This test verifies that the SDPTK shall be provided metadata (time range, orbit number range, and platform). The SDPTK shall also be provided ephemeris files (platform position velocity vectors, and platform attitude/attitude rate data).

Test Configuration:	Hardware - workstation.
	Software - FDF-ephemeris data preprocessor.
Input:	EOS AM L0 data.
Output:	A message indicating successful transfer of data.
Expected Results:	A message indicating successful transfer. The successful transfer to the SDPTK of data files and metadata containing the time range, orbit number range, platform, platform position velocity vectors, and platform attitude/attitude rate data.

Test Case 2 Provide data in native format (T224-1.02.02)

This test verifies that the orbit and attitude data transferred to the SDPTK is transferred in the native format of the host hardware.

Test Configuration:	Hardware - workstation.
	Software - FDF-ephemeris data preprocessor.
Input:	EOS AM L0 data.
Output:	Data received message.
Expected Results:	A data received message. The successful transfer of the data to the SDPTK in the native format of the host hardware.

Test Case 3 Provide data in HDF-EOS format (T224-1.02.03)

This test verifies that the orbit and attitude data is transferred to the SDPTK in HDF-EOS format for EOS-AM processing.

Test Configuration:	Hardware - workstation.
	Software - FDF-ephemeris data preprocessor.
Input:	EOS AM L0 data.
Output:	Data received message.

Expected Results: A data received message. The successful transfer of the data to the SDPTK in HDF-EOS format.

Test Case 4 Provide L0 PDS with L0 telemetry (T224-1.02.04)

This test verifies that the SDP toolkit shall be provided EDOS-generated L0 PDS as header and quality parameters contained within the same physical file as the L0 telemetry packets.

Test Configuration: Hardware - workstation.

Software - EDOS L0 data preprocessor.

Input: EDOS L0 data.

Output: A message indicating successful completion of the task.

Expected Results: A file provided to the SDP toolkit containing EDOS-generated L0 PDS as header and quality parameters within the same physical file as the L0 telemetry packets.

Test Case 5 Provide header information (T224-1.02.05)

This test verifies that the SDP toolkit will be provided with EDOS-generated L0 PDS containing header information as specified in the EDOS-ECS ICD.

Test Configuration: Hardware - workstation.

Software - EDOS L0 data preprocessor.

Input: EDOS L0 data.

Output: A message indicating successful completion of the task.

Expected Results: A file provided to the SDP toolkit with EDOS-generated L0 PDS containing header information as specified in the EDOS-ECS ICD.

Test Case 6 Provide EDOS-generated L0 header (T224-1.02.06)

This test verifies that the SDP toolkit will be provided with EDOS-generated L0 header in the native format of the host hardware.

Test Configuration: Hardware - workstation.

Software - EDOS L0 data preprocessor.

Input: EDOS L0 header.

Output: SDP toolkit will be provided the L0 header data in the native format of the host.

Expected Results: SDP toolkit will be provided the L0 header data in the native format of the host.

Test Case 7 Provide EDOS-generated L0 data (T224-1.02.07)

This test verifies that the SDP toolkit will be provided with EDOS-generated L0 data including actual start time and actual end time of staged L0 data, the number of physical L0 data files staged, start time and end time of L0 data as requested by EOS investigators, APID of each L0 data file, and the orbit number of the staged L0 data file.

Test Configuration:	Hardware - workstation.
	Software - EDOS L0 data preprocessor.
Input:	EDOS L0 data
Output:	SDP toolkit will be provided the EDOS L0 data specified.
Expected Results:	The SDP toolkit will be provided with the following information: actual start and end time of the staged L0 data, the number of physical L0 data files staged, the start and end time of the L0 data as requested by EOS investigators (through the planning/processing system), the APID of each L0 data file, and the orbit number of the staged L0 data file.

Test Case 8 Provide quality information (T224-1.02.08)

This test verifies that the SDP toolkit will be provided with EDOS-generated L0 PDS containing quality information as specified in the EDOS-ECS ICD.

Test Configuration:	Hardware - workstation.
	Software - EDOS L0 data preprocessor.
Input:	EDOS L0 data.
Output:	A file containing the quality information.
Expected Results:	A file provided to the SDP toolkit with EDOS-generated L0 PDS containing quality information as specified in the EDOS-ECS ICD.

5.56 On-Demand Processing Request Thread

5.56.1 Thread Objectives

The objectives of the on-demand processing request thread are:

- Provide the ability to suspend and resume on-demand data processing requests.
- Provide the ability to restrict access to the PGE database and maintain a log of PGE updates.
- Provide the ability to incorporate new software, modify the configuration settings of the hardware, and determine computing resources.
- Provide the ability to generate selected reports.

- Provide the ability to ensure interfaces conform to standards.

5.56.2. Thread Test Description

Testing will demonstrate verification of statusing, generating reports, and producing on-demand products. Notification will be sent if the products will not be distributed or are delayed. Status updates will be noted.

Verification of data processing request generation and update capabilities will be tested. Testing will verify all needed information for product generation is sent from the DAACs to PGS. EOS AM-1, ADEOS II and SAGE III on-demand products will be generated and monitored for completion. Proper handling of errors during PGE execution and processing resources will be tested. The capability to limit access to and update the PGE database will also be tested.

Operator functions such as suspending and resuming data processing request will also be tested.

Dependencies: (If Applicable)

To verify the objectives of the on-demand processing request thread, the following interface and functional capabilities are required:

- Interface to resource management for scheduling and execution.
- The PGS toolkit file I/O and COTS math package is available.

Test Support Requirements

- Hardware:
  - Workstation, CSMS resources, and science processor.
- Software:
  - Processing operations interface, algorithm interface and test tools interface, resource management, systems management, AutoSys, AutoXpert, GUI interface, and process management.
- Data:
  - Processing control parameter/resource files, and PGE's.

5.56.2.1 Sequence 1 - DP/CSMS I/F and Support Services

This sequence tests for the ability to support configuration-controlled API's, incorporate new software, and modify configuration settings.

Test Case 1 Configuration-controlled API (T224-2.01.01)

This test verifies that application programming interfaces are provided to support the development and integration of DAAC value-added processing.

Test Configuration: Hardware - workstation.

Software - Processing operations interface.

Input: A request to initiate development and integration resources.

Output: An application programming interface.

Expected Results: Upon request to initiate development and integration services, an application programming interface shall be provided to support the request.

Test Case 2 Incorporate Software (T224-2.01.02)

This test verifies that the capability exists to incorporate DAAC-developed software required to support discipline-specific needs.

Test Configuration: Hardware - workstation.

Software - algorithm integration and test tools.

Input: A request to add DAAC-developed software; a software item suitable for adding.

Output: A message indicating the success or failure of the request.

Expected Results: A message indicating the success of the add operation. The successful addition of the software.

Test Case 3 Modify configuration settings (T224-2.01.03)

This test verifies that the capability exists to modify the configuration settings of the data processing subsystem hardware resources.

Test Configuration: Hardware - workstation, science processor.

Software - resource management.

Input: A request to modify the configuration settings of the data processing subsystem hardware resources.

Output: A message indicating the success or failure of the requested modification.

Expected Results: A message indicating the success of the request. The modification of the data processing subsystem hardware resources to the requested settings.

Test Case 4 Determine Computing Resources (T224-2.01.04)

This test verifies that the operations staff can use MSS profiling capabilities to determine the computing resources utilized by the execution of a chain of PGE's

Test Configuration: Hardware - CSMS resources.

Software - System management information.

Input: An operations staff request for the current utilization of computing resources. A chain of executing PGE's.

Output: A report indicating the computing resources utilized by the chain of PGE's.

Expected Results: A report indicating the computing resources utilized by the chain of PGE's.

5.56.2.2 Sequence 2 - Processing User Interfaces

The following tests verify the conformance of the processing user interfaces and the processing COTS GUI to the guidelines in version 5.1 of the ECS User Interface Style Guide.

Test Case 1 Processing GUI Conformance (T224-2.02.01)

This test verifies that the interface conforms to the guidelines in version 5.1 of the ECS User Interface Style Guide.

Test Configuration: Hardware - Science processor, workstation.

Software - AutoSys, AutoXpert.

Input: Display processing COTS GUI. A checklist provided from the Style Guide.

Output: A display of the processing COTS GUI.

Expected Results: A display of the processing COTS GUI that conforms to the guidelines in version 5.1 of the ECS User Interface Style Guide.

Test Case 2 AITTL COTS Conformance (T224-2.02.02)

This test verifies that the AITTL conforms to the guidelines in version 5.1 of the ECS User Interface Style Guide.

Test Configuration: Hardware - Science processor, workstation.

Software - AITTL interface.

Input: Display AITTL interface.

Output: A display of the AITTL interface.

Expected Results: A display of the AITTL interface that conforms to the guidelines in version 5.1 of the ECS User Interface Style Guide.

Test Case 3 PRONG HMI Function (T224-2.02.03)

This test verifies that the processing HMI functions are accessible by an application program interface.

Test Configuration: Hardware - Science processor, workstation.

Software - Process management.

Input: Request to access processing HMI functions.

Output: Application programming interface to the HMI functions.

Expected Results: Application programming interface to the HMI functions.

5.56.2.3 Sequence 3 - Suspend/ Resume Data Processing Requests

This sequence tests the proper handling of a suspend data processing request, the of a suspended data processing request, and one that has not been suspended.

Test Case 1 Suspend Data Process Request (T224-2.03.01)

This test verifies that a valid suspend process request will suspend the specified process and the status of the process will be changed to suspended.

Test Configuration: Hardware - Science processor, workstation.

Software - AutoSys, AutoXpert.

Input: A valid suspend data processing request issued by the operations staff.

Output: A status message acknowledging receipt of the suspend data processing request is displayed. Data processing for that process is suspended and the status of the process is updated to suspended. A message is sent to planning and to the operations staff to inform of the change in status. The process log is updated.

Expected Results: A status message acknowledging receipt of the suspend data processing request. The suspend data processing request is accepted, the process is suspended, and the status of the process is changed to suspended. Planning is informed of the change in status. The process log is updated.

Test Case 2 Resume Data Process Request (T224-2.03.02)

This test verifies that a suspended data processing request is resumed when a resume data processing request is issued for that process. The state of the process is restored to the state it was in before the process was suspended.

Test Configuration: Hardware - Science processor, workstation.

Software - AutoSys, AutoXpert.

Input: A valid resume data processing request issued by the operations staff on a suspended DPR.

Output: Acknowledgment that the process has resumed processing to planning and to the operations staff. Process resumes processing.

Expected Results: An acknowledgment that the process has resumed processing to the operations staff and planning. The suspended process resumes processing. The state of the process is restored to the state it was in prior to being suspended.

Test Case 3 Resume unsuspended DPR (T224-2.03.03)

This test verifies that a request to resume processing on a process that is not currently suspended will result in the rejection of the operation command.

Test Configuration: Hardware - Science processor, workstation.

Software - AutoSys, AutoXpert.

Input: A resume data processing request issued by the operations staff for a DPR's that are not suspended.

Output: A status message stating the request is rejected because there is no suspended process as stated in the request.

Expected Results: A message rejecting the request. No action is taken.

5.56.2.4 Sequence 4 - Update the PGE Database

The following tests verify the ability to update the PGE database, maintain a log of the updates to the database, and restrict access to the database.

Test Case 1 Restricting access to the PGE database (T224-2.04.01)

This test verifies that the operations staff, via a GUI, has the capability to restrict access to the PGE database.

Test Configuration: Hardware - Science processor, workstation, data server.

Software - GUI interface.

Input: A request to limit access to the PGE database to authorized users. A request by an unauthorized user to access the database.

Output: A message indicating a secured PGE database. An unauthorized user message.

Expected Results: The PGE database will be restricted to authorized personnel only. The PGE database will not be accessible by the unauthorized user, and therefor not modified.

Test Case 2 PGE database updates (T224-2.04.02)

This test verifies that the operations staff has the ability to maintain updates to the PGE database in an update log and can update the PGE database using a file as input.

Test Configuration: Hardware - Science processor, workstation, data server.

	Software - GUI interface.
Input:	An operations staff request to maintain updates in an update log. An update to the PGE database using a file asInput.
Output:	A message indicating that updates to the PGE database will be maintained in an update log. A message indicating that the new update has been added to the update log.
Expected Results:	Changes to the PGE database will be maintained in an update log. The PGE database and the update log will both be updated when the PGE database is altered.

5.57 Product Generation Build

The product generation build is an integrated build of the following threads:

- Ancillary Preprocessing Thread
- On-Demand Processing Request Thread

5.57.1 Build Objectives

The objectives of the product generation build are:

- Provide the ability to provide coordination and status of on-demand processing.
- Provide the ability to receive interactive status of distributed requests.
- Provide the ability to generate selected reports.
- Provide the ability to pre-process AM-1, ADEOS II, and SAGE III ancillary data.

5.57.2 Build Test Description

Testing will demonstrate verification of statusing and generating reports. On-demand processing for higher level ASTER, ADEOS II and SAGE III products is coordinated with the data server. Status will be presented to planning for scheduling purposes. The tester will be notified if the products will not be distributed, are delayed, or have been reprocessed. A reason for not distributing a product will be stated and estimated times will be given on delayed products. Dialog with ASTER GDS will be observed for distribution and processing on-demand status as negotiated in MOU.

The tester will verify the generation and update capabilities of data distribution requests and reprocessing requests. Testers will verify all needed information for product generation is sent from the DAACs to PGS. EOS AM-1, ADEOS II and SAGE III on-demand products will be generated and monitored for completion.

Dependencies: (If Applicable)

To verify the objectives of the product generation build, the following interface and functional capabilities are required:

- Test driver to simulate data availability notices.
- Interface to the production queue for plan generation and manipulation.
- Test drivers to simulate remote site requests for plans and products.
- Interface to resource management for scheduling and execution.
- The data server must contain data which can be used in the production generation process
- The PGS toolkit file I/O and COTS math package is available.

Test Support Requirements

- Hardware:
  - Workstation, science processor, and data server.
- Software:
  - Ingest client interface, ingest data preprocessor, AutoSys, AutoXpert, and GUI interface.
- Data:
  - Processing control parameter/resource files, EOS AM spacecraft ancillary data, and science software archive package data in the data server.

5.57.2.1 Sequence 1 - Ancillary Preprocessing

The following tests verify ancillary preprocessing of orbit and attitude data. This sequence also tests for the ability to provide the SDPTK with ephemeris files, metadata, L0 telemetry, L0 data, and header and quality information.

Test Case 1 Onboard orbit data (B224.01.01)

This test verifies that EOS-AM spacecraft ancillary data containing onboard orbit data will be accepted and assessed. The metadata is updated to include the missing and/or erroneous data. Notification shall be sent if missing or erroneous data is exceeds a specified number or exceed specified time limits. In the case of excessive errors, the ability to accept FDF repaired orbit data shall be verified.

Test Configuration:	Hardware - workstation. Software - ingest client interface, ingest data preprocessor.
Input:	EOS AM spacecraft ancillary data containing onboard orbit data of varying quality.
Output:	A message acknowledging successful receipt of the data. Another message indicating the quality of the data. If the data errors exceed a specified limit, a message indicating this is generated. A message indicating the receipt of FDF repaired orbit data.

Expected Results: The EOS-AM ancillary data will be accepted and the quality of the data will be assessed. Messages indicating the successful receipt of the data and the quality of the data will be relayed. The metadata is updated to include the missing and/or erroneous data. When the specified number of errors is exceeded, notification to request repaired orbit data is sent out. FDF repaired orbit data is received.

Test Case 2 Onboard attitude data (B224.01.02)

This test verifies that EOS-AM spacecraft ancillary data containing onboard attitude data will be accepted and assessed. The metadata is updated to include the missing and/or erroneous data.

Test Configuration: Hardware - workstation.

Software - ingest client interface, ingest data preprocessor.

Input: EOS AM spacecraft ancillary data containing onboard attitude data of varying quality.

Output: A message acknowledging successful receipt of the data. Another message indicating the quality of the data. The metadata will be updated to include the erroneous or missing data.

Expected Results: The EOS-AM ancillary data will be accepted and the quality of the data will be assessed. Messages indicating the successful receipt of the data and the quality of the data will be relayed. The metadata is updated to include the missing and/or erroneous data.

Test Case 3 Provide data to SDPTK (B224.01.03)

This test verifies that the SDPTK shall be provided metadata (time range, orbit number range, and platform). The SDPTK shall also be provided ephemeris files (platform position velocity vectors, and platform attitude/attitude rate data). The data will be provided in the native format of the host and in HDF-EOS format for EOS-AM processing. EDOS LO data will be provided in the native format of the host. Header and quality parameters shall be included in the EDOS L0 files.

Test Configuration: Hardware - workstation.

Software - FDF-ephemeris data preprocessor, EDOS L0 data preprocessor

Input: EOS AM ancillary data and EDOS L0 header and data.

Output: A message indicating success/failure of the transfer of data and the transfer of the EOS AM ancillary data and the EDOS L0 header and data.

Expected Results: A message indicating successful transfer. The successful transfer to the SDPTK of data files and metadata containing the time range,

orbit number range, platform, platform position velocity vectors, and platform attitude/attitude rate data. The successful transfer of EDOS L0 data, header, and quality information.

5.57.2.2 Sequence 2 - On-Demand Processing

The following tests verify statusing and producing on-demand products. Notification will be sent if the products will not be distributed or are delayed. Verification of data processing request generation and update capabilities will be tested. Proper handling of errors during PGE database updating will be tested. The ability to maintain a log of updates to the PGE database will be examined. Operator functions such as suspending and resuming a data processing request will also be tested.

Test Case 1 Suspend/Resume Data Process Request (B224.02.01)

This test verifies that data process request may be suspend and resumed, and that an a resume processing request on an unsuspended process will result in the rejection of the operation command. The status of the data process request will be changed to the appropriate state.

Test Configuration: Hardware - Science processor, workstation.

Software - AutoSys, AutoXpert.

Input: A valid suspend data processing request issued by the operations staff on a DPR. A resume data processing request on a process that is not suspended. A resume processing request on a suspended process.

Output: A status message acknowledging receipt of the suspend data processing request. Data processing for that process is suspended and the status of the process is updated to suspended. Upon the issuance of the resume processing request on a suspended process, the data process shall resume processing and the status of the data process shall be updated to the state prior to suspension. In the event the process is not suspended, a message is issued stating the request is invalid and will not be executed.

Expected Results: A status message acknowledging receipt of the suspend data processing request. The suspend data processing request is accepted, the process is suspended, and the status of the process is changed to suspended. Upon the issuance of a resume processing request on a process not suspended, a message is issued stating the request is invalid and will not be executed. Upon the issuance of a resume processing request on a suspended process, the data process shall resume processing and the status of the data process shall be updated to the state prior to suspension.

Test Case 2 PGE Database (B224.02.02)

This test verifies that the operations staff has the ability to update the PGE database using a file as input, and to maintain a record of those updates in a log file. The ability of the operations staff to restrict access to the PGE database will also be tested.

Test Configuration: Hardware - Science processor, workstation, PGE database.

Software - AutoSys, AutoXpert.

Input: The operations staff issues a command to update the PGE database using a file asInput. A request to examine the update log is issued. The operations staff issues a command to restrict access to the PGE database. An unauthorized user attempts to access the database. A request by the operations staff, via a authorized user, to access the PGE database.

Output: A message is issued indicating the PGE database has been updated following the update command. A printout of the PGE update log is received following the request to examining the update log. A message is received indicating the PGE database is now only accessible by authorized users is received following the command to restrict access to the database. When the unauthorized user attempts to access the database, a message indicating that the database is restricted to authorized users will be displayed. The authorized user is given access to the database.

Expected Results: A message is issued indicating the PGE database has been updated following the update command. The PGE database will be updated to include the changes specified in theInput file. A printout (to the printer or the screen) of the PGE update log is received following the request to examining the update log which will include the updates previously entered via the update file. A message is received indicating the PGE database is now only accessible by authorized users is received following the command to restrict access to the database. When the unauthorized user attempts to access the database, a message indicating that the database is restricted to authorized users will be displayed. The database shall not be accessed by the unauthorized user. The database shall be accessed by the authorized user.

5.58 DAAC Build 6

The DAAC Build 6 is an integrated build of the following builds:

- Product Generation Build
- Integrated Data Access Build 4

5.58.1 Build Objectives

The objectives of the DAAC build 6 are:

- Provide the capability to perform production planning, scheduling, and product generation.
- Provide the capability to support on-demand processing requests and interactive status of requests.
- Provide the capability to store, manage, advertise, and distribute data/products to/from the data server.
- Provide product support to perform the coordination of resource management and queue processing needed to generate a product.
- Provide cost estimates and billing services for distributed data.
- Provide a method to search the data server guide, directory, and inventory table.
- Provide data access methods to include data dictionary, LIM schema, DIM schema, and data servers.

5.58.2 Build Test Description

Testing is performed to verify the simultaneous processing of individual requests and to verify the acceptance of requests, and data processing of generated products. Products generated will be distributed properly; included in the data server inventory; and accessible to other users through search methods. The tester will verify the data dictionary, LIM schema, and DIM schema are updated properly. Status of all requests will be maintained and presented to the user upon request. Status information will also be sent to the SMC for scheduling purposes.

Production Requests (PRs), sent from the user interface, will be prioritized and incremented into a plan. A Production Request is made up of multiple Data Processing Requests (DPRs) which will include standard, reprocessing, and on-demand requests. Product orders associated with DARs will also be requested. Requests will include ASTER, ADEOS II, and SAGE III data. Performance requirements associated with data production and data access will be verified.

Once products are generated they will be ingested and placed under control of the data server. The tester will verify proper management of the new products. Backup procedures that pertain to the added products will be performed by the data server. To verify proper management, the tester will perform a variety of searches that include the added products. Results will verify the data is accessed and retrieved correctly.

Dependencies: (If Applicable)

In order to verify the objectives of the DAAC build 6, the following interface and functional capabilities are required:

- Network environment (LAN and WAN).
- Data server containing simulated data.

- Functional data dictionary.
- Functional LIM and DIM.
- Access to methods used to build search criteria.
- Interface to data server, data dictionary, LIM, and DIM for data access.
- Interface to Advertising Service.
- Access to data dictionary summary administration tool for modifying data dictionary.
- Access to administration tool for modifying LIM and DIM schema.
- Interface to data server to support product management (archiving of data products, exporting of data).
- Interface to product generation system to support product planning, scheduling, and generation.
- Interface between SDPS resource management and CSMS.
- Interface to ECS via techniques such as Kerberized ftp and telnet, for browse, data orders, and product generation for non-ECS-clients.

The following customary service interfaces are required:

- E-mail Application interface
- Scheduled file transfer interface
- File transfer application interface

The following object services are required:

- Directory/naming service
- Time service
- Security service
- Event service
- Message passing

If any the above interfaces or services are not supported by this release, then a simulation must be provided.

Test Support Requirements

- Hardware:
  - Production Planner Workstation
  - Planning Database Server host
- Software:
  - Resource Management COTS tool

- GUI Interface for queue control and monitoring
- CSMS LSM Services

  Configuration Management Applications

  Resource Scheduling Applications

- Data:
  - simulated data granules
  - metadata, algorithm executables, ancillary data products

5.58.2.1 Sequence 1 - Integrated Data Access Functions

The following tests verify the ability of the Document Data Server to receive, and insert into the archive, documentation in various formats. Other tests include the ability of the Document Server to accept and appropriately respond to search requests. Ability to manipulate data in the archive. Also the ability to perform operations on sessions. Accept distribution requests for distribution of data on physical media. Monitor the Data Server System, manage the storage archive devices and appropriately respond to system faults. Search for instruments by product id and sort them by product id. Other tests include user capability to perform spatial metadata graphical inventory search. This sequence of tests also verifies that combinations of graphical/character oriented attributes can be constructed and executed. The result package is graphically/character represented. The Inventory Search verifies the capability to perform queries of metadata describing granules or aggregations of granules. Ability for data services to support a data administration utilities. Such services include advertising services, LIM activities, DIM activities, Data Dictionary functions and the ability to receive and send FDF data from other DAACs. Also being able to perform some product support functions

Test Case 1 Document Addition API Test (B225.01.01)

This test verifies the ability to provide application programming interfaces which will support the development of extensions for additions of documents. This will be used as Guide data for DAAC-specific Data Products.

Test Configuration:	Hardware - workstation
	Software - DDSRV
Input:	Using the API, extensions are generated to allow document additions. These additions support storage of Guide data for DAAC specific Data Products.
Output:	Documents submitted will be in Guide.
Expected Results:	All documents submitted will be in the Guide.

Test Case 2_ Guide Search Performance Test (B225.01.02)

This test verifies the capability to complete a search for a guide document. The software will be able to do this by a single keyword; however, the search is not to exceed 8 seconds.

Test Configuration:	Hardware - workstation
	Software - DDSRV
Input:	Submit single keyword searches to guide and collect information on search time.
Output:	Submit searches successfully and return guide data.
Expected Results:	Search will not take any longer than 8 seconds for a single keyword search.

Test Case 3_ File Directory Record Deletion Test (B225.01.03)

This test verifies the capability to provide a mechanism to delete records from the File Directory.

Test Configuration:	Hardware - workstation
	Software - STMGT
Input:	A series of commands are submitted to view the File Directory and delete existing records from the File Directory.
Output:	File Directory display.
Expected Results:	All commands are received. The File Directory is viewed before and after File Directory record deletion. Appropriate files are deleted.

Test Case 4_ Metadata Update Test (B225.01.04)

This test verifies the ability of Data Server software to update metadata under the following circumstances:

- purged data item
- relocation of data item
- addition of metadata fields

Test Configuration:	Hardware - workstation
	Software - SDSRV
Input:	Commands are submitted to view metadata. Operator requests are submitted to purge, update, and relocate data.

Output: Metadata is displayed.

Expected Results: Commands to purge, relocate and update metadata are accepted and processed. Metadata is viewed before and after purge, update, and relocate commands are processed. The appropriate metadata changes are made.

Test Case 5 Operations Suspension of Client Session Test (B225.01.05)

This test verifies the capability to provide the operations staff with the ability to suspend all active client sessions.

Test Configuration: Hardware - workstation

Software - SDSRV

Input: Several client sessions are opened. Operational commands are submitted for suspension of all sessions active.

Output: Notification of session suspension.

Expected Results: All active sessions are suspended upon request. Complete and appropriate notification is sent to the requester.

Test Case 6 Operations Resumption of Client Session Test (B225.01.06)

This test verifies the capability to provide the operations staff with the ability to resume all active client sessions.

Test Configuration: Hardware - workstation

Software - SDSRV

Input: Several client sessions are suspended. Operational commands are submitted for resumption of all sessions active.

Output: Notification of session resumption.

Expected Results: All active sessions are resumed upon request. Complete and appropriate notification is sent to the requester.

Test Case 7 Archive Media Removal Test (B225.01.07)

This test verifies the capability to provide the operations staff the ability to alter the criteria that determines removal of archive media from storage devices to allow insertion of new or different archive media in the storage device. Note, that in determining the archive media that should be removed, the criteria shall consider the media's capacity for storing additional data, the last time data is accessed on the media and whether the media is currently in use to store or retrieve data.

Test Configuration: Hardware - workstation

Software - STMGT

Input: Operational commands are submitted to display the criteria of media device removal. Operational commands are submitted to modify the criteria. At least one request for each criteria selection is submitted. A series of Service Requests are submitted, enough to cause removal of media.

Output: Media criteria device display.

Expected Results: All operational commands are accepted and criteria information is displayed or modified according to the command. Archive is successfully removed according to current parameter criteria.

Test Case 8 Archive Performance Monitoring Test (B225.01.08)

This test verifies the capability to provide the ability to monitor the performance of the ECS archival storage system. Also, the operations staff is provided with the capability to view/display performance information on the storage system.

Test Configuration: Hardware - workstation

Software - STMGT

Input: A series of Service Requests are submitted for the purpose of collecting storage system performance data. Commands are submitted to display performance information.

Output: Reports are displayed.

Expected Results: Reports accurately display performance information.

Test Case 9 Archive Storage Cost Test (B225.01.09)

This test verifies that archive storage costs, based on distribution size, are correctly recorded.

Test Configuration: Hardware - workstation

Software - DDIST

Input: A series of Distribution Requests is submitted to include requests for data of various size.

Output: Files containing archive storage costs.

Expected Results: All Distribution Requests submitted are processed successfully. Archive storage costs are generated and successfully recorded.

Test Case 10 Administrative Service Request API Test (B225.01.10)

This test verifies the capability to provide an application program interface, for the submission of Administrative Service Requests.

Test Configuration: Hardware - workstation

	Software - SDSRV
Input:	Administrative Services Requests are submitted, via the API.
Output:	Processing results for the Service Request.
Expected Results:	All Administrative Services Requests submitted are successfully received and processed. The requester is notified of Administrative Service Request Processing results.

Test Case 11 All other instruments Data list search by product id (B225.01.11)

This test case verifies that all other instruments (COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3) data can be searched on by product ID. The tester generates a data search on all other instrument data specifying a product ID keyword. After the search result package has been received, the tester prints the data list and verify that all other instruments data contains only data related to the product ID provided and that no extraneous data is included.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	All other instruments data search request by product ID.
Output:	All other instruments data search result package.
Expected Results:	The data list contains all other instruments data information related to the product ID keyword.

Test Case 12 All other Instruments Data List Sort by Product ID (B225.01.12)

This test case verifies that all other instruments (COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3) data can be sorted by product ID. The tester generates a data search on all other instruments data, requesting it to be sorted by data type. After the search result package has been received, the tester prints the data list. The tester then requests the data to be sorted by product ID. The data list is then sorted. The tester verifies that the sorted list includes all data from the original list, sorted by product ID.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	All other instruments data search request, sort request.
Output:	All other Instruments data lists, one sorted by data type, one sorted by product ID.
Expected Results:	Both data lists contain the same information regardless of the order sorted.

Test Case 13 Valid Data Set Start/Stop Time Combinations (B225.01.13)

This test verifies data search request results from using the data set start/stop time format. The tester inputs various combinations of data set start and stop times and inspects the returned results package to ensure that only data within the data set start and stop time specifications are returned.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Valid combinations of data set start/stop times for the search request.
Output:	Returned search results package.
Expected Results:	The returned search results package is verified for content.

Test Case 14 Complex query using "AND" (B225.01.14)

The tester inputs a complex query composed of multiple "and's". After the query is built, it is examined and submitted. The search results package is verified. The result package only contains character data in response to the search request, no graphical data is available.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Complex query composed with multiple "and" operators, expected results, search request.
Output:	Search result package.
Expected Results:	The search result package matches the expected results.

Test Case 15 Global Granule search (B225.01.15)

This test verifies that a user can perform a graphical inventory search using global land attributes. The tester uses the mapping tool to bring up a global view of the earth. The tester then performs a global land search on a selected data type. The search result package is verified against search criteria.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Mapping tool, global land request.
Output:	All data available for the selected data type.
Expected Results:	The search result package contains all the land data for the selected data type.

Test Case 16 Polygon searches (B225.01.16)

This test verifies that a user can perform polygon searches. The tester uses the cursor to draw a polygon on a map and submit a search request. The result package is verified to insure the data is correct. The result package is represented graphically.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Polygon , search request.
Output:	Search result package.
Expected Results:	The returned search result package contains data within the boundaries.

Test Case 17 Time Search (B225.01.17)

The tester graphically selects a period of time using the time line tool and selects a core metadata search. The result package reflects any metadata found within the time period selected.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Data period with metadata available.
Output:	Search result package.
Expected Results:	The search result package contains a graphical representation of the metadata found within the specified time.

Test Case 18 Simple directory search (B225.01.18)

This test demonstrates the ability of the Client to provide access to the Global Change Master Directory (GCMD) database. Directory information consist of summary information on available data sets such as data set attributes, platforms, temporal coverage, and geographic coverage. Directory searches will be performed by specifying search criteria such as source, parameter, spatial coverage and temporal coverage. The GUI and the CHUI will be tested. The following tests verify the administrator's capabilities to manipulate the data in the data dictionary (add, delete, modify entries).

Test Configuration:	Hardware - Workstation, Data Dictionary DBMS Server, Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object
Input:	Directory Search criteria
Output:	Summary information on data sets and appropriate error messages

Expected Results: This test is considered successful if the directory search accesses the GCMD and returns the summary information on data sets that meet the search criteria. The client must also display appropriate error messages for searches that are performed but can not be satisfied.

Test Case 19 On-line Incremental Backup (B225.01.19)

The following tests the authorized user's capability to perform on-line incremental backup. A set of advertising service operations will be performed before the recovery, such as executing several data/service searches and browsing through the available advertisements. The results of this operation is recorded.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Enter incremental backup data command.

Output: Incremented back-up of advertising Service Database. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful if all the incremented backup files have been backed-up completely.

Test Case 20 Create subscription (B225.01.20)

The following test demonstrates the ability to support the creation of subscriptions. The client will provide GUI interface to create subscription.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Select create subscription option from GUI interface

Output: Subscription is created for the user. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful when the user's subscription is created and displayed.

Test Case 21 Delete Data Server subscription (B225.01.21)

The following test demonstrates the ability to support deletion of subscriptions. The client will provide GUI interface to delete subscription.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Select delete subscription option from GUI interface

Output: Subscription is delete from the subscription list. Administrative log reflects an entry for the above function.

Expected Results: This test is considered successful when the subscription list for that particular user does not show his subscription in the list.

Test Case 22 Read Advertising Data (B225.01.22)

This test verifies the capability to read advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Workbench interface to read advertisement data.

Output: User able to read advertising information. Information provided is the advertising information requested. Event log contains an entry for the activation of the read access.

Expected Results: User able to read advertising information pertaining to the advertising service.

Test Case 23 Delete Advertising Data (B225.01.23)

This test verifies the capability to delete advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Workbench interface to delete advertisement data.

Output: User able to delete advertising information. Information indicate a delete did take place. Event log contains an entry for the activation of the delete access.

Expected Results: User able to delete advertising information pertaining to the advertising service.

Test Case 24 Add New Data to LIM Schema (B225.01.24)

This test verifies the administrator's capability to add new data to the LIM schema. After the data is added to the LIM, an attempt is made to access the data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Administrator tool, add of new data type, new product, etc.

Output: New data type, etc has been added to the LIM schema and is accessible to the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.

Expected Results: The LIM database contains the updated information.

Test Case 25 Delete Data from LIM Schema (B225.01.25)

This test verifies the administrator's capability to delete existing data from the LIM schema. After the data is deleted from the LIM, an attempt is made to access the data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Administrator tool, deletion of an existing data set and its associated information.

Output: The data set is deleted, the LIM schema is updated and the deleted data set is no longer accessible by the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.

Expected Results: The LIM database no longer has the data set information.

Test Case 26 Add New Data to DIM Schema (B225.01.26)

This test verifies the administrator's capability to add new data to the DIM schema. After the data is added to the DIM, an attempt is made to access the data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Administrator tool, add of new data type, new product, etc.

Output: New data type, etc has been added to the DIM schema and is accessible to the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.

Expected Results: The DIM database contains the updated information.

Test Case 27 Delete Data from DIM Schema (B225.01.27)

This test verifies the administrator's capability to delete existing data from the DIM schema. After the data is deleted from the DIM, an attempt is made to access the data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Administrator tool, deletion of an existing data set and its associated information.

Output: The data set is deleted, the DIM schema is updated and the deleted data set is no longer accessible by the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.

Expected Results: The DIM database no longer has the data set information.

Test Case 28 Add an entry in DD (B225.01.28)

This test verified the capability of adding an individual entry to the data dictionary

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data dictionary information, administration account and DDS administration tool.

Output: The data dictionary contains a new entry. Administration log contains record of new entry being added to the DD.

Expected Results: The new item is properly entered into the DD and is accessible by all users.

Test Case 29 Delete an Entry in DD (B225.01.29)

This test verifies the capability to delete an individual entry in the data dictionary.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data dictionary information, administration account and DDS administration tool.

Output: The data dictionary entry is deleted. Administration log contains record of the deleted entry.

Expected Results: The entry is deleted in the DD and no longer accessible by the users.

Test Case 30 Receive FDF Orbit Data (B225.01.30)

This test verifies the capability to receive orbit data. Testing verifies the ability to receive data from the FDF. Testing is performed to support release testing of the AM-1.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Orbit data. External interface with FDF. (interface may be simulated or stubbed). Ingest ready to receive data notification.

Output: Data ingest log contains an entry for the successful ingest of orbit data from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: Orbit data written to the staging area.

Test Case 31 Send DAR status request ASTER ICC (B225.01.31)

This test verifies the capability to Send DAR status request. Testing verifies the ability to send status request to ASTER ICC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with DAR. (interface may be simulated or stubbed). Issue command to send DAR status request to other sites

Output: DAR status request sent to other sites as per request. Distribution log contains an entry for each distribution requests.

Expected Results: DAR status request sent to other site.

Test Case 32 Receive V0 Inventory requests from the V0 IMS using V0 system protocols (B225.01.32)

This test verifies the capability to receive VO inventory requests. With the use of VO system protocols, VO inventory request will be received from the VO IMS. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: VO Inventory requests. External interface with VO IMS. (interface may be simulated or stubbed). Ingest ready to receive data notification.

Output: Data ingest log contains an entry for the successful Ingest of VO Inventory requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: VO Inventory requests written to the staging area.

Test Case 33 Send browse request to the NOAA SAAs using VO system protocols (B225.01.33)

This test verifies the capability to send browse request to NOAA SAAs using VO system protocols. Testing is performed to support release B testing.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Browse request. External interface with NOAA. (interface may be simulated or stubbed). Issue command to send browse request.
Output:	Browse request sent to NOAA SAA via the VO system Protocols. Distribution log contains an entry for each distribution request and transfer of browse request.
Expected Results:	Browse request sent to NOAA SAA.

5.58.2.2 Sequence 2- Production Requests and Plan Creation

The following tests verify the ability to create a candidate plan. This includes the ability to receive data availability schedules (DAS) from remote ECS sites, EDOS, IPs, and ODCs. Candidate plans will satisfy production requests for reprocessing and on-demand data products. Candidate plans will also consolidate any outstanding data processing requests in the current active plan. Planning information will be sent and received.

Test Case 1 Remote DASs (B225.02.01)

This test verifies that data availability schedules (DAS) can be obtained through subscriptions submitted to remote ECS sites, EDOS, IPs, ODCs, and to the data server for FOS plans and schedules. Subscriptions will be submitted, notification of indicating DAS arrival will be received, and DASs will be accepted.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host
	Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Data subscriptions for data availability schedules are submitted to remote ECS sites, EDOS, IPs, ODCs, and to the data server for FOS plans and schedules. This includes the SMC.
Output:	Data subscriptions are accepted and are sent to the appropriate sites. Notices indicating arrival are received. DASs are accepted from other sites.
Expected Results:	DASs are sent from requested sites including the SMC.

Test Case 2 Plan Creation (B225.02.02)

This test verifies the creation of a candidate plan that will satisfy production requests for reprocessing, on-demand data products, and outstanding data processing requests in the current active plan.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of reprocessing requests, on-demand data product requests, and data processing requests that will not be accommodated in the active plan are entered into the planning system. Display the candidate plan.

Output: A candidate plan is created and displayed.

Expected Results: The candidate plan is successfully created and satisfies production requests for reprocessing and on-demand data products. The candidate plan incorporates any outstanding data processing requests.

Test Case 3 Cross DAAC Scheduling (B225.02.03)

This test verifies the ability to integrate and coordinate cross-DAAC scheduling. This includes accepting scheduling information on external events, identifying data dependencies and conflicts that may arise, and the ability to make plans available to other DAAC sites present in release B.

Test Configuration: Hardware - Production Planner workstations, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Multiple DAAC plans and notification of external events. A number of DPRs that will be scheduled in conflict. Conflicts will be due to scheduling and data dependencies. A candidate plan is created and displayed. Data subscriptions from other sites requesting candidate and active plans.

Output: Notification of an external event is accepted. A candidate plan is created and displayed. Alerts will be displayed to the operator. Conflict resolution information is sent from the SMC. Data subscriptions are accepted. Notifications are sent to the requesting sites.

Expected Results: External events, data dependencies, and multiple DAAC plans are reflected in the candidate plan. Schedule conflicts are correctly identified and resolved. Plans are available to other DAAC sites.

Test Case 4 On-Demand and Re-processing Production Requests (B225.02.04)

This test verifies proper handling of on-demand production requests. Valid and invalid on-demand and re-processing production requests are tested along with updates to requests. On-demand production requests are scheduled in the active plan unless the active plan can not accommodate the production of the request. If the active plan can not

accommodate the request, the request is scheduled in the candidate plan. Re-processing production requests are scheduled in a candidate plan.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: A number of valid and invalid on-demand and re-processing production requests and updates. A number of the on-demand PRs will and will not be accommodated in the active plan. Display the active plan. Initiate the creation of a candidate plan. Display the candidate plan.

Output: Valid on-demand and re-processing production requests or updates are accepted. Invalid on-demand and re-processing production requests or updates are rejected. A response message is sent to the data server indicating acceptance/rejection status. The active plan is displayed. A candidate plan is created. The candidate plan is displayed.

Expected Results: The valid on-demand and re-processing production requests and updates are accepted. The invalid on-demand and re-processing production requests and updates are rejected. The active plan successfully incorporates the on-demand requests that can be accommodated in the active plan. The candidate plan successfully incorporates the on-demand requests that can not be accommodated in the active plan. The re-processing requests are accommodated in the candidate plan.

5.58.2.3 Sequence 3- Production Management

The following tests verify the operations staff commands and the correct initiation and staging of input data. The operator can perform on-line functions such as entry/query/update/cancellation of reprocessing PRs and query/update/cancellation of on-demand PRs. Data staging will be initiated in a timely manner in order not to waste resources. Data staging will also avoid deadlock situations which may potentially arise. Correct handling of staged data for canceled DPRs and suspended PGEs will also be tested.

Test Case 1 Operations Commands (B225.03.01)

This test verifies that an operator can query, update, and cancel on-demand and reprocessing product requests. Operators can also enter reprocessing product requests. Planning information will be sent and received

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Query, update, and cancel on-demand and reprocessing requests. Enter reprocessing requests. Valid and invalid updates, cancellations and entries will be made. Display PRs. Send planning information to other sites.

Output: Valid updates, cancellations, and entries are accepted. Invalid updates, cancellations, and entries are rejected. On-demand and reprocessing PRs are displayed. Responses to operators commands are displayed. Planning information is sent to other sites.

Expected Results: Valid updates, cancellations, and entries of PRs are accepted. Invalid updates, cancellations, and entries of PRs are rejected. Appropriate responses messages are displayed. Valid updates, cancellations, and entries of PRs are noted on redisplayed PR information. The on-demand and reprocessing PRs displayed correspond to the query criteria given. All PRs that satisfy the query criteria are displayed. Planning information is successfully sent to other sites.

Test Case 2 Predictive Staging (B225.03.02)

This test verifies correct initiation and staging of input data. Data staging will be initiated in a timely manner. Data staging will also avoid deadlock situations. No PGE is released for execution until all resources required are available and allocated.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Active plan in progress.Input data is available to be staged. Data staging is initiated. Active plan contains situations which may result in a deadlock situation. Several PGEs require the sameInputs.

Output: Input data staging is initiated. PGE execution is initiated.

Expected Results: Input data staging completes before predicted start of PGE execution. A short time is present between the completion of data staging and the start of the PGE execution.Input data staging avoids deadlock situations.

Test Case 3 Changes to DPR (B220.03.03)

This test verifies correct initiation and staging of input data. Correct handling of staged data for canceled DPRs and suspended PGEs will be tested.

Test Configuration: Hardware - Production Planner workstation, Planning Database Server host

Software - AutoSys, AutoXpert, Production Management DBMS

Input: Active plan in progress.Input data is available to be staged. Data staging is initiated. Several DPRs are canceled and suspended.

Output: Input data staging is initiated. DPRs are canceled and suspended.Input data staging is canceled for canceled DPRs. Some data staged by canceled DPRs is deleted. Response messages are displayed.

Expected Results: Data staging is canceled when a DPR is canceled. Data staged by canceled DPR is deleted when no other DPR requests the staged data. Data staging is completed when a PGE is suspended.

5.58.2.4 Sequence 4 - Product Generation Functions

The following tests verify that status messages regarding changes in the status of a DPR will be properly exchanged between processing and planning. Also tested will be the messages sent regarding the change in status of a DPR between planning and the data server. The ability of the operations staff to modify the science software archive packages in the data server will be tested. The final test will address data preprocessing function of accepting EOS AM data and providing data to the science data processing toolkit.

Test Case 1 Status Message Passing (B225.04.01)

This test verifies that processing will notify planning, and planning will notify the data server, when a data processing request has a change in status (suspending, resuming, canceling, initiating).

Test Configuration: Hardware - Workstation, science processor.

Software - GUI interface.

Input: A valid DPR. The status of the DPR will be changed from the existing possibilities. Initiating, suspending, resuming, and canceling.

Output: When processing changes the status of a DPR, a notification message will be sent from processing to planning. Planning will then notify the data server of the change.

Expected Results: Upon a status change of the DPR, the planning subsystem will be notified of the change. The data server will then receive notice of the change.

Test Case 2 Data Preprocessing (B225.04.02)

This test verifies that EOS AM spacecraft ancillary data will be properly processed. The data which contains onboard orbit and attitude data. The data will be inspected for quality, and repaired if the quality is below a TBD threshold. The science data processing toolkit shall be provided with the data in the appropriate format.

Test Configuration: Hardware - Workstation, science processor, .

Software - GUI interface, ingest client interface, ingest data preprocessor, FDF-ephemeris data preprocessor, EDOS L0 data preprocessor.

Input: EOS AM spacecraft ancillary data containing orbit and attitude data.

Output: The orbit and attitude data will be assessed for quality. If the quality is below a specified threshold, the data will be repaired. The science data processing toolkit shall be provided with files and metadata containing the time range, orbit number range, platform, platform position velocity vectors, and platform attitude/attitude rate data.

Expected Results: The orbit and attitude data will be assessed for quality. If the quality is below a specified threshold, the data will be repaired. The science data processing toolkit shall be provided with files and metadata containing the time range, orbit number range, platform, platform position velocity vectors, and platform attitude/attitude rate data.

5.58.2.5 Sequence 5 - Science Server Archive Package Updating

The following tests verify the ability to display the current science software archive packages, as well as add, delete, and modify any existing science software package. The ability to accept input from a file when adding a new package is also tested. The ability to restrict access to the science software archive packages, and maintain a log containing all the modifications to the packages is assured. Testing will also demonstrate that new data types for new products produced by a science software archive package may be added.

Test Case 1 Display Science Archive Packages (B225.05.01)

This test verifies that the AITTL provides the operations staff, via a GUI, the capability to display a list of the science software archive packages in the data server.

Test Configuration: Hardware - data server, workstation.

Software - GUI interface.

Input: A request to display the science software archive packages in the data server.

Output: A listing of all the science software archive packages in the data server.

Expected Results: A listing of all the science software archive packages in the data server.

Test Case 2 New science software archive package (B225.05.02)

This test verifies that the operations staff, via a GUI, can add a new science software archive package to the data server, with and without using a file as input. The addition of the new software package will be maintained in an update record.

Test Configuration: Hardware - Science processor, workstation, data server.

Software - GUI interface.

Input: A request of the AITTL to add a new science software archive package to the data server, both with and without using a file asInput.

Output: A message indicating the success or failure to add the new science software archive package to the data server.

Expected Results: The data server is updated to include the new science software archive package. The operations staff receives a message indicating the addition of the new software to the data server. The update is logged in an update record.

Test Case 3 Restricting access to the data server (B225.05.03)

This test verifies that the operations staff, via a GUI, can restrict access to the data server.

Test Configuration: Hardware - Science processor, workstation, data server.

Software - GUI interface.

Input: A request by the operations staff to restrict access to the data server. A request of the AITTL to add a new science software archive package to the data server from a user that does not have access to the data server.

Output: A message indicating the request is denied because the user does not have access permission to the data server.

Expected Results: A message indicating the user does not have the proper permissions to access the data server. The data server is not modified nor accessed.

Test Case 4 Define data types for new products (B225.05.04)

This test verifies that the operations staff can define, via a GUI, new data types for new products produced by an science software archive package.

Test Configuration: Hardware - Science processor, workstation, data server.

Software - GUI interface.

Input: A request to define new data types for a new products produced by an science software archive package.

Output: A message indicating the successful addition of new data types for the new science software archive package.

Expected Results: A message indicating the success of the request. The successful addition of new data types for the new science software archive package.

Test Case 5 Removing a Science Archive Package (B225.05.05)

This test verifies that the operations staff may, via a GUI, remove a specific science software archive package from the data server.

Test Configuration: Hardware - Science processor, workstation, data server.

Software - GUI interface.

Input: A request to remove a specific science software package from the data server.

Output: A message indicating the success or failure of the remove operation.

Expected Results: A message indicating the success of the request. The successful removal of the specified science software package from the data server.

Test Case 6 Maintain access log (B225.05.06)

This test verifies that the operations staff, via a GUI, can maintain a record of the updates made to the data server.

Test Configuration: Hardware - Science processor, workstation, data server.

Software - GUI interface.

Input: Multiple requests of the AITTL to add new science software archive packages to the data server.

Output: A status message indicating the data server has been updated. A log file recording the updates made.

Expected Results: A status message indicating the data server has been updated. If no other updates have been made previous to this set, a log file will be made to contain the updates. If there have been previous updates

and a log file already exists, the updates will be appended to the existing file.

Test Case 7 Display Science Archive Package files (B225.05.07)

This test verifies that the AITTL provides the operations staff, via a GUI, the capability to display a list of files for a specific science software archive package.

Test Configuration: Hardware - Science processor, workstation, data server.

Software - GUI interface.

Input: A request to display the files comprising a science software archive package.

Output: A listing of all the files comprising the science software archive package.

Expected Results: A listing of all the files comprising the specified science software archive package.

Test Case 8 Add/remove a file (B225.05.08)

This test verifies that the operations staff, via a GUI, can add or remove a file from the set of files comprising a science software archive package.

Test Configuration: Hardware - Science processor, workstation, data server.

Software - GUI interface.

Input: A request of the AITTL to add and remove a file to the set of files comprising a science software archive package.

Output: A message indicating the success or failure of the add/remove request.

Expected Results: The data server is updated to include the new file for the specified science software archive package in the case of an add request. The data server is updated with the specified file removed from the science software package in the event of a remove request. The operations staff receives a message indicating the successful addition or deletion of the file to the science software archive package.

Test Case 9 Retrieve a copy of a specified file (B225.05.09)

This test verifies that a copy of a specified file from a specific science software archive package can be retrieved.

Test Configuration: Hardware - Science processor, workstation, data server.

Software - GUI interface.

Input: A request of the AITTL to retrieve a copy of a specified file from a specific science software archive package.

Output: A copy of the requested file, or an error message if the file could not be retrieved.

Expected Results: The retrieval of a copy of the requested file.

Test Case 10 Display Metadata (B225.05.10)

This test verifies that the AITTL provides the operations staff, via a GUI, the capability to display the metadata for a specific science software archive package.

Test Configuration: Hardware - Science processor, workstation, data server.

Software - GUI interface.

Input: A request to display the metadata for a specific science software archive package.

Output: A display of the metadata for the specified science software archive package or an error message if unable to grant request.

Expected Results: A display of the metadata for the specified science software archive package.

Test Case 11 Edit metadata (B225.05.11)

This test verifies that the operations staff, via a GUI, can edit the metadata for a specific science software archive package.

Test Configuration: Hardware - Science processor, workstation, data server.

Software - GUI interface.

Input: A request of the AITTL to edit the metadata of a specific science software archive package, and the editing of that metadata.

Output: A message indicating the success or failure of the edit request.

Expected Results: The data server is updated to include the modified metadata for the specified software archive package. A message indicating the successful modification of the metadata.

5.59 Accounting Stand-Alone Thread

5.59.1 Thread Objectives

The objectives of the CSMS Accounting Stand-Alone Thread are:

- Provide the ability to manage accounting/accountability policies and procedures, accounts payable and receivable, credit tracking, price estimation, invoicing and billing and reporting.

5.59.2 Thread Test Description

Testing verifies the ability to perform accounting of ground segment resources by ECS and external users, end-to-end cost accounting, accounts payable and receivable and resource utilization. Testing will demonstrate verification of accounting and accountability management for conformance with GAO and OMB policies and procedures. Accounting policies such as privileges for guest versus registered users, definition of accounting processes to be applied to various user classes, pricing, payment handling and supply/service ordering/payment are distributed and available system-wide will be tested. Testing will verify that accounts payable and receivable handles payments for user account refunds, external suppliers and shipping providers, and handles receiving amounts due from users for products, media, consumables and shipping, and credits from external providers. Credit tracking provides distributed, mostly automated deduction or posting of charges or credits from or to user account balances, excluding non-ECS data services (ADC, ODC). Price estimation provides representative pricing information (based on a standardized pricing table up datable by the SMC accountant) for ECS and non-ECS providers to give the user a feel for the price prior to ordering a product. Invoicing and billing provides periodic formal reporting of account status to users and notification of payment requirements (if necessary). Reports can be generated to assist in trending/planning, policy reviews and financial audits.

Dependencies: (If Applicable)

To verify the objectives of the CSMS Accounting Stand-Alone Thread, the following interface and functional capabilities are required:

- Network environment (LAN and WAN)
- Established user accounts
- Established accounting policies and procedures
- Established standardized pricing information

Test Support Requirements

- Hardware:
  - TBD

- Software:
  -
- Data:
  -

5.59.2.1 Sequence 1 - General

This sequence is to verify that the general requirements for the BAAS are met as defined by the Federal Financial Management System Requirements, and that the major accounting functions are provided.

Test Case 1 Conformance to the Functional Requirements defined by the Federal Financial Management System Requirements (T226-1.01.01)

This test verifies that the MSS BAAS functional requirements conform to the functional requirements defined by the Federal Financial Management System Requirements issued by the Joint Financial Management Improvement Program (JFIMP).

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester reviews the BAAS COTS product documentation and the JFIMP Federal Financial Management System Requirements.
Output:	Verification that the BAAS COTS product functional requirements conform to the JFIMP functional requirements.
Expected Results:	The BAAS COTS product functional requirements conform to the JFIMP functional requirements.

Test Case 2 Major Accounting Functions are Provided (T226-1.01.02)

This test verifies that the MSS BAAS provides the following major functions: request processing, billing & invoicing, accounts receivable, accounts payable, collections, general ledger, cost accounting, and reporting.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester reviews the MSS BAAS COTS product documentation.
Output:	Verification that the BAAS COTS product provides the required accounting functions.

Expected Results: Request processing, billing & invoicing, accounts receivable, accounts payable, collections, general ledger, cost accounting, and reporting are provided by the COTS product.

5.59.2.2 Sequence 2 - Billing & Invoicing

The MSS BAAS Billing and Invoicing function generates account billing statements and invoices. This function is required to bill accounts for their usage and purchases of ECS services and products. The ability to apply credits, adjustments, "pre-paid" amounts, past due amounts, as well as special rates for specific users/groups will be tested. Generation of billing statements and invoices for the monthly billing cycles, previous billing cycles (reprints) will be demonstrated.

Test Case 1 Generate User Account Billing Statements as well as Billing Invoices (T226-1.02.01)

This test case will test the ability to generate user account billing statements and invoices for a billing cycle.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Account activity data from the ECS Management Database.

Input: The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the end of the billing cycle. This can be accomplished through manipulation of the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked, and Account activity data will be distributed to the Billing and Invoicing function invoking it.

Output: Billing statements and invoices for the user accounts which had user activity during the billing cycle.

Expected Results: The appropriate billing statements and invoices for the user accounts which had user activity during the billing cycle will be generated.

Test Case 2 Generate Statements and Invoices on Paper as well as Electronic Formats (T226-1.02.02)

This test case will test the ability to generate user account billing statements and invoices on paper as well as electronic formats.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Account activity data from the ECS Management Database.

Input: The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the end of the billing cycle. This can be accomplished through manipulation the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked, and Account activity data will be distributed to the Billing and Invoicing function invoking it. The tester will requestOutput for billing statements and invoices on paper as well as electronic formats.

Output: Billing statements and invoices for the user accounts which had user activity during the billing cycle.

Expected Results: The appropriate billing statements and invoices for the user accounts which had user activity during the billing cycle will be generated on paper as well as electronic formats.

Test Case 3 Price User Activity Records (T226-1.02.03)

This test verifies that user activity records are assigned prices from standardized pricing tables.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Account activity data from the ECS Management Database.

Input: The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the end of the billing cycle. This can be accomplished through manipulation the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked, and Account activity data will be collected by the Billing and Invoicing function invoking it.

Output: Billing statements and invoices for the user accounts which had user activity during the billing cycle.

Expected Results: The appropriate billing statements and invoices for the user accounts which had user activity during the billing cycle will be generated. Standardized prices for the user activities will be correctly recorded on the statements and invoices.

Test Case 4 Apply Credits and Adjustments (T226-1.02.04)

The ability to apply credits, adjustments to a user account over a billing period will be tested.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Account activity data from the ECS Management Database Users must also have had credits and/or adjustments during the billing cycle.

Input: The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the end of the billing cycle. This can be accomplished through manipulation of the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked, and Account activity data will be distributed to the Billing and Invoicing function invoking it.

Output: Billing statements and invoices for the user accounts which had user activity, credits and/or adjustments during the billing cycle.

Expected Results: The appropriate billing statements and invoices for the user accounts which had user activity during the billing cycle will be generated. All credits and adjustments for the users will be correctly applied on the statements and invoices.

Test Case 5 Apply "Pre-Paid" Amounts (T226-1.02.05)

The ability to apply any "pre-paid" amounts to current user account charges over a billing period will be tested.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Account activity data from the ECS Management Database. Users must also have had "pre-paid" amounts during the billing cycle.

Input: The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the end of the billing cycle. This can be accomplished through manipulation of the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked, and Account activity data will be distributed to the Billing and Invoicing function invoking it.

Output: Billing statements and invoices for the user accounts which had user activity and "pre-paid" amounts during the billing cycle.

Expected Results: The appropriate billing statements and invoices for the user accounts which had user activity during the billing cycle will be generated. All "pre-paid" amounts for the users will be correctly applied on the statements and invoices.

Test Case 6 Accept Special Rates for Specific Users/Groups (T226-1.02.06)

The ability to accept special rates for specific users/groups will be tested. Special rates may be specified by contractual agreements, and support for billing and invoicing must be available.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Account activity data from the ECS Management Database Specific users must also have been setup for special rates during the billing cycle.

Input: The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the end of the billing cycle. This can be accomplished through manipulation of the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked, and Account activity data will be distributed to the Billing and Invoicing function invoking it.

Output: Billing statements and invoices for the user accounts which had user activity during the billing cycle.

Expected Results: The appropriate billing statements and invoices for the user accounts which had user activity during the billing cycle will be generated. All special rates for the specific users will be correctly applied on the statements and invoices.

Test Case 7 Apply any Past Due Amounts (T226-1.02.07)

The ability to apply any past due amounts to an invoice for the current user account charges over a billing period will be tested.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Account activity data from the ECS Management Database Specific users must also have an outstanding balance (past due amount) from the previous billing cycle.

Input: The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the end of the billing cycle. This can be

accomplished through manipulation of the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked, and Account activity data will be distributed to the Billing and Invoicing function invoking it.

Output: Billing statements and invoices for the user accounts which had user activity during the billing cycle.

Expected Results: The appropriate billing statements and invoices for the user accounts which had user activity during the billing cycle will be generated. All past due amounts for the specific users will be correctly applied on the statements and invoices.

Test Case 8 Consolidate Multiple User Accounts (T226-1.02.08)

The ability to consolidate multiple user accounts into a single group account, due from one paying location will be tested.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Account activity data from the ECS Management Database Two or more users with user activity during the billing cycle, must be assigned to be members of the same group account.

Input: The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the end of the billing cycle. This can be accomplished through manipulation of the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked, and Account activity data will be distributed to the Billing and Invoicing function invoking it.

Output: Billing statements and invoices for the user accounts which had user activity during the billing cycle.

Expected Results: The appropriate billing statements and invoices for the user accounts which had user activity during the billing cycle will be generated. Billing statements and invoices for the group account must contain all charges for the member user accounts.

Test Case 9 Generate Statement and Billing Invoice Reprints upon Request (T226-1.02.09)

The ability to generate reprints of billing statements and invoices for a user from an earlier billing cycle will be tested.

Test Configuration:	Hardware - workstations Software - BAAS Management Data - Account activity data for a previous billing cycle from the ECS Management Database.
Input:	The tester will request, from the Billing and Invoicing function of the BAAS, reprints of billing statements and invoices for a user from an earlier billing cycle.
Output:	Billing statements and invoices for the user accounts which had user activity during the billing cycle.
Expected Results:	The appropriate billing statements and invoices for the user account from the earlier billing cycle will be generated.

Test Case 10 Access to Account Activity Information (T226-1.02.10)

This test case will demonstrate that the MSS BAAS Billing and Invoicing function can access the ECS management database to collect Account activity data for use in billing and invoicing for purchases of ECS products and services.

Test Configuration:	Hardware - workstations Software - BAAS Management Data - Account activity data from product generation and/or ECS services provided.
Input:	The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the end of the billing cycle. This can be accomplished through manipulation of the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked.
Output:	Account activity data will be collected from the ECS Management Database, for use in the billing of accounts. All user activities within the billing cycle will be reported.
Expected Results:	Data for all user activities within the billing cycle will be collected from the ECS Management Database, for use in the billing of accounts. The tester will check the log to see if the account activity data are collected.

Test Case 11 Access to Account Billing Information (T226-1.02.11)

The objective of this test case is to verify that the BAAS billing and invoicing function has access to the account billing information (e.g. billing address, bill cycle, payment option) stored in the ECS Management Database.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Account billing information from the ECS Management Database.

Input: The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the end of the billing cycle. This can be accomplished through manipulation of the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked, and Account activity data and billing information will be distributed to the Billing and Invoicing function invoking it.

Output: Billing statements and invoices for the user accounts which had user activity during the billing cycle.

Expected Results: The appropriate billing statements and invoices for the user accounts which had user activity during the billing cycle will be generated. All account billing information for the users will be correctly recorded on the billing statements and invoices.

Test Case 12 Collect Science User Activity Information Daily (T226-1.02.12)

This test verifies that the science user activity information will be collected every 24 hours (daily) from the ECS Management Database.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Science user activity information from the ECS Management Database.

Input: The tester will initiate the Billing and Invoicing function of the BAAS to collect the science user activity information by simulation of the end of the 24 hour cycle. This can be accomplished through manipulation of the system time. As part of the billing process, the collection of science user activity information from the ECS Management Database will be invoked.

Output: System messages indicating that the science user activity information is collected will be logged.

Expected Results: The log file will contain entries indicating that the science user activity information is collected.

Test Case 13 Use a Monthly Billing Cycle (T226-1.02.13)

Monthly billing cycles will be simulated by manipulation of the system date, and the appropriate billing and invoicing activities will be performed for the simulated months.

Test Configuration:	Hardware - workstations Software - BAAS Management Data - Account activity data from the ECS Management Database.
Input:	The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the monthly billing cycle. This can be accomplished through manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked, and Account activity data will be distributed to the Billing and Invoicing function invoking it.
Output:	Billing statements and invoices for the user accounts which had user activity during the billing cycle.
Expected Results:	The appropriate billing statements and invoices for the user accounts which had user activity during the billing cycle will be generated monthly.

5.59.2.3 Sequence 3 - Accounts Receivable

This sequence will test the MSS BAAS accounts receivable functions ability to provide the accounting necessary to support accounts receivable processing. The accounts receivable function handles receipts, credits, adjustments, and "pre-paid" amounts for payments made to the ECS.

Test Case 1 Maintain Current Updated Individual and Summary User Account Balances (T226-1.03.01)

The ability of the BAAS Accounts Receivable function to maintain current updated individual and summary user account balances will be tested.

Test Configuration:	Hardware - workstations Software - BAAS Management
Input:	The tester will request from the accounts receivable function individual and summary user account balances.
Output:	Individual and summary user account balances will be displayed to the tester.
Expected Results:	Individual and summary user account balances will accurately reflect the true balances for the user accounts.

Test Case 2 Reference All Update Transactions to the Appropriate Supporting Documents (T226-1.03.02)

The ability to reference all update transactions to the appropriate supporting documents by supplying a document identifier (e.g., billing invoice number).

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will process some receipts.
Output:	Update transactions for the receipts processed.
Expected Results:	The logged update transactions for the receipts processed will include a reference to the appropriate supporting document.

Test Case 3 Allow Transactions to be Entered in Batches (T226-1.03.03)

The ability to process transactions in a batch mode for the BAAS accounts receivable function will be tested.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will submit a batch of transactions to the BAAS accounts receivable function.
Output:	Update transactions for the receipts processed.
Expected Results:	The logged update transactions will be generated for the receipts submitted in the batch.

Test Case 4 Accept Manual Entry of Adjustments and Transactions (T226-1.03.04)

The ability to manually enter adjustments and transactions to the BAAS account receivable function, bypassing batch requirements will be tested

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will manually enter adjustments and transactions to the BAAS account receivable function.
Output:	Update transactions for the receipts processed.
Expected Results:	The logged update transactions will be generated for the adjustments and transactions entered manually.

Test Case 5 Record Complete and Partial Receipts of Payments (T226-1.03.05)

The ability of the BAAS accounts receivable function to record complete and partial receipts of payments will be tested.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will submit complete and partial payments to the BAAS accounts receivable function.
Output:	Records of the complete and partial receipts for the payments.
Expected Results:	Complete and partial receipts for the payments will be recorded, and accurately reflect the actual amounts of the payments received.

Test Case 6 Apply Receipts to More Than One Receivable (T226-1.03.06)

This test verifies the ability of the BAAS accounts receivable function to apply receipts to more than one receivable.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will apply receipts to more than one receivable.
Output:	Records for the receipts to more than one receivable.
Expected Results:	Receipts will be correctly applied to more than one receivable.

Test Case 7 Post Credit Balances and Adjustments to a User Account (T226-1.03.07)

This test verifies the ability of the BAAS accounts receivable function to post credit balances and adjustments to a user account.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will post credit balances and adjustments to a user account.
Output:	Records for the posted credit balances and adjustments to the user account.
Expected Results:	Credit balances and adjustments to the user account will be posted.

Test Case 8 Accept "Pre-Paid Accounts." (T226-1.03.08)

This test verifies the ability of the BAAS accounts receivable function to accept a "pre-paid account."

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will attempt to accept a "pre-paid account" into the accounts receivable.
Output:	Records for the "pre-paid account."
Expected Results:	The "pre-paid account" will be accepted into the accounts receivable.

Test Case 9 Deduct Amounts Due from "Pre-Paid" Accounts and Show Balance Remaining (T226-1.03.09)

This test verifies the ability of the BAAS accounts receivable function to deduct an amount due from a "pre-paid" account and show balance remaining.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will deduct amount due from a "pre-paid" account and select to show balance remaining.
Output:	Record for the deducted amount due from the "pre-paid" account. The balance remaining will be displayed to the user.
Expected Results:	Amount due will be deducted form the "pre-paid" account. The balance remaining will be correct after the deduction.

Test Case 10 Provide the Ability to Flag "Pre-Paid" Accounts with No Balance Remaining (T226-1.03.10)

This test verifies the ability of the BAAS accounts receivable function to provide the ability to flag "pre-paid" accounts with no balance remaining.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will select a "pre-paid" account, and will apply an charge to the account large enough to exhaust the "pre-paid" balance for the account.
Output:	Notification that the "pre-paid" account has been flagged as having no balance remaining.

Expected Results: The "pre-paid" account will be flagged for having no balance remaining, and the tester will be notified

Test Case 11 Accept Purchase Orders (T226-1.03.11)

This test verifies the ability of the BAAS accounts receivable function to accept purchase orders.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to accept purchase orders into the accounts receivable.

Output: Records for the purchase orders

Expected Results: The purchase orders will be accepted into the accounts receivable.

Test Case 12 Process Refunds for Deposits Taken on Service (T226-1.03.12)

This test verifies the ability of the BAAS accounts receivable function to process refunds for deposits taken on service.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to process refunds for a deposit taken on service.

Output: The refund will be issued.

Expected Results: The refund for the amount of the deposit will be issued for the account.

Test Case 13 Process Refunds for Overpayments on User Charges (T226-1.03.13)

This test verifies the ability of the BAAS accounts receivable function to process refunds for overpayments on user charges.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select a user account with an overpayment on user charges, and attempt to process a refund for the overpayment on user charges.

Output: The refund will be issued.

Expected Results: The refund for the amount of the overpayment will be issued for the account.

Test Case 14 Apply Refunds to Outstanding Balances or to Credit an Account for Future Amounts Due (T226-1.03.14)

This test verifies the ability of the BAAS accounts receivable function to apply refunds to outstanding balances or to credit an account for future amounts due if users request it.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select two user accounts with an outstanding balances on user charges, and attempt to process a refund for the outstanding balance on user charges for one account, and apply the outstanding balance as a credit for future amounts due for the other account.

Output: The refund will be issued for the one account, and a credit will be applied to the other account.

Expected Results: The refund for the amount of the outstanding balance will be issued for one account, and the amount of the outstanding balance will be applied as a credit for future amounts due for the other account.

Test Case 15 Re-Establish a Receivable for Checks Returned Due to Insufficient Funds (T226-1.03.15)

This test verifies the ability of the BAAS accounts receivable function to re-establish a receivable for checks returned due to insufficient funds.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select a user account with a check payment previously applied, and attempt to re-establish a receivable for the check, as if it were returned due to insufficient funds.

Output: A receivable will be re-established for the account.

Expected Results: A receivable, in the amount of the returned check, will be re-established for the account.

Test Case 16 Automatic Balancing of the Accounts Receivable Master File (T226-1.03.16)

This test verifies the ability of the BAAS accounts receivable function to support automatic balancing of the accounts receivable master file.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select a user account and apply charges, credits, receipts, and adjustments to the account in the accounts receivable master file, and then request the balance of the account.

Output: The account balance will be displayed.

Expected Results: The account balance will be displayed, and will accurately reflect the balance after application of the charges, credits, receipts, and adjustments to the account.

Test Case 17 Monitor the Aging of Individual Receivables (T226-1.03.17)

This test verifies the ability of the BAAS accounts receivable function to monitor the aging of individual receivables.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will simulate the passing of time (TBD days), through manipulation of the system date.

Output: Messages for past due receivables will be displayed.

Expected Results: Messages for receivables past due more than TBD days, will be displayed.

Test Case 18 Maintain a History for Each Account (T226-1.03.18)

This test verifies the ability of the BAAS accounts receivable function to maintain a history for each account.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select a user account and apply charges, credits, receipts, and adjustments to the account, and then request to see the history of the account.

Output: The account history will be displayed.

Expected Results: The account history will be displayed, and will accurately reflect the history of the application of charges, credits, receipts, and adjustments to the account.

Test Case 19 Identify Each Transaction via Reference Numbers (T226-1.03.19)

This test verifies the ability of the BAAS accounts receivable function to identify each transaction via reference numbers.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select a user account and apply charges, credits, receipts, and adjustments to the account, and then request to see the transactions of the account.

Output: The account transactions will be displayed.

Expected Results: The account transactions will be displayed, and will identified by reference numbers for each of the transactions.

Test Case 20 Purge Accounts, Removing Closed Accounts to a History File (T226-1.03.20)

This test verifies the ability of the BAAS accounts receivable function to purge accounts, removing closed accounts to a history file.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select an account, and attempt to close the account.

Output: A message indicating that the account is closed, and a history file for the account will be written.

Expected Results: The closed account will be purged from the account receivable, and the account information will be written into a history file.

Test Case 21 Receive Accounts Receivable Data for Sales Conducted Over-the-Counter at a Site (T226-1.03.21)

This test verifies the ability of the BAAS accounts receivable function to receive accounts receivable data for sales conducted over-the-counter at a site.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will simulate an over-the-counter sale at a site, and then will request to see the account history from the accounts receivable function.

Output: The account history will be displayed.

Expected Results: The account history will be displayed, and the tester will verify the receipt of the accounts receivable data for the sale conducted over-the-counter at a site.

Test Case 22 Communicate Revenue Information to a NASA Government Accounting System for Reporting and Deposit (T226-1.03.22)

This test verifies the ability of the BAAS accounts receivable function to communicate revenue information to a NASA government accounting system for reporting and deposit.

Test Configuration: Hardware - workstations

Software - BAAS Management, NASA government accounting system simulator

Input: After using the BAAS accounts receivable function to conduct other testing, while running a NASA government accounting system simulator, the user will view the simulator's log file.

Output: A log file for the simulator, which logs the communicated revenue information.

Expected Results: The log file contains the appropriate revenue information as communicated by the BAAS accounts receivable function.

Test Case 23 Submit User Refund Requests to a NASA Government Accounting System (T226-1.03.23)

This test verifies the ability of the BAAS accounts receivable function to submit user refund requests to a NASA government accounting system.

Test Configuration: Hardware - workstations

Software - BAAS Management, NASA government accounting system simulator

Input: While using the BAAS accounts receivable function and running a NASA government accounting system simulator to accept a refund request from the BAAS accounts receivable function, the user will submit a request for a refund from the NASA government accounting system simulator, and will view the simulator's log file.

Output: A log file for the simulator, which logs the submitted request for a refund.

Expected Results: The log file contains the request for a refund as submitted by the BAAS accounts receivable function.

Test Case 24 Make Account Balance Information Available to Science Users upon a CLS Request (T226-1.03.24)

This test verifies the ability of the BAAS accounts receivable function to make account balance information available to science users upon a CLS request.

Test Configuration: Hardware - workstations

	Software - BAAS Management, CLS
Input:	The tester acting as a science user, requests via the CLS to see the science user's account balance.
Output:	The science user's account balance is displayed.
Expected Results:	The science user's account balance is displayed via the CLS to the tester.

Test Case 25 Produce an End-of-Period "Trial Balances" (T226-1.03.25)

This test verifies the ability of the BAAS accounts receivable function to produce an end-of-period "trial balances" showing an account's opening balance, period activity, and closing balance.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester simulates an end-of-period, through manipulation of the system date.
Output:	The end-of-period "trial balances."
Expected Results:	The end-of-period "trial balances" shows the account's opening balance, period activity, and closing balance.

Test Case 26 Provide Reports Indicating Summary of Accounts Receivable Activity (T226-1.03.26)

This test verifies the ability of the BAAS accounts receivable function to provide reports indicating summary of accounts receivable activity for a specific period.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester selects a specific period with known accounts receivable activity, and requests a report indicating the summary of accounts receivable activity for the period.
Output:	A report indicating the summary of accounts receivable activity for the specific period.
Expected Results:	All of the activities for the specific period will be reported in the summary of accounts receivable activity.

Test Case 27 Provide an Exception Report Listing All Accounts with Credit Balances (T226-1.03.27)

This test verifies the ability of the BAAS accounts receivable function to provide an exception report listing all accounts with credit balances.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will request an exception report listing all accounts with credit balances.
Output:	An exception report listing all accounts with credit balances.
Expected Results:	All accounts with credit balances will be included in the exception report listing all accounts with credit balances.

Test Case 28 Identify Receivables which have been Reduced by Means Other than Cash Collections (T226-1.03.28)

This test verifies the ability of the BAAS accounts receivable function to identify receivables which have been reduced by means other than cash collections (e.g., adjustments).

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester applies some adjustments to an account, which will reduce the receivable's amount due. The tester selects to identify receivables which have been reduced by means other than cash collections.
Output:	Messages for those receivables which have been reduced by means other than cash collections.
Expected Results:	Messages for the receivable, for which the tester applied the adjustments to reduce the receivable's amount due.

Test Case 29 Produce an Account Receivable Aging Report (T226-1.03.29)

This test verifies the ability of the BAAS accounts receivable function to produce an account receivable aging report.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will simulate the passing of time (TBD days), through manipulation of the system date, and will then request an account receivable aging report.
Output:	An account receivable aging report for past due receivables.
Expected Results:	An account receivable aging report for receivables past due more than TBD days will be produced.

Test Case 30 Provide upon Request a Batch Listing of All Activity and Items in a Particular Batch (T226-1.03.30)

This test verifies the ability of the BAAS accounts receivable function to provide upon request a batch listing of all activity and items in a particular batch.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will submit a batch of transactions to the BAAS accounts receivable function, and will request a batch listing of all activity and items for the batch.

Output: A batch listing of all activity and items for the batch.

Expected Results: All activities and items in the batch will be reported in the batch listing of all activity and items for the batch.

Test Case 31 Provide upon Request an Account Payment Profile (T226-1.03.31)

This test verifies the ability of the BAAS accounts receivable function to provide upon request an account payment profile.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester selects an account and requests an account payment profile.

Output: An account payment profile.

Expected Results: An account payment profile will be provided.

5.59.2.4 Sequence 4 - Accounts Payable

This sequence will test the MSS BAAS accounts payable functions ability to provide the accounting necessary to support accounts payable processing. The accounts payable function handles the payments made to vendors/payees by the ECS, and includes: maintaining account balances and vendor/payee information, reporting, and reconciliation between purchase orders, inventory receiving reports, and vendor invoices, before a payment voucher can be approved.

Test Case 1 Maintain Vendor/Payee Master Files (T226-1.04.01)

This test verifies the ability of the BAAS Accounts Payable function to maintain vendor/payee master files.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester attempts to view the vendor/payee master file.

Output: The vendor/payee master file is displayed.

Expected Results: The vendor/payee master file is displayed to the tester.

Test Case 2 Update Vendor/Payee Master Files (T226-1.04.02)

This test verifies the ability of the BAAS Accounts Payable function to update vendor/payee master files.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester attempts to update the vendor/payee master file, but adding new vendors/payees, and modify existing vendors/payees.

Output: Updated vendor/payee master files.

Expected Results: The vendor/payee master files contain the added and modified vendor/payee information.

Test Case 3 Maintain Payee Account Balances (T226-1.04.03)

This test verifies the ability of the BAAS Accounts Payable function to maintain payee account balances.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will process payments to and charges from vendors/payees, and then requests to see the balances for the appropriate vendors/payees.

Output: The balances for the appropriate vendors/payees will be displayed.

Expected Results: The balances for the appropriate vendors/payees will accurately reflect the actual balances based on the initial balances and the adjustments for the payments and charges.

Test Case 4 Maintain Payee Account Information (T226-1.04.04)

This test verifies the ability of the BAAS Accounts Payable function to maintain payee account information to include, but not limited to: payee bank account information, payee taxpayer identification number and payee type, and contract terms (e.g., net terms, terms that use discounting, end-of-month terms).

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will add new payees and modify existing payees with the payee account information to include, but not limited to: payee bank account information, payee taxpayer identification number and payee type, and contract terms (e.g., net terms, terms that use discounting, end-of-month terms). The tester will then request to see the payee information for the appropriate payees.

Output: The payee information for the appropriate payees will be displayed.

Expected Results: The payee information for the appropriate payees will be displayed and will include at a minimum: payee bank account information, payee taxpayer identification number and payee type, and contract terms (e.g., net terms, terms that use discounting, end-of-month terms).

Test Case 5 Establish "Pre-Paid" Accounts (T226-1.04.05)

This test verifies the ability of the BAAS Accounts Payable function to establish "pre-paid" accounts.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to establish a "pre-paid account" into the accounts payable.

Output: Records for the "pre-paid account."

Expected Results: The "pre-paid account" will be established into the accounts payable.

Test Case 6 Establish Temporary Accounts (T226-1.04.06)

This test verifies the ability of the BAAS Accounts Payable function to establish temporary accounts (e.g., when issuing a refund to a user account).

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to process a refund for a user account.

Output: The refund will be issued.

Expected Results: The refund will be issued for the account, by establishing a temporary payee account for the user.

Test Case 7 Support Batch Entry of Invoices (T226-1.04.07)

This test verifies the ability of the BAAS Accounts Payable function to support batch entry of invoices.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will attempt to enter invoices in a batch.
Output:	Records for the invoices entered by the batch.
Expected Results:	Records for each of the invoices entered by the batch, will be generated.

Test Case 8 Support Matching of Vendor Invoices to Purchase Order Line Items (T226-1.04.08)

This test verifies the ability of the BAAS Accounts Payable function to support matching of vendor invoices to purchase order line items.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will select a vendor invoice, and then select to see the corresponding purchase order line item.
Output:	A purchase order line item will be displayed.
Expected Results:	The corresponding purchase order line item will be displayed for the selected vendor invoice.

Test Case 9 Support Matching of Vendor Invoices to Inventory Receiving Reports (T226-1.04.09)

This test verifies the ability of the BAAS Accounts Payable function to support matching of vendor invoices to inventory receiving reports.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will select a vendor invoice, and then select to see the corresponding inventory receiving report.
Output:	A inventory receiving report will be displayed.
Expected Results:	The corresponding inventory receiving report will be displayed for the selected vendor invoice.

Test Case 10 Indicate Discrepancies Between Quantity, Type, and Cost of Goods Ordered, Received, and Invoiced (T226-1.04.10)

This test verifies the ability of the BAAS Accounts Payable function to indicate discrepancies between quantity, type, and cost of goods ordered, received, and invoiced.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will enter receiving reports for purchase orders with differences between the quantity, type, and cost. The tester will enter vendor invoices for receiving reports with differences between the quantity, type, and cost.

Output: Messages indicating discrepancies will be displayed.

Expected Results: Messages indicating discrepancies will be displayed, for all the discrepancies between quantity, type, and cost of goods ordered, received, and invoiced.

Test Case 11 Provide On-Line Voucher Approval by M&O Staff (T226-1.04.11)

This test verifies the ability of the BAAS Accounts Payable function to provide on-line voucher approval by M&O staff.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester acting as a member of the M&O staff will attempt to approve a voucher on-line.

Output: Approval of the voucher.

Expected Results: The voucher will be approved on-line.

Test Case 12 Provide Re-Routing Capabilities for Vouchers Which Are Not Approved the First Time (T226-1.04.12)

This test verifies the ability of the BAAS Accounts Payable function to provide re-routing capabilities for vouchers which are not approved the first time.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester acting as a member of the M&O staff will attempt to approve a voucher on-line, for a vendor/payee which does not exist in the accounts payable.

Output: A message indicating that the voucher is not approved.

Expected Results: The voucher is not approved, and will be re-routed for an off-line review/approval.

Test Case 13 Provide the Ability to Suspend a Voucher from Further Processing (T226-1.04.13)

This test verifies the ability of the BAAS Accounts Payable function to provide the ability to suspend a voucher from further processing.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select a voucher, and then select to suspend it's processing.

Output: A message indicating that the voucher's processing is suspended.

Expected Results: The voucher will be suspended from further processing.

Test Case 14 Void a Voucher (T226-1.04.14)

This test verifies the ability of the BAAS Accounts Payable function to void a voucher .

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select a voucher, and then select to void it.

Output: A message indicating that the voucher's is voided.

Expected Results: The voucher will be voided.

Test Case 15 Allow M&O Staff to Break Up a Voucher into Multiple Payments when Charges on Invoice Have Different Due Dates (T226-1.04.15)

This test verifies the ability of the BAAS Accounts Payable function to allow M&O staff to break up a voucher into multiple payments when charges on invoice have different due dates.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will enter an invoice with different due dates for the some of the charges.

Output: Vouchers for the each of the different due dates.

Expected Results: Vouchers will be generated, one for each of the different due dates on the invoice. Each voucher will be for the total amount of the charges for the same due date.

Test Case 16 Combine Several Vouchers for the Same Vendor into a Single Payment (T226-1.04.16)

This test verifies the ability of the BAAS Accounts Payable function to combine several vouchers for the same vendor into a single payment.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will enter two invoices for the same vendor and due date.
Output:	A single payment voucher.
Expected Results:	The charges for the two invoices, for the same vendor and due date, will be combined, and a single payment voucher will be issued.

Test Case 17 Post Payments to "Pre-Paid" Accounts Automatically (T226-1.04.17)

This test verifies the ability of the BAAS Accounts Payable function to post payments to "pre-paid" accounts automatically.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will enter an invoice for a vendor with a "pre-paid" account.
Output:	Records for the posting of the payment to the "pre-paid" account.
Expected Results:	The charges for the invoice, for the vendor with a "pre-paid" account, will have the payment automatically posted.

Test Case 18 Voucher Status Code to Track Its Progress (T226-1.04.18)

This test verifies the ability of the BAAS Accounts Payable function to assign a status code to each voucher to track its progress through the system.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will attempt to track a voucher by viewing it's status code as it progresses toward eventual payment of the vendor/payee.
Output:	Verification that a voucher's progress can be tracked by it's status code.

Expected Results: The BAAS Accounts Payable function assigns a status code to each voucher to track its progress through the system.

Test Case 19 Provide an On-Line Voucher Approval Process by M&O Staff (T226-1.04.19)

This test verifies the ability of the BAAS Accounts Payable function to provide an on-line voucher approval process by M&O staff.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester acting as a member of the M&O staff will attempt to approve a voucher on-line.

Output: Approval of the voucher.

Expected Results: The voucher will be approved on-line.

Test Case 20 Allow an On-Line Query and Searching of the Voucher History File (T226-1.04.20)

This test verifies the ability of the BAAS Accounts Payable function to allow an on-line query and searching of the voucher history file.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to query and search on-line the voucher history file.

Output: The results of the query and search will be displayed.

Expected Results: The results of the on-line query and search of the voucher history file will be displayed to the tester.

Test Case 21 Allow Orders to Be Re-Opened by M&O Staff After Final Payment Has Been Made (T226-1.04.21)

This test verifies the ability of the BAAS Accounts Payable function to allow orders to be re-opened by M&O staff after final payment has been made.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester acting as a member of the M&O staff will select an order, for which the final payment has been made, and attempt to re-open the order.

Output: Messages indicating that the order is re-opened after final payment had been made.

Expected Results: The order will be re-opened, after final payment had been made.

Test Case 22 Access Purchase Order Line Items Information to Match to Vendor Invoices to Authorize Payment of Invoices (T226-1.04.22)

This test verifies the ability of the BAAS Accounts Payable function to access purchase order line items information from the ECS Management Database to match to vendor invoices before authorizing payment of invoices.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to authorize payment of a vendor invoice.

Output: Messages indicating that the ECS Management Database is accessed for purchase order line items information to match to the vendor invoice, and that the payment of the vendor invoice is authorized.

Expected Results: The ECS Management Database is accessed for purchase order line items information and matched to the vendor invoice, before the payment of the vendor invoice is authorized.

Test Case 23 Access Inventory Receiving Reports Information to Match to Vendor Invoices to Authorize Payment of Invoices (T226-1.04.23)

This test verifies the ability of the BAAS Accounts Payable function to access inventory receiving reports information from the ECS Management Database to match to vendor invoices before authorizing payment of invoices.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to authorize payment of a vendor invoice.

Output: Messages indicating that the ECS Management Database is accessed for inventory receiving reports information to match to the vendor invoice, and that the payment of the vendor invoice is authorized.

Expected Results: The ECS Management Database is accessed for inventory receiving reports information and matched to the vendor invoice, before the payment of the vendor invoice is authorized.

Test Case 24 Transmit Vendor Invoice Payment Requests and User Refund Payment Requests to a NASA Government Accounting System (T226-1.04.24)

This test verifies the ability of the BAAS Accounts Payable function to transmit vendor invoice payment requests and user refund payment requests to a NASA government accounting system.

Test Configuration: Hardware - workstations

Software - BAAS Management, NASA government accounting system simulator

Input: While using the BAAS accounts payable function and running a NASA government accounting system simulator to accept payment requests from the BAAS accounts payable function, the user will submit a request for a vendor invoice payment, and a user refund payment request to the NASA government accounting system simulator, and will view the simulator's log file.

Output: A log file for the simulator, which logs the submitted requests for a vendor invoice payment and a user refund payment.

Expected Results: The log file contains the requests for a vendor invoice payment and a user refund payment as submitted by the BAAS accounts payable function.

Test Case 25 Prepare Detailed and Summary Listings of Amounts Payable for a Specific Period of Time (T226-1.04.25)

This test verifies the ability of the BAAS Accounts Payable function to prepare detailed and summary listings of amounts payable for a specific period of time.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester selects a specific period with known accounts payable activity, and requests a summary listing of amounts payable, and a detailed listing of amounts payable for the period of time.

Output: A summary listing and a detailed listing of amounts payable for the specific period.

Expected Results: All of the amounts payable for the specific period will be reported in the summary and detailed listings of the amounts payable.

Test Case 26 Provide Reporting of All Unreconciled and Outstanding Items (T226-1.04.26)

This test verifies the ability of the BAAS Accounts Payable function to provide reporting of all unreconciled and outstanding items.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will request a report of all unreconciled and outstanding items.

Output: A report of all unreconciled and outstanding items will be generated.

Expected Results: A report containing all unreconciled and outstanding items in accounts payable will be generated.

Test Case 27 Provide a Vendor Master List (T226-1.04.27)

This test verifies the ability of the BAAS Accounts Payable function to provide a vendor master list.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to view the vendor master list.

Output: The vendor master list will be displayed.

Expected Results: A vendor master list will be displayed to the tester.

5.59.2.5 Sequence 5 - Collections

This sequence will test the MSS BAAS collections functions ability to support collections processing. The collections function handles the past due accounts which includes: delinquent accounts, non-collectible accounts (write-offs), and contacts with users of delinquent accounts.

Test Case 1 Identify Delinquent Accounts (T226-1.05.01)

This test verifies the ability of the BAAS Collections function to identify delinquent accounts; those accounts which have violated ECS-determined account aging parameters (TBD).

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will simulate the passing of time (TBD days), through manipulation of the system date, and will then request the BAAS Collections function to identify delinquent accounts.

Output: Messages identifying delinquent accounts.

Expected Results: All delinquent accounts will be identified by the BAAS Collections function.

Test Case 2 Allow ECS-Defined Collections Parameters (T226-1.05.02)

This test verifies the ability of the BAAS Collections function to allow ECS-defined collections parameters.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to change the allowable ECS-defined collections parameters.

Output: Messages indicating the changes to the ECS-defined collections parameters.

Expected Results: The collections parameters will be set to the testersInput values.

Test Case 3 Override Specific Accounts from the Collections Process (T226-1.05.03)

This test verifies the ability of the BAAS Collections function to override specific accounts from the collections process.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select an account and override it form the collections process. The tester will simulate the passing of time (TBD days), through manipulation of the system date, and will then request the BAAS Collections function to identify delinquent accounts.

Output: Messages identifying delinquent accounts.

Expected Results: All delinquent accounts, except for the one overridden from the collections process, will be identified by the BAAS Collections function.

Test Case 4 Generate Custom and Form Dunning Letters to Delinquent Accounts (T226-1.05.04)

This test verifies the ability of the BAAS Collections function to generate custom and form dunning letters to delinquent accounts.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select to generate dunning letters for two delinquent accounts. The tester will accept the first form letter as created, and will customize (edit) the other before accepting it.

Output: The dunning letters.

Expected Results: The dunning letters will be created, and accepted in their "as created" and customized versions.

Test Case 5 Keep Log of Contacts and Attempts with Users of Delinquent Accounts (T226-1.05.05)

This test verifies the ability of the BAAS Collections function to keep log of contacts and contact attempts with users of delinquent accounts.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select a delinquent account, and will use the BAAS Collections function to record successful and unsuccessful attempts to contact the user of the account. Then the tester will attempt to view the log of contacts and contact attempts with users of delinquent accounts.

Output: The log of contacts and contact attempts will be displayed.

Expected Results: The log of contacts and contact attempts will be displayed, and will contain all the tester recorded successful and unsuccessful attempts to contact the user of the account.

Test Case 6 Record Payment Arrangements Made with Users (T226-1.05.06)

This test verifies the ability of the BAAS Collections function to record payment arrangements made with users.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select a delinquent account, and will use the BAAS Collections function to record payment arrangements made with users of the account. Then the tester will attempt to view the records of payment arrangements made with users of delinquent accounts.

Output: The records of payment arrangements made with users will be displayed.

Expected Results: The records of payment arrangements made with users will be displayed, and will contain all the tester recorded payment arrangements made with the users.

Test Case 7 Initiate Service Suspension, Cancellation, and Restoration as Appropriate (T226-1.05.07)

This test verifies the ability of the BAAS Collections function to initiate service suspension, cancellation, and restoration as appropriate.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select two delinquent accounts and will attempt to suspend one and cancel the other. The tester will then attempt to restore both accounts.

Output: Messages indicating the suspension, cancellation, and restoration as appropriate for the accounts will be displayed.

Expected Results: Messages indicating the suspension, cancellation, and restoration as appropriate for the accounts will be displayed for the tester.

Test Case 8 Calculate Amounts Declared Non-Collectible (T226-1.05.08)

This test verifies the ability of the BAAS Collections function to calculate amounts declared non-collectible (write-offs).

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to assign a status of non-collectible to a delinquent account. Then the tester will attempt to calculate the write-off for non-collectible accounts.

Output: Messages indicating that the account has been declared non-collectible. The amount of the write-off for non-collectible accounts will be displayed.

Expected Results: The calculated amount of the write-off for non-collectible accounts will be displayed, and will contain the amount for the delinquent account declared non-collectible by the tester.

Test Case 9 Record Write-Off Amounts (T226-1.05.09)

This test verifies the ability of the BAAS Collections function to record write-off amounts.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to assign a status of non-collectible to several delinquent accounts. Then the tester will attempt to view the log of write-offs.

Output: Messages indicating that the accounts have been declared non-collectible. The write-offs for the non-collectible accounts will be viewed.

Expected Results: The write-offs for non-collectible accounts will be displayed from the log, and will contain the amounts for the delinquent accounts declared non-collectible by the tester.

Test Case 10 Save All Collections History Information on Particular Accounts (T226-1.05.10)

This test verifies the ability of the BAAS Collections function to save all collections history information on particular accounts.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select to view the collections history information on particular accounts, which are know to have had collections activity.

Output: The collections history information on the accounts will be displayed.

Expected Results: The collections history information on the accounts will contain all previous collections activity for the accounts.

5.59.2.6 Sequence 6 - General Ledger

This sequence will test the MSS BAAS general ledger functions ability to support maintain a general ledger. The general ledger function handles the balancing of accounts.

Test Case 1 Set Up a Chart of Accounts (T226-1.06.01)

This test verifies the ability of the BAAS General Ledger function to set up a chart of accounts.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to set up a chart of accounts.

Output: The chart of accounts.

Expected Results: The chart of accounts will be set up.

Test Case 2 Accept Entries via Balanced Batches (T226-1.06.02)

This test verifies the ability of the BAAS General Ledger function to accept entries via balanced batches.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to make entries into the BAAS General Ledger via balanced batches.

Output: Messages indicating the entries are processed into the BAAS General Ledger.

Expected Results: All the balanced batch entries are processed into the BAAS General Ledger.

Test Case 3 Accept Direct Entries By-Passing the Batches (T226-1.06.03)

This test verifies the ability of the BAAS General Ledger function to accept direct entries by-passing the batches.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to make entries into the BAAS General Ledger directly.

Output: Messages indicating the entries are processed into the BAAS General Ledger.

Expected Results: All the entries are processed into the BAAS General Ledger.

Test Case 4 Update and Edit Each Account On-Line (T226-1.06.04)

This test verifies the ability of the BAAS General Ledger function to update and edit each account on-line.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to update and edit an account on-line using the BAAS General Ledger function.

Output: Messages indicating that the account is updated.

Expected Results: The changes as made by the tester to the account are accepted by the BAAS General Ledger function.

Test Case 5 Provide On-Line Inquiry Capability into Account Balances (T226-1.06.05)

This test verifies the ability of the BAAS General Ledger function to provide on-line inquiry capability into account balances.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester attempts a on-line inquiry into account balances via the BAAS General Ledger function.
Output:	The results of the on-line inquiry will be displayed.
Expected Results:	The results of the on-line inquiry into account balances will be displayed to the tester.

Test Case 6 M&O Staff to Establish Standardized Transactions (T226-1.06.06)

This test verifies the ability of the BAAS General Ledger function to for M&O staff to establish standardized transactions.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester, acting as a member of the M&O staff, attempts to establish standardized transactions.
Output:	Messages indicating the establishment of standardized transactions will be displayed.
Expected Results:	The standardized transactions will be establish by the tester.

Test Case 7 M&O Staff to Modify Standardized Transactions (T226-1.06.07)

This test verifies the ability of the BAAS General Ledger function to for M&O staff to modify standardized transactions.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester, acting as a member of the M&O staff, attempts to modify standardized transactions.
Output:	Messages indicating the modification of standardized transactions will be displayed.
Expected Results:	The standardized transactions will be modified by the tester.

Test Case 8 Accommodate Future Period Transaction Entries (T226-1.06.08)

This test verifies the ability of the BAAS General Ledger function to accommodate future period transaction entries.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester, acting as a member of the M&O staff, attempts to enter future period transactions.
Output:	Messages indicating the entry of the future period transactions will be displayed.
Expected Results:	The future period transactions will be accepted by the BAAS General Ledger function.

Test Case 9 Accommodate Prior Period Transaction Entries for all Periods that are Open to Posting (T226-1.06.09)

This test verifies the ability of the BAAS General Ledger function to accommodate prior period transaction entries for all periods that are open to posting.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester, acting as a member of the M&O staff, attempts to enter prior period transactions for a period, that is open to posting.
Output:	Messages indicating the entry of the prior period transactions for a period, that is open to posting, will be displayed.
Expected Results:	The prior period transactions for a period, that is open to posting, will be accepted by the BAAS General Ledger function.

Test Case 10 Automatically Create New Accounts (T226-1.06.10)

This test verifies the ability of the BAAS General Ledger function to automatically create new accounts.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will attempt to enter transactions for an account which does not exist.
Output:	Messages indicating that a new account is automatically created.

Expected Results: The BAAS General Ledger function creates a new account for the transaction automatically.

Test Case 11 Perform End-of-Period Process, Accruals, and Consolidation Processes (T226-1.06.11)

This test verifies the ability of the BAAS General Ledger function to perform end-of-period process (trial balances), accruals, and consolidation processes under the control of authorized staff.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester, acting as a member of the authorized staff, will attempt to perform end-of-period process, accruals, and consolidation processes.

Output: Messages indicating that the end-of-period process, accruals, and consolidation processes are performed.

Expected Results: The end-of-period process, accruals, and consolidation processes are performed by the BAAS General Ledger function under the control of the tester.

Test Case 12 Multiple Preliminary End-of-Period Closings Before Final Closing (T226-1.06.12)

This test verifies the ability of the BAAS General Ledger function to perform multiple preliminary end-of-period closings before final closing.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to perform multiple preliminary end-of-period closings before attempting to perform a final closing.

Output: Messages indicating the processing of the preliminary end-of-period closings and the final closing.

Expected Results: All the preliminary end-of-period closings and the final closing will be performed.

Test Case 13 Post Current Period Data During Preliminary End-of-Period Closings (T226-1.06.13)

This test verifies the ability of the BAAS General Ledger function to post current period data during preliminary end-of-period closings.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to post current period data during a preliminary end-of-period closing.

Output: Messages indicating the processing of the preliminary end-of-period closing, and the posting of the current period data during a preliminary end-of-period closing.

Expected Results: The processing of the preliminary end-of-period closing will be successful, but will not contain data from the current period data posted during the processing. The current period data posted during the processing will be posted to the account.

Test Case 14 Use Standardized Transactions Identified by Reference Codes to Control Transaction Editing, Posting, and Updating (T226-1.06.14)

This test verifies the ability of the BAAS General Ledger function to use standardized transactions identified by reference codes to control transaction editing, posting, and updating of information, such as documented balances and available funding.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will submit standardized transactions identified by reference codes.

Output: Messages indicating that the standardized transactions are processed.

Expected Results: The standardized transactions are processed according to the reference codes used to control transaction editing, posting, and updating of information.

Test Case 15 Maintain Documented Trail of Changes Conducted on Out-of-Balance Accounts (T226-1.06.15)

This test verifies the ability of the BAAS General Ledger function to maintain a documented trail of any changes conducted by authorized staff on out-of-balance accounts.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester, acting as a member of the authorized staff, will attempt to make changes to an out-of-balance account. The log will then be viewed. Then the tester, not acting as a member of the authorized staff, will attempt to make changes to an out-of-balance account.

Output: The log of changes to out-of-balance accounts will be viewed.

Expected Results: All of the changes to the out-of-balance account, made by the tester, will be included in the log. The tester, not acting as a member of the authorized staff, will be denied from making changes to an out-of-balance account.

Test Case 16 Move Accounts to a History File (T226-1.06.16)

This test verifies the ability of the BAAS General Ledger function to move accounts to a history file.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will select an account, and attempt to move the account to a history file.

Output: A message indicating that the account is moved, and a history file for the account is written.

Expected Results: The account general ledger information will be written into a history file.

Test Case 17 Re-Open Closed Accounts when Required (T226-1.06.17)

This test verifies the ability of the BAAS General Ledger function to re-open closed accounts when required.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to re-open a closed account.

Output: Messages indicating that the closed account is re-opened.

Expected Results: The closed account is re-opened.

Test Case 18 Archive Data Needed for Comparative Analysis and Presentation of Historical Information (T226-1.06.18)

This test verifies the ability of the BAAS General Ledger function to archive data needed for comparative analysis and presentation of historical information.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to archive data needed for comparative analysis and presentation of historical information.

Output: Messages indicating that the data needed for comparative analysis and presentation of historical information is archived.

Expected Results: The data needed for comparative analysis and presentation of historical information is archived, and the information required to access the archive is provided.

Test Case 19 Provide a Chart of Accounts (T226-1.06.19)

This test verifies the ability of the BAAS General Ledger function to provide a chart of accounts.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will request to see the chart of accounts.

Output: A chart of accounts.

Expected Results: The chart of accounts will be displayed to the tester.

Test Case 20 Provide a Trial Balance Sheet (T226-1.06.20)

This test verifies the ability of the BAAS General Ledger function to provide a trial balance sheet.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to obtain a trial balance sheet.

Output: A trial balance sheet will be provided.

Expected Results: The BAAS General Ledger function will provide a trial balance sheet.

Test Case 21 Provide End-of-Period Reports (T226-1.06.21)

This test verifies the ability of the BAAS General Ledger function to provide end-of-period reports (e.g., end-of-month, end-of-quarter, end-of-year).

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to run the end-of-period reports.

Output: The end-of-period reports are provided.

Expected Results: The end-of-period reports are provided for end-of-month, end-of-quarter, and end-of-year.

5.59.2.7 Sequence 7 - Cost Accounting

The BAAS cost accounting function tracks and analyzes the costs associated with operating the ECS (generation of products, ECS services), and the maintenance of the cost algorithms used to calculate the costs.

Test Case 1 Maintain Authorized Billing Algorithms to Value Products and Services, and the Cost of Serving Users (T226-1.07.01)

This test verifies the ability of the BAAS Cost Accounting function to maintain authorized billing algorithms to value products and services, and the cost of serving users.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to access the billing algorithms maintained by the BAAS Cost Accounting function, as an authorized and an unauthorized user.

Output: Messages indicating access or denial of access to the billing algorithms.

Expected Results: Access to the billing algorithms is allowed for the tester as an authorized user, and is denied access for the tester as an unauthorized user.

Test Case 2 Provide a Trail to Assign Identifiable Sources to All Costs (T226-1.07.02)

This test verifies the ability of the BAAS Cost Accounting function to provide a trail to assign identifiable sources to all costs.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to view a trail assigning identifiable sources to all costs.

Output: A trail assigning identifiable sources to all costs will be displayed.

Expected Results: A trail assigning identifiable sources to all costs will be displayed to the tester.

Test Case 3 Assign Costs to Processes Using Authorized Cost Algorithms (T226-1.07.03)

This test verifies the ability of the BAAS Cost Accounting function to assign costs to processes using authorized cost algorithms.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function will run to assign costs to processes using authorized cost algorithms. The tester will view the log.

Output: Messages indicating that costs are assigned to processes.

Expected Results: The log will be viewed, and will contain messages indicating that costs are assigned to processes. The costs should be calculated correctly based on the authorized cost algorithms.

Test Case 4 Assign Costs to ECS Products Using Authorized Cost Algorithms (T226-1.07.04)

This test verifies the ability of the BAAS Cost Accounting function to assign costs to ECS products using authorized cost algorithms.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function will run to assign costs to ECS products using authorized cost algorithms. The tester will view the log.

Output: Messages indicating that costs are assigned to ECS products.

Expected Results: The log will be viewed, and will contain messages indicating that costs are assigned to ECS products. The costs should be calculated correctly based on the authorized cost algorithms.

Test Case 5 Assign Costs to Serve Different Users (T226-1.07.05)

This test verifies the ability of the BAAS Cost Accounting function to assign costs to serve different users.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the

BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function will run to assign costs to different users. The tester will view the log.

Output: Messages indicating that costs are assigned to different users.

Expected Results: The log will be viewed, and will contain messages indicating that costs are assigned to different users.

Test Case 6 Establish Historical Accounts of Costs Assigned to Individual Users (T226-1.07.06)

This test verifies the ability of the BAAS Cost Accounting function to establish historical accounts of costs assigned to individual users.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to access the historical account of costs assigned to an individual user.

Output: The historical account of costs assigned to an individual user will be displayed.

Expected Results: The historical account of costs assigned to an individual user will be displayed, and will contain the historical accounting of all costs for the user.

Test Case 7 Establish Historical Accounts of Costs Assigned to User Groups (T226-1.07.07)

This test verifies the ability of the BAAS Cost Accounting function to establish historical accounts of costs assigned to user groups.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to access the historical account of costs assigned to an user group.

Output: The historical account of costs assigned to an user group will be displayed.

Expected Results: The historical account of costs assigned to an user group will be displayed, and will contain the historical accounting of all costs for the users within the group.

Test Case 8 Establish Historical Accounts to Track the Costs Assigned to Different Processes (T226-1.07.08)

This test verifies the ability of the BAAS Cost Accounting function to establish historical accounts to track the costs assigned to different processes.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will attempt to access the historical account of costs assigned to a different process.
Output:	The historical account of costs assigned to a different process will be displayed.
Expected Results:	The historical account of costs assigned to a different process will be displayed, and will contain the historical accounting of all costs for the process.

Test Case 9 Receive Resource and Product Utilization Information (T226-1.07.09)

This test verifies the ability of the BAAS Cost Accounting function to receive resource and product utilization information from the ECS Management Database to track costs to identifiable and quantifiable sources.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function will run to assign costs to ECS products using the resource and product utilization information from the ECS Management Database. The tester will view the log.
Output:	Messages indicating that resource and product utilization information from the ECS Management Database are received.
Expected Results:	The log will be viewed, and will contain messages indicating that resource and product utilization information from the ECS Management Database are received. The costs should be calculated correctly based on the resource and product utilization information received.

Test Case 10 Access Resource and Product Utilization Information (T226-1.07.10)

This test verifies the ability of the BAAS Cost Accounting function to access resource and product utilization information from the ECS Management Database to determine costs consumed to serve different users.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function will run to assign costs to serve different users using the resource and product utilization information from the ECS Management Database. The tester will view the log.

Output: Messages indicating that resource and product utilization information from the ECS Management Database are accessed.

Expected Results: The log will be viewed, and will contain messages indicating that resource and product utilization information from the ECS Management Database are accessed. The costs should be calculated correctly based on the resource and product utilization information accessed.

Test Case 11 Access Resource and Product Utilization Information (T226-1.07.11)

This test verifies the ability of the BAAS Cost Accounting function to access resource and product utilization information from the ECS Management Database to enable ECS to allocate costs to different processes and products.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function will run to assign costs to different processes and products using the resource and product utilization information from the ECS Management Database. The tester will view the log.

Output: Messages indicating that resource and product utilization information from the ECS Management Database are received.

Expected Results: The log will be viewed, and will contain messages indicating that resource and product utilization information from the ECS Management Database are received. The costs should be calculated correctly based on the resource and product utilization information received.

Test Case 12 Provide Reports Identifying the Costs Incurred by ECS (T226-1.07.12)

This test verifies the ability of the BAAS Cost Accounting function to provide reports identifying the costs incurred by ECS in support of its activities.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to run the reports identifying the costs incurred by ECS.

Output: The reports identifying the costs incurred by ECS are provided.

Expected Results: The reports are provided identifying the costs incurred by ECS in support of its activities.

Test Case 13 Provide Reports Assigning Costs to Identifiable Sources (T226-1.07.13)

This test verifies the ability of the BAAS Cost Accounting function to provide reports assigning costs to identifiable sources.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to run the reports assigning costs to identifiable sources.

Output: The reports assigning costs to identifiable sources are provided.

Expected Results: The reports are provided assigning costs to identifiable sources.

Test Case 14 Provide Reports Identifying Costs Traceable to Particular Science Users/Groups (T226-1.07.14)

This test verifies the ability of the BAAS Cost Accounting function to provide reports identifying costs traceable to particular science users/groups.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to run the reports identifying costs traceable to particular science users/groups.

Output: The reports identifying costs traceable to particular science users/group.

Expected Results: The reports are provided identifying costs traceable to particular science users/groups.

5.59.2.8 Sequence 8 - Reporting

This sequence will test the MSS BAAS reporting functions ability to support collections processing. The reporting function produces the reports necessary to support the MSS BAAS, and outside applications.

Test Case 1 Provide Standard Automated Financial Statements and Summary Reports (T226-1.08.01)

This test verifies the ability of the BAAS Reporting function to provide standard automated financial statements and summary reports.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to run the standard automated financial statements and summary report.

Output: The standard automated financial statements and summary report are provided.

Expected Results: The standard automated financial statements and summary report are provided.

Test Case 2 Report Data Conforms to FASAB Accounting Standards (T226-1.08.02)

This test verifies the ability of the BAAS Reporting function to report data in accordance with accounting standards recommended by the Federal Accounting Standards Advisory Board (FASAB) and issued by the Director of OMB.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester reviews the BAAS Reporting function reports and the accounting standards recommended by the Federal Accounting Standards Advisory Board (FASAB).

Output: Verification that the BAAS Reporting function reports conform to the accounting standards recommended by the Federal Accounting Standards Advisory Board (FASAB).

Expected Results: The BAAS Reporting function reports conform to the accounting standards recommended by the Federal Accounting Standards Advisory Board (FASAB) issued by the Director of OMB.

Test Case 3 Support the Following Report Formats: Hard Copy, On-Line Inquiries, Extract Data Files, and Disk (T226-1.08.03)

This test verifies the ability of the BAAS Reporting function to support the following report formats: hard copy, on-line inquiries, extract data files, and disk.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to run reports andOutput them in the following formats: hard copy, on-line inquiries, extract data files, and disk.

Output: The reports in the various formats will be provided.

Expected Results: The reports are provided in the following report formats: hard copy, on-line inquiries, extract data files, and disk.

Test Case 4 Maintain Prior Periods Reporting Data for Future Consultation and Comparative Analysis (T226-1.08.04)

This test verifies the ability of the BAAS Reporting function to maintain prior periods reporting data for future consultation and comparative analysis.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to run the prior periods reporting.

Output: The prior periods reporting are provided.

Expected Results: The prior periods reporting are provided and can be used for future consultation and comparative analysis.

Test Case 5 Reformat Report to a User's Specific Needs (T226-1.08.05)

This test verifies the ability of the BAAS Reporting function to provide for the reformatting of reports to tailor a report to a user's specific needs.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to reformat a report to a user's specific needs.

Output: The reformatted report is provided.

Expected Results: The reformatted report is provided and tailored to the user's specific needs.

Test Case 6 Transfer of Information to Other Applications Outside of the Billing/Accounting Application Service (T226-1.08.06)

This test verifies the ability of the BAAS Reporting function to allow the transfer of information to other applications outside of the Billing/Accounting Application Service.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to transfer information to other applications outside of the Billing/Accounting Application Service.

Output: The report information for the transfer will be provided.

Expected Results: The information will be transferred to other applications outside of the Billing/Accounting Application Service.

5.60 Report Generation Thread

5.60.1 Thread Objectives

The objectives of the CSMS Report Generation Thread are:

- Provide the ability to generate detailed reports of results of accounting audits of ground resources, security, work in process and uses of the system.

5.60.2 Thread Test Description

This Thread tests the ability to generate reports showing maintenance schedules for system hardware, software, and scientific software for routine, non-routine and upgrade maintenance activities. Testing will demonstrate the ability to generate reports on the standard analysis of system event logs and ad-hoc reports utilizing a fourth generation language.

Dependencies: (If Applicable)

To verify the objectives of the CSMS Report Generation Thread, the following interface and functional capabilities are required:

- Network environment (LAN and WAN)
- Established user accounts

Test Support Requirements

- Hardware:
  - TBD

- Software:
  - –
- Data:
  - –

5.60.2.1 Sequence 1 - General Reporting

This test verifies the ability of the MSS Report Generation function to generate basic ad-hoc reports and queries, and to support HTML, ASCII tabular, standard terminal and printed formats.

Test Case 1 Standard and Ad-Hoc Reports and Queries on the Management and Related Data Maintained in the Management Database (T226-2.01.01)

This test verifies the ability of the MSS Report Generation function to generate standard and ad-hoc reports and queries on all or portions of the management and related data maintained in the management database.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate standard and ad-hoc reports and queries.
Output:	The generate standard and ad-hoc reports and queries are generated.
Expected Results:	The generate standard and ad-hoc reports and queries are generated on all or portions of the management and related data maintained in the management database.

Test Case 2 Motif Based GUI Workbench for Use by Database Specialist M&O Staff (T226-2.01.02)

This test verifies the ability of the MSS Report Generation function to provide a Motif based GUI workbench for use by database specialist M&O staff to generate standard and ad-hoc reports and queries.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester using the Motif based GUI workbench selects to generate standard and ad-hoc reports and queries.
Output:	The standard and ad-hoc reports and queries are generated.

Expected Results: By using the Motif based GUI workbench the standard and ad-hoc reports and queries are generated.

Test Case 3 HTML Based User Interface for Use by Non-Database Specialists on the M&O Staff for Requesting Standard Reports (T226-2.01.03)

This test verifies the ability of the MSS Report Generation function to provide an HTML based user interface for use by non-database specialists on the M&O staff for requesting standard reports.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester using the HTML based user interface requests to generate a standard report.

Output: The standard report is generated.

Expected Results: By using the HTML based user interface for use by non-database specialists on the M&O staff a requested standard report is generated.

Test Case 4 Output Generated Reports to the User's Console, a File, or a Printer (T226-2.01.04)

This test verifies the ability of the MSS Report Generation function to output generated reports to the user's console, a file, or a printer.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate some reports, andOutput them to the user's console, a file, or a printer.

Output: The generated reports.

Expected Results: The generated reports areOutput to the user's console, a file, or a printer.

Test Case 5 Output Report Query Results to a File in a Tabular Format Which Can Be Imported by Analysis Tools Such as Spreadsheets (T226-2.01.05)

This test verifies the ability of the MSS Report Generation function to output report query results to a file in a tabular format which can be imported by analysis tools such as spreadsheets.

Test Configuration: Hardware - workstations

Software - MSS Report Generation, spreadsheet application

Input: The tester selects generate a report and toOutput the report query results to a file in a tabular format which can be imported by analysis tools such as spreadsheets.

Output: The report query results in a tabular format file.

Expected Results: The report queried results are generated andOutput to a file in a tabular format which can be imported by analysis tools such as spreadsheets. The file will then be imported into a spreadsheet application.

Test Case 6 Output Reports to a File in an HTML Compatible Format (T226-2.01.06)

This test verifies the ability of the MSS Report Generation function to output reports to a file in an HTML compatible format.

Test Configuration: Hardware - workstations

Software - MSS Report Generation, web browser application

Input: The tester selects toOutput reports to a file in an HTML compatible format.

Output: TheOutput reports are generated.

Expected Results: The MSS Report Generation functionOutputs the reports to a file in an HTML compatible format. The reports are viewed using a web browser application to test the HTML compatibility.

Test Case 7 Generate an Enhancement Proposal Status Report | (T226-2.01.07)

This test verifies the ability of the MSS Report Generation function to generate an Enhancement Proposal Status Report containing the status of proposed enhancements including: name, description, rationale, impacts, cost to implement, and implementation milestone schedule.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an Enhancement Proposal Status Report.

Output: The Enhancement Proposal Status Report is generated.

Expected Results: The Enhancement Proposal Status Report is generated and contained the status of proposed enhancements including: name,

description, rationale, impacts, cost to implement, and implementation milestone schedule.

5.60.2.2 Sequence 2 - Production Performance Reporting

This test verifies the ability of the MSS Report Generation function to generate production performance reports.

Test Case 1 Generate a Routine Data Production Performance Detail Report (T226-2.02.01)

This test verifies the ability of the MSS Report Generation function to generate a Routine Data Production Performance Detail Report itemizing scheduled vs. actual times for data collection, processing, retrieval, and delivery along with: reason for schedule variance, data quality, and user feedback.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Routine Data Production Performance Detail Report.

Output: The Routine Data Production Performance Detail Report is generated.

Expected Results: The Routine Data Production Performance Detail Report is generated and itemized scheduled vs. actual times for data collection, processing, retrieval, and delivery along with: reason for schedule variance, data quality, and user feedback.

Test Case 2 Generate a Routine Data Production Performance Summary Report (T226-2.02.02)

This test verifies the ability of the MSS Report Generation function to generate a Routine Data Production Performance Summary Report containing statistical rollups of scheduled vs. actual deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data. .

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Routine Data Production Performance Summary Report.

Output: The Routine Data Production Performance Summary Report is generated.

Expected Results: The Routine Data Production Performance Summary Report is generated and contained statistical rollups of scheduled vs. actual

deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data.

Test Case 3 Generate a User Requested Data Production Performance Detail Report (T226-2.02.03)

This test verifies the ability of the MSS Report Generation function to generate a User Requested Data Production Performance Detail Report containing scheduled vs. actual times for data collection, processing, retrieval and delivery along with: reason for schedule variance, data quality, and user feedback.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a User Requested Data Production Performance Detail Report.

Output: The User Requested Data Production Performance Detail Report is generated.

Expected Results: The User Requested Data Production Performance Detail Report is generated and contained scheduled vs. actual times for data collection, processing, retrieval and delivery along with: reason for schedule variance, data quality, and user feedback.

Test Case 4 Generate a User Requested Data Production Performance Summary Report (T226-2.02.04)

This test verifies the ability of the MSS Report Generation function to generate a User Requested Data Production Performance Summary Report containing statistical rollups of scheduled vs. actual deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a User Requested Data Production Performance Summary Report.

Output: The User Requested Data Production Performance Summary Report is generated.

Expected Results: The User Requested Data Production Performance Summary Report is generated and contained statistical rollups of scheduled vs. actual deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data.

Test Case 5 Generate a Ground Operations Activity Performance Detail Report (T226-2.02.05)

This test verifies the ability of the MSS Report Generation function to generate a Ground Operations Activity Performance Detail Report containing scheduled vs. actual times for ground events such as maintenance, training, reconfiguration. The report shall detail: reason for schedule variance, and user feedback.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Ground Operations Activity Performance Detail Report.

Output: The Ground Operations Activity Performance Detail Report is generated.

Expected Results: The Ground Operations Activity Performance Detail Report is generated and contained scheduled vs. actual times for ground events such as maintenance, training, reconfiguration. The report shall detail: reason for schedule variance, and user feedback.

Test Case 6 Generate a Ground Operations Event Performance Summary Report (T226-2.02.06)

This test verifies the ability of the MSS Report Generation function to generate a Ground Operations Event Performance Summary Report containing statistical rollups of scheduled vs. actual deviations for ground events such as maintenance, testing, reconfiguration. .

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Ground Operations Event Performance Summary Report.

Output: The Ground Operations Event Performance Summary Report is generated.

Expected Results: The Ground Operations Event Performance Summary Report is generated and contained statistical rollups of scheduled vs. actual deviations for ground events such as maintenance, testing, reconfiguration.

Test Case 7 Generate a Product Generation Status Detail Report (T226-2.02.07)

This test verifies the ability of the MSS Report Generation function to generate a Product Generation Status Detail Report containing the status of all standard product processing/reprocessing and storage.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Product Generation Status Detail Report.
Output:	The Product Generation Status Detail Report is generated.
Expected Results:	The Product Generation Status Detail Report is generated and contained the status of all standard product processing/reprocessing and storage.

Test Case 8 Generate a Product Generation Status Summary Report (T226-2.02.08)

This test verifies the ability of the MSS Report Generation function to generate a Product Generation Status Summary Report containing the percent distribution of standard product generation work within each processing state.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Product Generation Status Summary Report.
Output:	The Product Generation Status Summary Report is generated.
Expected Results:	The Product Generation Status Summary Report is generated and contained the percent distribution of standard product generation work within each processing state.

Test Case 9 Generate a Resource Performance Report (T226-2.02.09)

This test verifies the ability of the MSS Report Generation function to generate a Resource Performance Report containing: Availability, Reason for downtime (maintenance/ failure/ etc.), Utilization, Indication of compliance with performance criteria, Short and long term trend analysis, and capacity planning results.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Resource Performance Report.

Output: The Resource Performance Report is generated.

Expected Results: The Resource Performance Report is generated and contained: Availability, Reason for downtime (maintenance/ failure/ etc.), Utilization, Indication of compliance with performance criteria, Short and long term trend analysis, and capacity planning results.

Test Case 10 Generate a CPU Load Report (T226-2.02.10)

This test verifies the ability of the MSS Report Generation function to generate a CPU Load Report graphically depicting the average number of jobs in the run queue over the last 1, 5, and 15 minute period for each selected node.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a CPU Load Report.

Output: The CPU Load Report is generated.

Expected Results: The CPU Load Report is generated and graphically depicts the average number of jobs in the run queue over the last 1, 5, and 15 minute period for each selected node.

5.60.2.3 Sequence 3 - Network Reporting

This test verifies the ability of the MSS Report Generation function to generate network related reports.

Test Case 1 Generate an Interface Traffic Report (T226-2.03.11)

This test verifies the ability of the MSS Report Generation function to generate an Interface Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an Interface Traffic Report.

Output: The Interface Traffic Report is generated.

Expected Results: Then Interface Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 2_ Generate an Ethernet Traffic Report (T226-2.03.02)

This test verifies the ability of the MSS Report Generation function to generate an Ethernet Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an Ethernet Traffic Report.

Output: Then Ethernet Traffic Report is generated.

Expected Results: Then Ethernet Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 3_ Generate an SNMP Traffic Report (T226-2.03.03)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an SNMP Traffic Report.

Output: Then SNMP Traffic Report is generated.

Expected Results: Then SNMP Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 4_ Generate an SNMP Operations Report (T226-2.03.04)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Operations Report graphically plotting the number of selected SNMP operations/sec requested to be performed by the SNMP agent on the selected node(s).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an SNMP Operations Report on selected nodes.

Output: Then SNMP Operations Report is generated.

Expected Results: Then SNMP Operations Report is generated and graphically plots the number of selected SNMP operations/sec requested to be performed by the SNMP agent on the selected nodes.

Test Case 5 Generate a Site Host Resource Utilization Report (T226-2.03.05)

This test verifies the ability of the MSS Report Generation function to generate a Site Host Resource Utilization Report indicating minimum/average/maximum measured percent usage of host CPU and memory resources and disk reads and writes over the report interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Site Host Resource Utilization Report.

Output: The Site Host Resource Utilization Report is generated.

Expected Results: The Site Host Resource Utilization Report is generated and indicated minimum/average/maximum measured percent usage of host CPU and memory resources and disk reads and writes over the report interval.

Test Case 6 Generate a SMC Host Resource Utilization Report (T226-2.03.06)

This test verifies the ability of the MSS Report Generation function to generate a SMC Host Resource Utilization Report indicating minimum/average/maximum measured percent usage of SMC host CPU and memory resources and disk reads and writes over the report interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a SMC Host Resource Utilization Report.

Output: The SMC Host Resource Utilization Report is generated.

Expected Results: The SMC Host Resource Utilization Report is generated and indicated minimum/average/maximum measured percent usage of SMC host CPU and memory resources and disk reads and writes over the report interval.

Test Case 7 Generate a Disk Space Report (T226-2.03.07)

This test verifies the ability of the MSS Report Generation function to generate a Disk Space Report which lists the file system space available on a selected managed host node.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Disk Space Report.
Output:	The Disk Space Report is generated.
Expected Results:	The Disk Space Report is generated which lists the file system space available on a selected managed host node.

5.60.2.4 Sequence 4 - Customer Use Reporting

This test verifies the ability of the MSS Report Generation function to generate reports pertaining to customer use of ECS resources, products, and services.

Test Case 1 Generate a User Service Performance Report (T226-2.04.01)

This test verifies the ability of the MSS Report Generation function to generate a User Service Performance Report containing summary and detailed analysis of user feedback including: User information, Type of transaction, Satisfaction statistics, User recommendations, and SMC recommendations.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a User Service Performance Report.
Output:	The User Service Performance Report is generated.
Expected Results:	The User Service Performance Report is generated and contained summary and detailed analysis of user feedback including: User information, Type of transaction, Satisfaction statistics, User recommendations, and SMC recommendations.

Test Case 2 Generate a Data Distribution Performance Report (T226-2.04.02)

This test verifies the ability of the MSS Report Generation function to generate a Data Distribution Performance Report listing the time a request was received, assigned, processed, verified, and delivered and variances from nominal.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Data Distribution Performance Report.

Output: The Data Distribution Performance Report is generated.

Expected Results: The Data Distribution Performance Report is generated and listed the time a request was received, assigned, processed, verified, and delivered and variances from nominal.

Test Case 3 Generate a Media Distribution Profile Report (T226-2.04.03)

This test verifies the ability of the MSS Report Generation function to generate a Media Distribution Profile Report containing the statistical distribution of routine and user-requested products by electronic means and physical media type over the reporting period.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Media Distribution Profile Report.

Output: The Media Distribution Profile Report is generated.

Expected Results: The Media Distribution Profile Report is generated and contained the statistical distribution of routine and user-requested products by electronic means and physical media type over the reporting period.

Test Case 4 Generate a Data Orders Tracking Summary Report (T226-2.04.04)

This test verifies the ability of the MSS Report Generation function to generate a Data Orders Tracking Summary Report containing summary statistics on product order request dispositions over the reporting period.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Data Orders Tracking Summary Report.

Output: The Data Orders Tracking Summary Report is generated.

Expected Results: The Data Orders Tracking Summary Report is generated and contains summary statistics on product order request dispositions over the reporting period.

Test Case 5 Generate a Data Products Tracking Summary Report (T226-2.04.05)

This test verifies the ability of the MSS Report Generation function to generate a Data Products Tracking Summary Report containing statistics on distribution of dataset orders by dataset type.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Data Products Tracking Summary Report.
Output:	The Data Products Tracking Summary Report is generated.
Expected Results:	The Data Products Tracking Summary Report is generated and contains statistics on distribution of dataset orders by dataset type.

Test Case 6 Generate a Returned Product Summary Report (T226-2.04.06)

This test verifies the ability of the MSS Report Generation function to generate a Returned Product Summary Report containing summary list of product returns with reason, cost, site action, and current status.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Returned Product Summary Report.
Output:	The Returned Product Summary Report is generated.
Expected Results:	The Returned Product Summary Report is generated and contains a summary list of product returns with reason, cost, site action, and current status.

Test Case 7 Generate a User Characterization Report (T226-2.04.07)

This test verifies the ability of the MSS Report Generation function to generate a User Characterization Report containing user statistical summary information on number of new/repeat accesses and summary information by product interest, mode of access, and affiliation.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a User Characterization Report.
Output:	The User Characterization Report is generated.
Expected Results:	The User Characterization Report is generated and contains user statistical summary information on number of new/repeat accesses and summary information by product interest, mode of access, and affiliation.

Test Case 8 Generate a System Access Profile Report (T226-2.04.08)

This test verifies the ability of the MSS Report Generation function to generate a System Access Profile Report containing statistics on distribution of user accesses by system service type over the selected reporting interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a System Access Profile Report.

Output: The System Access Profile Report is generated.

Expected Results: The System Access Profile Report is generated and contains statistics on distribution of user accesses by system service type over the selected reporting interval.

Test Case 9 Generate a Utilization of User Services Personnel Summary Report (T226-2.04.09)

This test verifies the ability of the MSS Report Generation function to generate a Utilization of User Services Personnel Summary Report depicting the distribution of user services requests by request type and method of contact over the report interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Utilization of User Services Personnel Summary Report.

Output: The Utilization of User Services Personnel Summary Report is generated.

Expected Results: The Utilization of User Services Personnel Summary Report is generated and depicts the distribution of user services requests by request type and method of contact over the report interval.

5.60.2.5 Sequence 5 - Problem Reporting

This test verifies the ability of the MSS Report Generation function to generate reports for tracking and analysis of problems.

Test Case 1 Generate a Fault Management Report (T226-2.05.10)

This test verifies the ability of the MSS Report Generation function to generate a Fault Management Report containing summary and detailed information on fault management of ground resources including: fault type and description, time of fault occurrence, effect of fault on system, status of fault resolution, and fault statistics.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Fault Management Report.

Output: The Fault Management Report is generated.

Expected Results: The Fault Management Report is generated and contains summary and detailed information on fault management of ground resources including: fault type and description, time of fault occurrence, effect of fault on system, status of fault resolution, and fault statistics.

Test Case 2 Generate a Trouble Status Report (T226-2.05.02)

This test verifies the ability of the MSS Report Generation function to generate a Trouble Status Report containing statistics on the number of trouble tickets opened, closed, and in work at a site and the average time to close a trouble ticket over the reporting period.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Trouble Status Report.

Output: The Trouble Status Report is generated.

Expected Results: The Trouble Status Report is generated and contains statistics on the number of trouble tickets opened, closed, and in work at a site and the average time to close a trouble ticket over the reporting period.

Test Case 3 Generate an Ethernet Errors Report (T226-2.05.03)

This test verifies the ability of the MSS Report Generation function to generate an Ethernet Errors Report graphically depicting Ethernet error statistics for a selected node in real-time.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an Ethernet Errors Report.

Output: Then Ethernet Errors Report was generated.

Expected Results: Then Ethernet Errors Report is generated and graphically depicts Ethernet error statistics for a selected node in real-time.

Test Case 4 Generate an SNMP Errors Report (T226-2.05.04)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Errors report graphically depicting SNMP error statistics in real-time for the selected network nodes.

Test Configuration: Hardware - workstations

	Software - MSS Report Generation
Input:	The tester selects to generate an SNMP Errors report.
Output:	Then SNMP Errors report is generated.
Expected Results:	Then SNMP Errors report is generated and graphically depicts SNMP error statistics in real-time for the selected network nodes.

Test Case 5 Generate an SNMP Authentication Failures Report (T226-2.05.05)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Authentication Failures Report listing the management systems that caused an authentication failure on the operator selected node(s).

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate an SNMP Authentication Failures Report.
Output:	Then SNMP Authentication Failures Report is generated.
Expected Results:	Then SNMP Authentication Failures Report is generated and lists the management systems that caused an authentication failure on the operator selected node(s).

Test Case 6 Generate an SNMP Event Log Report (T226-2.05.06)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Event Log Report containing a chronological list of SNMP events which occurred over the report interval for the selected node(s).

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate an SNMP Event Log Report for selected nodes.
Output:	Then SNMP Event Log Report is generated.
Expected Results:	Then SNMP Event Log Report is generated and contains a chronological list of SNMP events which occurred over the report interval for the selected nodes.

Test Case 7 Generate a Site Host Errors Report (T226-2.05.07)

This test verifies the ability of the MSS Report Generation function to generate a Site Host Errors Report containing a statistical summary of the types of errors logged at each host at a site over the reporting period.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Site Host Errors Report.

Output: The Site Host Errors Report is generated.

Expected Results: The Site Host Errors Report is generated and contains a statistical summary of the types of errors logged at each host at a site over the reporting period.

Test Case 8 Generate an EMC Host Errors Report (T226-2.05.08)

This test verifies the ability of the MSS Report Generation function to generate an EMC Host Errors Report containing a statistical summary of the types of errors logged at each site over the reporting period.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an EMC Host Errors Report.

Output: Then EMC Host Errors Report is generated.

Expected Results: Then EMC Host Errors Report is generated and contains a statistical summary of the types of errors logged at each site over the reporting period.

5.60.2.6 Sequence 6 - Audit Reporting

This test verifies the ability of the MSS Report Generation function to generate reports to support auditing of the ECS and it's resources.

Test Case 1 Generate a Ground Resource Availability Audit Report (T226-2.06.06)

This test verifies the ability of the MSS Report Generation function to generate a Ground Resource Availability Audit Report itemizing the occurrence of each resource outage, reason for the outage, duration, and availability over the report interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Ground Resource Availability Audit Report.

Output: The Ground Resource Availability Audit Report is generated.

Expected Results: The Ground Resource Availability Audit Report is generated and itemized the occurrence of each resource outage, reason for the outage, duration, and availability over the report interval.

Test Case 2 Generate a Data Accountability Audit Report (T226-2.06.02)

This test verifies the ability of the MSS Report Generation function to generate a Data Accountability Audit Report tracing a data item's status changes/ accesses over the reporting interval.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Data Accountability Audit Report.
Output:	The Data Accountability Audit Report is generated.
Expected Results:	The Data Accountability Audit Report is generated and traces a data item's status changes/ accesses over the reporting interval.

Test Case 3 Generate a Pending Service Request Audit Report (T226-2.06.03)

This test verifies the ability of the MSS Report Generation function to generate a Pending Service Request Audit Report tracing processing events for requests currently in-progress.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Pending Service Request Audit Report.
Output:	The Pending Service Request Audit Report is generated.
Expected Results:	The Pending Service Request Audit Report is generated and traces processing events for requests currently in-progress.

Test Case 4 Generate a User Activity Audit Report (T226-2.06.04)

This test verifies the ability of the MSS Report Generation function to generate a User Activity Audit Report tracing a user's activity during a logon including products requested and files accessed.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a User Activity Audit Report.
Output:	The User Activity Audit Report is generated.
Expected Results:	The User Activity Audit Report is generated and traces a user's activity during a logon including products requested and files accessed.

Test Case 5 Generate a Security Audit Report (T226-2.06.05)

This test verifies the ability of the MSS Report Generation function to generate a Security Audit Report.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Security Audit Report.
Output:	The Security Audit Report is generated.
Expected Results:	The Security Audit Report is generated.

5.60.2.7 Sequence 7 - Production and Planning Management Reporting

This test verifies the ability of the MSS Report Generation function to generate reports used to monitor the production and planning management for the ECS.

Test Case 1 Generate a Storage Management Activity Report (T226-2.07.01)

This test verifies the ability of the MSS Report Generation function to generate a Storage Management Activity Report containing a list of storage management events for the selected start/stop time, intermediate operation, request ID, and staging resource.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Storage Management Activity Report.
Output:	The Storage Management Activity Report is generated.
Expected Results:	The Storage Management Activity Report is generated and contains a list of storage management events for the selected start/stop time, intermediate operation, request ID, and staging resource.

Test Case 2 Generate a Storage Management Inventory Update Report (T226-2.07.02)

This test verifies the ability of the MSS Report Generation function to generate a Storage Management Inventory Update Report containing the log of storage management inventory update events for the selected reporting period.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation

Input: The tester selects to generate a Storage Management Inventory Update Report.

Output: The Storage Management Inventory Update Report is generated.

Expected Results: The Storage Management Inventory Update Report is generated and contains the log of storage management inventory update events for the selected reporting period.

Test Case 3 Generate an Ingest History Report (T226-2.07.03)

This test verifies the ability of the MSS Report Generation function to generate an Ingest History Report containing the log of ingest events selected by start/stop time, external data provider, data type identifier, and request status.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an Ingest History Report.

Output: Then Ingest History Report is generated.

Expected Results: Then Ingest History Report is generated and contains the log of ingest events selected by start/stop time, external data provider, data type identifier, and request status.

Test Case 4 Generate an Ingest Error Report (T226-2.07.04)

This test verifies the ability of the MSS Report Generation function to generate an Ingest Error Report containing the log of ingest error events for the reporting period.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an Ingest Error Report.

Output: Then Ingest Error Report is generated.

Expected Results: Then Ingest Error Report is generated and contains the log of ingest error events for the reporting period.

Test Case 5 Generate a Processing Log Report (T226-2.07.05)

This test verifies the ability of the MSS Report Generation function to generate a Processing Log Report containing the log of product processing events selected by start/stop time, data type identifier, and processing status.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Processing Log Report.

Output: The Processing Log Report is generated.

Expected Results: The Processing Log Report is generated and contains the log of product processing events selected by start/stop time, data type identifier, and processing status.

Test Case 6 Generate a Production and Data Processing Request Status Report (T226-2.07.06)

This test verifies the ability of the MSS Report Generation function to generate a Production and Data Processing Request Status Report containing the list of pending production and user-requested product data processing requests.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Production and Data Processing Request Status Report.

Output: The Production and Data Processing Request Status Report is generated.

Expected Results: The Production and Data Processing Request Status Report is generated and contains the list of pending production and user-requested product data processing requests.

Test Case 7 Generate a Planning Workload and Processing Turn-Around Report (T226-2.07.07)

This test verifies the ability of the MSS Report Generation function to generate a Planning Workload and Processing Turn-Around Report.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Planning Workload and Processing Turn-Around Report.

Output: The Planning Workload and Processing Turn-Around Report is generated.

Expected Results: The Planning Workload and Processing Turn-Around Report is generated.

Test Case 8 Generate a Planning Management Report (T226-2.07.08)

This test verifies the ability of the MSS Report Generation function to generate a Planning Management Report.

Test Configuration: Hardware - workstations

	Software - MSS Report Generation
Input:	The tester selects to generate a Planning Management Report.
Output:	The Planning Management Report is generated.
Expected Results:	The Planning Management Report is generated.

Test Case 9 Generate an Account Authorization Report (T226-2.07.09)

This test verifies the ability of the MSS Report Generation function to generate an Account Authorization Report containing authorized resource usage and current balance by user/group.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate an Account Authorization Report.
Output:	Then Account Authorization Report is generated.
Expected Results:	Then Account Authorization Report is generated and contains authorized resource usage and current balance by user/group.

Test Case 10 Generate a Functional Allocation Report (T226-2.07.10)

This test verifies the ability of the MSS Report Generation function to generate a Functional Allocation Report containing current assignment of: standard product generation/storage responsibility to a segment/element, and assignment of science instrument support to an ICC.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Functional Allocation Report.
Output:	The Functional Allocation Report is generated.
Expected Results:	The Functional Allocation Report is generated and contains the current: assignment of standard product generation/storage responsibility to a segment/element, and assignment of science instrument support to an ICC.

5.60.2.8 Sequence 8 - Accounting Reporting

This test verifies the ability of the MSS Report Generation function to generate reports to monitor the finance and accounting for the ECS.

Test Case 1 Generate a Service Cost Schedule Report (T226-2.08.01)

This test verifies the ability of the MSS Report Generation function to generate a Service Cost Schedule Report containing resource usage cost by service offered.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Service Cost Schedule Report.
Output:	The Service Cost Schedule Report is generated.
Expected Results:	The Service Cost Schedule Report is generated and contains resource usage cost by service offered.

Test Case 2 Generate a Standard Product Cost Schedule Report (T226-2.08.02)

This test verifies the ability of the MSS Report Generation function to generate a Standard Product Cost Schedule Report containing end to end cost accounting information by standard product.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Standard Product Cost Schedule Report.
Output:	The Standard Product Cost Schedule Report is generated.
Expected Results:	The Standard Product Cost Schedule Report is generated and contains end to end cost accounting information by standard product.

Test Case 3 Generate an Accounts Payable Report by User/Group (T226-2.08.03)

This test verifies the ability of the MSS Report Generation function to generate an Accounts Payable Report by user/group.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate an Accounts Payable Report.
Output:	The Accounts Payable Report is generated.
Expected Results:	The Accounts Payable Report is generated by user/group.

Test Case 4 Generate an Accounts Receivable Report by User/Group (T226-2.08.04)

This test verifies the ability of the MSS Report Generation function to generate an Accounts Receivable Report by user/group.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate an Accounts Receivable Report.
Output:	The Accounts Receivable Report is generated.
Expected Results:	The Accounts Receivable Report is generated by user/group.

5.60.2.9 Sequence 9 - Configuration Reporting

This test verifies the ability of the MSS Report Generation function to generate reports on the ECS configuration.

Test Case 1 Generate a Configuration Status Report (T226-2.09.01)

This test verifies the ability of the MSS Report Generation function to generate a Configuration Status Report noting the operational status of all H/W, system S/W and science S/W with a reason why an item is not currently operational .

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Configuration Status Report.
Output:	The Configuration Status Report is generated.
Expected Results:	The Configuration Status Report is generated and notes the operational status of all H/W, system S/W and science S/W with a reason why an item is not currently operational.

Test Case 2 Generate a System Information Report (T226-2.09.02)

This test verifies the ability of the MSS Report Generation function to generate a System Information Report for a selected managed object containing name, description, contact person, location, and system object identification.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a System Information Report for a selected managed object.
Output:	The System Information Report is generated.

Expected Results: The System Information Report is generated for a selected managed object containing name, description, contact person, location, and system object identification.

Test Case 3 Generate an SNMP Event Notification Report (T226-2.09.03)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Event Notification report identifying the IP address(es) of the management system(s) to which the selected node is configured to send SNMP events.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an SNMP Event Notification report.

Output: Then SNMP Event Notification report is generated.

Expected Results: Then SNMP Event Notification report is generated and identifies the IP address(es) of the management system(s) to which the selected node is configured to send SNMP events.

Test Case 4 Generate an Indentured Level of Assembly List Report (T226-2.09.04)

This test verifies the ability of the MSS Report Generation function to generate an Indentured Level of Assembly List Report for a managed configuration item (CI).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an Indentured Level of Assembly List Report.

Output: Then Indentured Level of Assembly List Report is generated.

Expected Results: Then Indentured Level of Assembly List Report is generated for a managed configuration item (CI).

Test Case 5 Generate a Document Configuration Status Report (T226-2.09.05)

This test verifies the ability of the MSS Report Generation function to generate a Document Configuration Status Report containing the identity and status of documents associated with ECS resources.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Document Configuration Status Report.

Output: The Document Configuration Status Report is generated.

Expected Results: The Document Configuration Status Report is generated and contains the identity and status of documents associated with ECS resources.

Test Case 6 Generate a System Configuration Tracking Report (T226-2.09.06)

This test verifies the ability of the MSS Report Generation function to generate a System Configuration Tracking Report noting the migration of upgrades into the operational environment.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a System Configuration Tracking Report.

Output: The System Configuration Tracking Report is generated.

Expected Results: The System Configuration Tracking Report is generated and notes the migration of upgrades into the operational environment.

5.60.2.10 Sequence 10 - Logistics Reporting

This test verifies the ability of the MSS Report Generation function to generate reports on ECS logistics (inventory, maintenance, training).

Test Case 1 Generate a Maintenance Schedule Report (T226-2.10.01)

This test verifies the ability of the MSS Report Generation function to generate a Maintenance Schedule Report on H/W, system S/W and science S/W indicating the type of maintenance (i.e., routine, non-routine and upgrade).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Maintenance Schedule Report.

Output: The Maintenance Schedule Report is generated.

Expected Results: The Maintenance Schedule Report is generated on H/W, system S/W and science S/W indicating the type of maintenance (i.e., routine, non-routine and upgrade).

Test Case 2 Generate a Training Program Report (T226-2.10.02)

This test verifies the ability of the MSS Report Generation function to generate a Training Program Report containing: Training programs, Training schedules, Training course contents, Training course locations, and Training attendees.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Training Program Report.
Output:	The Training Program Report is generated.
Expected Results:	The Training Program Report is generated and contains: Training programs, Training schedules, Training course contents, Training course locations, and Training attendees.

Test Case 3 Generate an Inventory Status Report (T226-2.10.03)

This test verifies the ability of the MSS Report Generation function to generate an Inventory Status Report containing summary and detailed status information on H/W, system S/W and science S/W and listing spares and consumables status at sites.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate an Inventory Status Report.
Output:	Then Inventory Status Report is generated.
Expected Results:	Then Inventory Status Report is generated and contains summary and detailed status information on H/W, system S/W and science S/W and listing spares and consumables status at sites.

5.60.2.11 Sequence 11 - Security Reporting

This test sequence verifies the security reporting functions.

Test Case 1 Generate a Security Compromise Report (T226-2.11.01)

This test verifies the ability of the MSS Report Generation function to generate a Security Compromise Report listing occurrences of login failures, unauthorized accesses, break-ins, viruses and worms indicating time, cause, impact, resolution status, and results of security compromise risk analysis.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Security Compromise Report.

Output: The Security Compromise Report is generated.

Expected Results: The Security Compromise Report is generated and lists occurrences of login failures, unauthorized accesses, break-ins, viruses and worms indicating time, cause, impact, resolution status, and results of security compromise risk analysis.

Test Case 2 Generate a Security Compromise Statistics Report (T226-2.11.02)

This test verifies the ability of the MSS Report Generation function to generate a Security Compromise Statistics Report containing cumulative frequency of violation occurrence statistics by type, site, day of week, and successful/failure.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Security Compromise Statistics Report.

Output: The Security Compromise Statistics Report is generated.

Expected Results: The Security Compromise Statistics Report is generated and contains cumulative frequency of violation occurrence statistics by type, site, day of week, and successful/failure.

Test Case 3 Generate a Virus Detection Report (T226-2.11.03)

This test verifies the ability of the MSS Report Generation function to generate a Virus Detection Report containing statistics on detected viruses/worms in selected network nodes and actions taken.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Virus Detection Report.

Output: The Virus Detection Report is generated.

Expected Results: The Virus Detection Report is generated and contains statistics on detected viruses/worms in the selected network nodes and actions taken.

5.61 Management Services Build

5.61.1 Build Objectives

The objectives of the CSMS Management Services Build are:

- Provide the ability to manage accounting/accountability policies and procedures, accounts payable and receivable, credit tracking, price estimation, invoicing and billing and reporting.
- Provide the ability to generate detailed reports of results of accounting audits of ground resources, security, work in process and uses of the system.

5.61.2 Build Test Description

Testing verifies the ability to perform accounting of ground segment resources by ECS and external users, end-to-end cost accounting, accounts payable and receivable and resource utilization. Testing will demonstrate verification of accounting and accountability management for conformance with GAO and OMB policies and procedures. Accounting policies such as privileges for guest versus registered users, definition of accounting processes to be applied to various user classes, pricing, payment handling and supply/service ordering/payment are distributed and available system-wide will be tested. Testing will verify that accounts payable and receivable handles payments for user account refunds, external suppliers and shipping providers, and handles receiving amounts due from users for products, media, consumables and shipping, and credits from external providers. Credit tracking provides distributed, mostly automated deduction or posting of charges or credits from or to user account balances, excluding non-ECS data services (ADC, ODC). Price estimation provides representative pricing information (based on a standardized pricing table up datable by the SMC accountant) for ECS and non-ECS providers to give the user a feel for the price prior to ordering a product. Invoicing and billing provides periodic formal reporting of account status to users and notification of payment requirements (if necessary). Reports can be generated to assist in trending/planning, policy reviews and financial audits.

This Build tests the ability to generate reports showing maintenance schedules for system hardware, software, and scientific software for routine, non-routine and upgrade maintenance activities. Testing will demonstrate the ability to generate reports on the standard analysis of system event logs and ad-hoc reports utilizing a fourth generation language.

Dependencies: (If Applicable)

To verify the objectives of the CSMS Management Services Build, the following interface and functional capabilities are required:

- Network environment (LAN and WAN)
- System performance database
- Established user accounts

- Established accounting policies and procedures
- Established standardized pricing information

Test Support Requirements

- Hardware:
  - TBD
- Software:
  -
- Data:
  -

5.61.2.1 Sequence 1 - ECS Policies and Procedures at the SMC

This testing will verify the SMC functions for administration of ECS policies and procedures by utilizing the MSS Policy and Procedures Management Application Service.

Test Case 1 Prepare, Store, Maintain, and Make Available for Distribution ECS Policies and Procedures (B226.01.01)

This test verifies the ability of the Policy and Procedures Management Application Service to prepare, store, maintain, and make available for distribution ECS policies and procedures at the SMC.

Test Configuration:	Hardware - workstations
	Software - MSS Policy and Procedures Management Application Service
Input:	The tester at a simulated SMC, using the Policies and Procedures Management Application Service, attempts to prepare, store, maintain, and make available for distribution an ECS policy and procedure.
Output:	Messages indicating the preparation, update, and storage of ECS policies and procedures. The display and hard copy of ECS policies and procedures.
Expected Results:	The tester successfully completes the preparation, update, and storage of the ECS policy and procedure. The tester is able to produce a display and hard copy of ECS policies and procedures.

Test Case 2 Provide Bulletin Board Service with Information on ECS, Status, Events and News (B226.01.02)

This test verifies the ability of the Policy and Procedures Management Application Service to provide bulletin board service with information on ECS, status, events and news.

Test Configuration:	Hardware - workstations
	Software - MSS Policy and Procedures Management Application Service, CSS Bulletin Board Service
Input:	The tester will attempt to provide information on ECS (status, events and news) to the CSS Bulletin Board Service. The tester, using a web browser, will attempt to access the CSS Bulletin Board Service to view the information on ECS.
Output:	Messages indicating that the information on ECS is received by the CSS Bulletin Board Service. The information on ECS is displayed on the CSS Bulletin Board Service.
Expected Results:	Messages indicating that the information on ECS is received by the CSS Bulletin Board Service will be logged. The information on ECS is displayed on the CSS Bulletin Board Service by the web browser.

Test Case 3 Maintain Bulletin Board Service with Information on ECS, Status, Events and News (B226.01.03)

This test verifies the ability of the Policy and Procedures Management Application Service to maintain bulletin board service with information on ECS, status, events and news.

Test Configuration:	Hardware - workstations
	Software - MSS Policy and Procedures Management Application Service, CSS Bulletin Board Service
Input:	The tester will attempt to maintain (update) information on ECS (status, events and news) to the CSS Bulletin Board Service. The tester, using a web browser, will attempt to access the CSS Bulletin Board Service to view the information on ECS.
Output:	Messages indicating that the information on ECS is updated by the CSS Bulletin Board Service. The updated information on ECS is displayed on the CSS Bulletin Board Service.
Expected Results:	Messages indicating that the information on ECS is updated by the CSS Bulletin Board Service will be logged. The updated information on ECS is displayed on the CSS Bulletin Board Service by the web browser.

5.61.2.2 Sequence 2 - ECS and Site-Specific Policies and Procedures

This testing will verify the site functions for administration of site-specific policies and procedures by utilizing the MSS Policy and Procedures Management Application Service.

Test Case 1 Access, Select, and Display/Print ECS Policies and Procedures (B226.02.04)

This test verifies the ability of the Policy and Procedures Management Application Service to access, select, and display/print ECS policies and procedures.

Test Configuration:	Hardware - workstations
	Software - MSS Policy and Procedures Management Application Service
Input:	The tester will attempt to access, select, and display/print ECS policies and procedures at a site.
Output:	Messages indicating the selection, and access of ECS policies and procedures at a site. The ECS policies and procedures are displayed and printed.
Expected Results:	The ECS policies and procedures selected by the tester are accessed. The ECS policies and procedures are displayed and printed.

Test Case 2 Input, Store, Maintain, and View/Print Site Specific Policies and Procedures (B226.02.02)

This test verifies the ability of the Policy and Procedures Management Application Service to input, store, maintain, and view/print site specific policies and procedures.

Test Configuration:	Hardware - workstations
	Software - MSS Policy and Procedures Management Application Service
Input:	The tester will attempt toInput, store, maintain, and view/print a site specific policy and procedure for a site.
Output:	Messages indicating theInput, storage, and update of a site specific policy and procedure for a site. The site specific policy and procedure is viewed and printed.
Expected Results:	The site specific policy and procedure entered by the tester isInput, stored, and updated. The site specific policy and procedure is viewed and printed.

5.61.2.3 Sequence 3 - Billing and Accounting

This testing will verify that the billing and accounting functions of the MSS Billing and Accounting Application Service continues to meet requirements when integrated with the MSS Report Generation function.

Test Case 1 Generate User Account Billing Statements as well as Billing Invoices (B226.03.01)

This test case will test the ability to generate user account billing statements and invoices for a billing cycle.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Account activity data from the ECS Management Database.

Input: The tester will initiate the Billing and Invoicing function of the BAAS by simulating the end of the billing cycle. This can be accomplished through manipulation of the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database is invoked, and Account activity data is distributed to the Billing and Invoicing function invoking it.

Output: Billing statements and invoices for the user accounts which have user activity during the billing cycle.

Expected Results: The appropriate billing statements and invoices for the user accounts which have user activity during the billing cycle is generated.

Test Case 2 Maintain Current Updated Individual and Summary User Account Balances (B226.03.02)

The ability of the BAAS Accounts Receivable function to maintain current updated individual and summary user account balances is tested.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will request from the accounts receivable function individual and summary user account balances.

Output: Individual and summary user account balances is displayed to the tester.

Expected Results: Individual and summary user account balances will accurately reflect the true balances for the user accounts.

Test Case 3 Reference All Update Transactions to the Appropriate Supporting Documents (B226.03.03)

The ability to reference all update transactions to the appropriate supporting documents by supplying a document identifier (e.g., billing invoice number).

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will process some receipts.
Output:	Update transactions for the receipts processed.
Expected Results:	The logged update transactions for the receipts processed includes a reference to the appropriate supporting document.

Test Case 4 Maintain Vendor/Payee Master Files (B226.03.04)

This test verifies the ability of the BAAS Accounts Payable function to maintain vendor/payee master files.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester attempts to view the vendor/payee master file.
Output:	The vendor/payee master file is displayed.
Expected Results:	The vendor/payee master file is displayed to the tester.

Test Case 5 Update Vendor/Payee Master Files (B226.03.05)

This test verifies the ability of the BAAS Accounts Payable function to update vendor/payee master files.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester attempts to update the vendor/payee master file, but adding new vendors/payees, and modify existing vendors/payees.
Output:	Updated vendor/payee master files.
Expected Results:	The vendor/payee master files contain the added and modified vendor/payee information.

Test Case 6 Maintain Payee Account Balances (B226.03.06)

This test verifies the ability of the BAAS Accounts Payable function to maintain payee account balances.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will process payments to and charges from vendors/payees, and then requests to see the balances for the appropriate vendors/payees.
Output:	The balances for the appropriate vendors/payees will be displayed.
Expected Results:	The balances for the appropriate vendors/payees will accurately reflect the actual balances based on the initial balances and the adjustments for the payments and charges.

Test Case 7 Identify Delinquent Accounts (B226.03.07)

This test verifies the ability of the BAAS Collections function to identify delinquent accounts; those accounts which have violated ECS-determined account aging parameters (TBD).

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will simulate the passing of time (TBD days), through manipulation of the system date, and will then request the BAAS Collections function to identify delinquent accounts.
Output:	Messages identifying delinquent accounts.
Expected Results:	All delinquent accounts will be identified by the BAAS Collections function.

Test Case 8 Set Up a Chart of Accounts (B226.03.08)

This test verifies the ability of the BAAS General Ledger function to set up a chart of accounts.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will attempt to set up a chart of accounts.
Output:	The chart of accounts.
Expected Results:	The chart of accounts will be set up.

Test Case 9 Perform End-of-Period Process, Accruals, and Consolidation Processes (B226.03.09)

This test verifies the ability of the BAAS General Ledger function to perform end-of-period process (trial balances), accruals, and consolidation processes under the control of authorized staff.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester, acting as a member of the authorized staff, will attempt to perform end-of-period process, accruals, and consolidation processes.
Output:	Messages indicating that the end-of-period process, accruals, and consolidation processes are performed.
Expected Results:	The end-of-period process, accruals, and consolidation processes are performed by the BAAS General Ledger function under the control of the tester.

Test Case 10 Archive Data Needed for Comparative Analysis and Presentation of Historical Information (B226.03.10)

This test verifies the ability of the BAAS General Ledger function to archive data needed for comparative analysis and presentation of historical information.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will attempt to archive data needed for comparative analysis and presentation of historical information.
Output:	Messages indicating that the data needed for comparative analysis and presentation of historical information was archived.
Expected Results:	The data needed for comparative analysis and presentation of historical information was archived, and the information required to access the archive was provided.

Test Case 11 Provide End-of-Period Reports (B226.03.11)

This test verifies the ability of the BAAS General Ledger function to provide end-of-period reports (e.g., end-of-month, end-of-quarter, end-of-year).

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will attempt to run the end-of-period reports.
Output:	The end-of-period reports are provided.

Expected Results: The end-of-period reports are provided for end-of-month, end-of-quarter, and end-of-year.

Test Case 12 Maintain Authorized Billing Algorithms to Value Products and Services, and the Cost of Serving Users (B226.03.12)

This test verifies the ability of the BAAS Cost Accounting function to maintain authorized billing algorithms to value products and services, and the cost of serving users.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to access the billing algorithms maintained by the BAAS Cost Accounting function, as an authorized and an unauthorized user.

Output: Messages indicating access or denial of access to the billing algorithms.

Expected Results: Access to the billing algorithms was allowed for the tester as an authorized user, and was denied access for the tester as an unauthorized user.

Test Case 13 Assign Costs to Processes Using Authorized Cost Algorithms (B226.03.13)

This test verifies the ability of the BAAS Cost Accounting function to assign costs to processes using authorized cost algorithms.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function will run to assign costs to processes using authorized cost algorithms. The tester will view the log.

Output: Messages indicating that costs are assigned to processes.

Expected Results: The log will be viewed, and will contain messages indicating that costs are assigned to processes. The costs should be calculated correctly based on the authorized cost algorithms.

Test Case 14 Assign Costs to ECS Products Using Authorized Cost Algorithms (B226.03.14)

This test verifies the ability of the BAAS Cost Accounting function to assign costs to ECS products using authorized cost algorithms.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function will run to assign costs to ECS products using authorized cost algorithms. The tester will view the log.

Output: Messages indicating that costs are assigned to ECS products.

Expected Results: The log will be viewed, and will contain messages indicating that costs are assigned to ECS products. The costs should be calculated correctly based on the authorized cost algorithms.

Test Case 15 Assign Costs to Serve Different Users (B226.03.15)

This test verifies the ability of the BAAS Cost Accounting function to assign costs to serve different users.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function will run to assign costs to different users. The tester will view the log.

Output: Messages indicating that costs are assigned to different users.

Expected Results: The log will be viewed, and will contain messages indicating that costs are assigned to different users.

Test Case 16 Receive Resource and Product Utilization Information (B226.03.16)

This test verifies the ability of the BAAS Cost Accounting function to receive resource and product utilization information from the ECS Management Database to track costs to identifiable and quantifiable sources.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function runs and assigns costs to ECS products using the resource and product utilization information from the ECS Management Database. The tester views the log.

Output: Messages indicating that resource and product utilization information from the ECS Management Database are received.

Expected Results: The log is viewed, and contains messages indicating that resource and product utilization information from the ECS Management Database are received. The costs should be calculated correctly based on the resource and product utilization information received.

Test Case 17 Provide Standard Automated Financial Statements and Summary Reports (B226.03.17)

This test verifies the ability of the BAAS Reporting function to provide standard automated financial statements and summary reports.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to run the standard automated financial statements and summary report.

Output: The standard automated financial statements and summary report are provided.

Expected Results: The standard automated financial statements and summary report are provided.

Test Case 18 Transfer of Information to Other Applications Outside of the Billing/Accounting Application Service (B226.03.18)

This test verifies the ability of the BAAS Reporting function to allow the transfer of information to other applications outside of the Billing/Accounting Application Service.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to transfer information to other applications outside of the Billing/Accounting Application Service.

Output: The report information for the transfer is provided.

Expected Results: The information is transferred to other applications outside of the Billing/Accounting Application Service.

5.61.2.4 Sequence 4 - Report Generation Support

This testing will verify that the billing and accounting functions of the MSS Billing and Accounting Application Service continues to meet requirements when integrated with the MSS Report Generation function.

Test Case 1 Standard and Ad-Hoc Reports and Queries on the Management and Related Data Maintained in the Management Database (B226.04.01)

This test verifies the ability of the MSS Report Generation function to generate standard and ad-hoc reports and queries on all or portions of the management and related data maintained in the management database.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate standard and ad-hoc reports and queries.

Output: The generate standard and ad-hoc reports and queries are generated.

Expected Results: The generate standard and ad-hoc reports and queries are generated on all or portions of the management and related data maintained in the management database.

Test Case 2 Motif Based GUI Workbench for Use by Database Specialist M&O Staff (B226.04.02)

This test verifies the ability of the MSS Report Generation function to provide a Motif based GUI workbench for use by database specialist M&O staff to generate standard and ad-hoc reports and queries.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester using the Motif based GUI workbench selects to generate standard and ad-hoc reports and queries.

Output: The standard and ad-hoc reports and queries are generated.

Expected Results: By using the Motif based GUI workbench the standard and ad-hoc reports and queries are generated.

Test Case 3 HTML Based User Interface for Use by Non-Database Specialists on the M&O Staff for Requesting Standard Reports (B226.04.03)

This test verifies the ability of the MSS Report Generation function to provide an HTML based user interface for use by non-database specialists on the M&O staff for requesting standard reports.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester using the HTML based user interface requests to generate a standard report.
Output:	The standard report is generated.
Expected Results:	By using the HTML based user interface for use by non-database specialists on the M&O staff a requested standard report is generated.

Test Case 4 Output Generated Reports to the User's Console, a File, or a Printer (B226.04.04)

This test verifies the ability of the MSS Report Generation function to output generated reports to the user's console, a file, or a printer.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate some reports, andOutput them to the user's console, a file, or a printer.
Output:	The generated reports.
Expected Results:	The generated reports areOutput to the user's console, a file, or a printer.

Test Case 5 Output Report Query Results to a File in a Tabular Format Which Can Be Imported by Analysis Tools Such as Spreadsheets (B226.04.05)

This test verifies the ability of the MSS Report Generation function to output report query results to a file in a tabular format which can be imported by analysis tools such as spreadsheets.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation, spreadsheet application

Input:	The tester generates a report andOutputs the report query results to a file in a tabular format which can be imported by analysis tools such as spreadsheets.
Output:	The report query results in a tabular format file.
Expected Results:	The report queried results are generated andOutput to a file in a tabular format which can be imported by analysis tools such as spreadsheets. The file is then imported into a spreadsheet application.

Test Case 6 Generate a Routine Data Production Performance Detail Report (B226.04.06)

This test verifies the ability of the MSS Report Generation function to generate a Routine Data Production Performance Detail Report itemizing scheduled vs. actual times for data collection, processing, retrieval, and delivery along with: reason for schedule variance, data quality, and user feedback.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Routine Data Production Performance Detail Report.
Output:	The Routine Data Production Performance Detail Report is generated.
Expected Results:	The Routine Data Production Performance Detail Report is generated and itemized scheduled vs. actual times for data collection, processing, retrieval, and delivery along with: reason for schedule variance, data quality, and user feedback.

Test Case 7 Generate a Routine Data Production Performance Summary Report (B226.04.07)

This test verifies the ability of the MSS Report Generation function to generate a Routine Data Production Performance Summary Report containing statistical rollups of scheduled vs. actual deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data. .

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Routine Data Production Performance Summary Report.
Output:	The Routine Data Production Performance Summary Report is generated.
Expected Results:	The Routine Data Production Performance Summary Report is generated and contains statistical rollups of scheduled vs. actual deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data.

Test Case 8 Generate an Interface Traffic Report (B226.04.08)

This test verifies the ability of the MSS Report Generation function to generate an Interface Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	Tester selects to generate an Interface Traffic Report.
Output:	Interface Traffic Report is generated.
Expected Results:	Interface Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 9 Generate an Ethernet Traffic Report (B226.04.09)

This test verifies the ability of the MSS Report Generation function to generate an Ethernet Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate an Ethernet Traffic Report.
Output:	Then Ethernet Traffic Report is generated.
Expected Results:	Then Ethernet Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 10 Generate an SNMP Traffic Report (B226.04.10)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate an SNMP Traffic Report.
Output:	Then SNMP Traffic Report is generated.
Expected Results:	Then SNMP Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 11 Generate an SNMP Operations Report (B226.04.11)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Operations Report graphically plotting the number of selected SNMP operations/sec requested to be performed by the SNMP agent on the selected node(s).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an SNMP Operations Report on selected nodes.

Output: Then SNMP Operations Report is generated.

Expected Results: Then SNMP Operations Report is generated and graphically plots the number of selected SNMP operations/sec requested to be performed by the SNMP agent on the selected nodes.

Test Case 12 Generate a Site Host Resource Utilization Report (B226.04.12)

This test verifies the ability of the MSS Report Generation function to generate a Site Host Resource Utilization Report indicating minimum/average/maximum measured percent usage of host CPU and memory resources and disk reads and writes over the report interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Site Host Resource Utilization Report.

Output: The Site Host Resource Utilization Report is generated.

Expected Results: The Site Host Resource Utilization Report is generated and indicates minimum/average/maximum measured percent usage of host CPU and memory resources and disk reads and writes over the report interval.

Test Case 13 Generate a User Service Performance Report (B226.04.13)

This test verifies the ability of the MSS Report Generation function to generate a User Service Performance Report containing summary and detailed analysis of user feedback including: User information, Type of transaction, Satisfaction statistics, User recommendations, and SMC recommendations.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a User Service Performance Report.

Output: The User Service Performance Report is generated.

Expected Results: The User Service Performance Report is generated and contains summary and detailed analysis of user feedback including: User

information, type of transaction, satisfaction statistics, user recommendations, and SMC recommendations.

Test Case 14 Generate a Data Distribution Performance Report (B226.04.14)

This test verifies the ability of the MSS Report Generation function to generate a Data Distribution Performance Report listing the time a request is received, assigned, processed, verified, and delivered and variances from nominal.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Data Distribution Performance Report.

Output: The Data Distribution Performance Report is generated.

Expected Results: The Data Distribution Performance Report is generated and listed the time a request was received, assigned, processed, verified, and delivered and variances from nominal.

Test Case 15 Generate a Fault Management Report (B226.04.15)

This test verifies the ability of the MSS Report Generation function to generate a Fault Management Report containing summary and detailed information on fault management of ground resources including: fault type and description, time of fault occurrence, effect of fault on system, status of fault resolution, and fault statistics.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Fault Management Report.

Output: The Fault Management Report is generated.

Expected Results: The Fault Management Report is generated and contains summary and detailed information on fault management of ground resources including: fault type and description, time of fault occurrence, effect of fault on system, status of fault resolution, and fault statistics.

Test Case 16 Generate a Trouble Status Report (B226.04.16)

This test verifies the ability of the MSS Report Generation function to generate a Trouble Status Report containing statistics on the number of trouble tickets opened, closed, and in work at a site and the average time to close a trouble ticket over the reporting period.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Trouble Status Report.

Output: The Trouble Status Report is generated.

Expected Results: The Trouble Status Report is generated and contains statistics on the number of trouble tickets opened, closed, and in work at a site and the average time to close a trouble ticket over the reporting period.

Test Case 17 Generate a Ground Resource Availability Audit Report (B226.04.17)

This test verifies the ability of the MSS Report Generation function to generate a Ground Resource Availability Audit Report itemizing the occurrence of each resource outage, the reason for the outage, the duration, and the availability over the report interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Ground Resource Availability Audit Report.

Output: The Ground Resource Availability Audit Report is generated.

Expected Results: The Ground Resource Availability Audit Report is generated and itemizes the occurrence of each resource outage, reason for the outage, duration, and availability over the report interval.

Test Case 18 Generate a Data Accountability Audit Report (B226.04.18)

This test verifies the ability of the MSS Report Generation function to generate a Data Accountability Audit Report tracing a data item's status changes/ accesses over the reporting interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Data Accountability Audit Report.

Output: The Data Accountability Audit Report is generated.

Expected Results: The Data Accountability Audit Report is generated and traces a data item's status changes/ accesses over the reporting interval.

Test Case 19 Generate a User Activity Audit Report (B226.04.19)

This test verifies the ability of the MSS Report Generation function to generate a User Activity Audit Report tracing a user's activity during a logon including products requested and files accessed.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a User Activity Audit Report.
Output:	The User Activity Audit Report is generated.
Expected Results:	The User Activity Audit Report is generated and traces a user's activity during a logon including products requested and files accessed.

Test Case 20 Generate a Security Audit Report (B226.04.20)

This test verifies the ability of the MSS Report Generation function to generate a Security Audit Report.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester generates a Security Audit Report.
Output:	The Security Audit Report is generated.
Expected Results:	The Security Audit Report is generated.

Test Case 21 Generate an Ingest History Report (B226.04.21)

This test verifies the ability of the MSS Report Generation function to generate an Ingest History Report containing the log of ingest events selected by start/stop time, external data provider, data type identifier, and request status.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester generates an Ingest History Report.
Output:	Ingest History Report is generated.
Expected Results:	Ingest History Report is generated and contains the log of ingest events selected by start/stop time, external data provider, data type identifier, and request status.

Test Case 22 Generate a Processing Log Report (B226.04.22)

This test verifies the ability of the MSS Report Generation function to generate a Processing Log Report containing the log of product processing events selected by start/stop time, data type identifier, and processing status.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation

Input: The tester selects to generate a Processing Log Report.

Output: The Processing Log Report is generated.

Expected Results: The Processing Log Report is generated and contains the log of product processing events selected by start/stop time, data type identifier, and processing status.

Test Case 23 Generate a Production and Data Processing Request Status Report (B226.04.23)

This test verifies the ability of the MSS Report Generation function to generate a Production and Data Processing Request Status Report containing the list of pending production and user-requested product data processing requests.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Production and Data Processing Request Status Report.

Output: Production and Data Processing Request Status Report is generated.

Expected Results: Production and Data Processing Request Status Report is generated and contains the list of pending production and user-requested product data processing requests.

Test Case 24 Generate a Planning Workload and Processing Turn-Around Report (B226.04.24)

This test verifies the ability of the MSS Report Generation function to generate a Planning Workload and Processing Turn-Around Report.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Planning Workload and Processing Turn-Around Report.

Output: The Planning Workload and Processing Turn-Around Report is generated.

Expected Results: The Planning Workload and Processing Turn-Around Report is generated.

Test Case 25 Generate a Planning Management Report (B226.04.25)

This test verifies the ability of the MSS Report Generation function to generate a Planning Management Report.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Planning Management Report.

Output: The Planning Management Report is generated.

Expected Results: The Planning Management Report is generated.

Test Case 26 Generate a Service Cost Schedule Report (B226.04.26)

This test verifies the ability of the MSS Report Generation function to generate a Service Cost Schedule Report containing resource usage cost by service offered.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Service Cost Schedule Report.

Output: The Service Cost Schedule Report is generated.

Expected Results: The Service Cost Schedule Report is generated and contains resource usage cost by service offered.

Test Case 27 Generate a Standard Product Cost Schedule Report (B226.04.27)

This test verifies the ability of the MSS Report Generation function to generate a Standard Product Cost Schedule Report containing end to end cost accounting information by standard product.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Standard Product Cost Schedule Report.

Output: The Standard Product Cost Schedule Report is generated.

Expected Results: The Standard Product Cost Schedule Report is generated and contains end to end cost accounting information by standard product.

Test Case 28 Generate a Configuration Status Report (B226.04.28)

This test verifies the ability of the MSS Report Generation function to generate a Configuration Status Report noting the operational status of all H/W, system S/W and science S/W with a reason why an item is not currently operational .

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Configuration Status Report.

Output: The Configuration Status Report is generated.

Expected Results: The Configuration Status Report is generated and notes the operational status of all H/W, system S/W and science S/W with a reason why an item is not currently operational.

Test Case 29 Generate a Maintenance Schedule Report (B226.04.29)

This test verifies the ability of the MSS Report Generation function to generate a Maintenance Schedule Report on H/W, system S/W and science S/W indicating the type of maintenance (i.e., routine, non-routine and upgrade).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Maintenance Schedule Report.

Output: The Maintenance Schedule Report is generated.

Expected Results: The Maintenance Schedule Report is generated on H/W, system S/W and science S/W indicating the type of maintenance (i.e., routine, non-routine and upgrade).

Test Case 30 Generate a Training Program Report (B226.04.30)

This test verifies the ability of the MSS Report Generation function to generate a Training Program Report containing: Training programs, Training schedules, Training course contents, Training course locations, and Training attendees.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Training Program Report.

Output: The Training Program Report is generated.

Expected Results: The Training Program Report is generated and contains: Training programs, Training schedules, Training course contents, Training course locations, and Training attendees.

Test Case 31 Generate an Inventory Status Report (B226.04.31)

This test verifies the ability of the MSS Report Generation function to generate an Inventory Status Report containing summary and detailed status information on H/W, system S/W and science S/W and listing spares and consumables status at sites.

Test Configuration: Hardware - workstations

	Software - MSS Report Generation
Input:	The tester selects to generate an Inventory Status Report.
Output:	Then Inventory Status Report is generated.
Expected Results:	Then Inventory Status Report is generated and contains summary and detailed status information on H/W, system S/W and science S/W and listing spares and consumables status at sites.

Test Case 32 Generate a Security Compromise Report (B226.04.32)

This test verifies the ability of the MSS Report Generation function to generate a Security Compromise Report listing occurrences of login failures, unauthorized accesses, break-ins, viruses and worms indicating time, cause, impact, resolution status, and results of security compromise risk analysis.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester generates a Security Compromise Report.
Output:	Security Compromise Report is generated.
Expected Results:	Security Compromise Report is generated and lists occurrences of login failures, unauthorized accesses, break-ins, viruses and worms indicating time, cause, impact, resolution status, and results of security compromise risk analysis.

5.62 Performance Management Thread

5.62.1 Thread Objectives

The objectives of the performance management thread are as follows:

- Provide the capability to detect operational state of the ECS components
- Provide the capability to generate performance testing requests

5.62.2 Thread Test Description

Testing is performed to demonstrate the ability to determine the operational state of all network components, hosts, and peripherals. The network components include routers, links, bridges, and gateways.

Submission of performance tests will be verified for system scenarios. A performance testing request will generate a report with the operational availability calculations of the requested scenario.

Invalid tests are submitted to verify the error detection, handling, and reporting of the functionality.

Dependencies: (If Applicable)

To verify the objectives of the performance management thread, the following interface and functional capabilities are required:

- Network environment (LAN and WAN)
- Configured Management Framework environment with management agents to allow collection of performance data

Test Support Requirements

- Hardware:
  - TBS
- Software:
  - HP OpenView, Peer Network's Agent, X-runner
- Data:
  -

5.62.2.1 Sequence 1- Operational State

The following tests verify the capability of the performance management application service to determine the operational state of all ECS components. These components consist of network components, hosts, and peripherals. Reports are generated to verify statistical data collection and event logging of network and system activity.

Test Case 1 On-line state (T227-2.01.01)

This test verifies the capability to determine that a ECS component is on-line.

Test Configuration:	ECS server, HP OpenView server, x-terminal
Input:	Simulated network and system map in HP OpenView. ECS component's state is set to on-line.
Output:	ECS component is reported in on-line state.
Expected Results:	Performance statistics are reported for the ECS component in on-line state. All performance data recorded in the MSS log file is identified as on-line state.

Test Case 2 Off-line state (T227-2.01.02)

This test verifies the capability to recognize a ECS component is off-line.

Test Configuration:	ECS server, HP OpenView server, x-terminal
Input:	Simulated network and system map in HP OpenView. ECS component's state is set to off-line.

Output: ECS component is reported in off-line state.

Expected Results: Performance statistics are not reported for the ECS component in off-line state. ECS component is recorded in the MSS log file to be off-line.

Test Case 3 Test mode state (T227-2.01.03)

This test verifies the capability to recognize a ECS component in test mode.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to test mode.

Output: ECS component is reported in test mode.

Expected Results: Performance monitoring should report statistics for the ECS component in test mode. All performance data recorded in the MSS log file is identified as test mode.

Test Case 4 Maintenance state (T227-2.01.04)

This test verifies the capability to recognize a ECS component in maintenance state.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to maintenance.

Output: ECS component is reported in maintenance state.

Expected Results: Performance statistics are not reported for the ECS component in maintenance state. ECS component is recorded in the MSS log file to be in maintenance state.

Test Case 5 Simulation state (T227-2.01.05)

This test verifies the capability to recognize a ECS component in simulation state.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to simulation.

Output: ECS component is reported in simulation state.

Expected Results: Performance monitoring should report statistics for the ECS component in simulation state. All performance data recorded in the MSS log file is identified as simulation state.

Test Case 6 Undefined operational state (T227-2.01.06)

This test verifies the capability to report an error for a ECS component in a undefined operational state.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to a undefined operational state.

Output: Error reported for a ECS component in a undefined operational state.

Expected Results: Performance statistics are not reported for the ECS component in a undefined operational state. Error is reported for unrecognized operational state. ECS component is recorded in the MSS log file to be in a undefined operational state.

5.62.2.2 Sequence 2- Performance Testing

The following tests verify the SMC administrator's capabilities to generate performance testing requests. Performance testing requests consist of system scenario scripts for calculating operational availability of the involved ECS components. Reports are generated to verify the calculations of the performance testing requests. Event logging of performance testing requests is verified as well.

Test Case 1 Report generation (T227-2.02.01)

This test verifies the capability to generate a report for a performance testing request.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Performance testing data and system scenario scripts. Submission of performance testing request.

Output: Report of performance testing for the ECS component.

Expected Results: A report is generated which includes the required resources, purpose, requested priority, required environment, operations impacts, and expected results of the performance testing request. Performance testing events are recorded in the MSS log file.

Test Case 2 Request error (T227-2.02.02)

This test verifies the capability to detect errors in the generation of performance testing requests.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Invalid or incomplete performance testing data and system scenario scripts. Submission of performance testing request.

Output:	Error message reported.
Expected Results:	An error is generated for the submission of an invalid performance test. Performance testing request as well as fault events are recorded in the MSS log file.

5.63 Fault Management Thread

5.63.1 Thread Objectives

The objectives of the fault management thread are as follows:

- Provide the capability to exchange fault notification data with the EBnet and ASTER GDS external interfaces.
- Provide the capability to exchange performance degradation data with the EBnet and ASTER GDS external interfaces.

5.63.2 Thread Test Descriptions

Testing is performed to verify the capability of MSS to exchange fault management information with the EBnet and ASTER GDS external interfaces.

Dependencies: (If Applicable)

To verify the objectives of the fault management thread, the following interface and functional capabilities are required:

- Network environment (LAN and WAN)
- Configured Management Framework environment with management agents to detect fault notification and performance degradation events

Test Support Requirements

- Hardware:
  - TBS
- Software:
  - HP OpenView, Peer Network's Agent, X-runner
- Data:
  -

5.63.2.1 Sequence 1 - Fault notification

The following tests verify the capability of the fault management application services to detect fault notifications from EBnet and ASTER GDS at a local site and at the SMC.

Test Case 1 Receive notification of detected faults from EBnet (T227-3.01.01)

This test verifies that the capability of the fault management application service to receive notifications of detected faults from EBnet.

Test Configuration:	Hardware - X-terminal.
	Software - EBnet simulator.
Input:	EBnet fault notification.
Output:	Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.
Expected Results:	EBnet fault is received and recorded in the MSS log file. Depending on the type and severity of the fault, alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 2 Receive notification of detected faults from ASTER GDS (T227-3.01.02)

This test verifies that the capability of the fault management application service to receive notifications of detected faults from the ASTER GDS.

Test Configuration:	Hardware - X-terminal.
	Software - ASTER GDS simulator.
Input:	ASTER GDS fault notification.
Output:	Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.
Expected Results:	ASTER GDS fault is received and recorded in the MSS log file. Depending on the type and severity of the fault, alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 3 Request fault notification from EBnet (T227-3.01.03)

This test verifies that the capability of the fault management application service to request fault notifications from EBnet.

Test Configuration:	Hardware - X-terminal.
	Software - EBnet simulator.
Input:	EBnet fault notification request.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: EBnet fault is received and recorded in the MSS log file. Depending on the type and severity of the fault, alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 4 Request fault notification from ASTER GDS (T227-3.01.04)

This test verifies that the capability of the fault management application service to request fault notifications from the ASTER GDS.

Test Configuration: Hardware - X-terminal.

Software - ASTER GDS simulator.

Input: ASTER GDS fault notification request.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: ASTER GDS fault is received and recorded in the MSS log file. Depending on the type and severity of the fault, alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 5 Receive summarized fault notification from EBnet (T227-3.01.05)

This test verifies that the capability of the fault management application service at the SMC to receive summarized fault notifications from EBnet.

Test Configuration: Hardware - X-terminal.

Software - EBnet simulator, SMC configuration.

Input: EBnet summarized fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with summarized fault notification.

Expected Results: EBnet summarized fault is received and recorded in the MSS log file at the SMC. Depending on the type and severity of the fault(s), alarms are generated and the system configuration map at the SMC management framework is updated indicating the location of the fault(s).

Test Case 6 Receive summarized fault notification from ASTER GDS (T227-3.01.06)

This test verifies that the capability of the fault management application service at the SMC to receive summarized fault notifications from ASTER GDS.

Test Configuration: Hardware - X-terminal.

Software - EBnet simulator, SMC configuration.

Input: ASTER GDS summarized fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with summarized fault notification.

Expected Results: The ASTER GDS summarized fault is received and recorded in the MSS log file at the SMC. Depending on the type and severity of the fault(s), alarms are generated and the system configuration map at the SMC management framework is updated indicating the location of the fault(s).

5.63.2.2 Sequence 2 - Performance degradation

The following tests verify the capability of the fault management application services to detect performance degradation events from EBnet and ASTER GDS at a local site and at the SMC.

Test Case 1 Receive notification of performance degradation from EBnet (T227-3.02.01)

This test verifies that the capability of the fault management application service to receive notifications of performance degradation from EBnet.

Test Configuration: Hardware - X-terminal.

Software - EBnet simulator.

Input: EBnet fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: EBnet fault is received and recorded in the MSS log file. Alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 2 Receive notification of performance degradation from ASTER GDS (T227-3.02.02)

This test verifies that the capability of the fault management application service to receive notifications of performance degradation from the ASTER GDS.

Test Configuration: Hardware - X-terminal.

	Software - ASTER GDS simulator.
Input:	ASTER GDS fault notification.
Output:	Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.
Expected Results:	ASTER GDS fault is received and recorded in the MSS log file. Alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 3 Request fault notification from EBnet (T227-3.02.03)

This test verifies that the capability of the fault management application service to request fault notifications from EBnet.

Test Configuration:	Hardware - X-terminal.
	Software - EBnet simulator.
Input:	EBnet fault notification request.
Output:	Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.
Expected Results:	The EBnet fault is received and recorded in the MSS log file. Alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 4 Request fault notification from ASTER GDS (T227-3.02.04)

This test verifies that the capability of the fault management application service to request fault notifications from the ASTER GDS.

Test Configuration:	Hardware - X-terminal.
	Software - ASTER GDS simulator.
Input:	ASTER GDS fault notification request.
Output:	Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.
Expected Results:	ASTER GDS fault is received and recorded in the MSS log file. Alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 5 Receive summarized fault notification from EBnet (T227-3.02.05)

This test verifies that the capability of the fault management application service at the SMC to receive summarized fault notifications from EBnet.

Test Configuration:	Hardware - X-terminal.
	Software - EBnet simulator, SMC configuration.
Input:	EBnet summarized fault notification.
Output:	Alarm detecting the fault, management framework visually updates the fault location, event log updated with summarized fault notification.
Expected Results:	EBnet summarized fault is received and recorded in the MSS log file at the SMC. Depending on the type and severity of the fault(s), alarms are generated and the system configuration map at the SMC management framework is updated indicating the location of the fault(s).

Test Case 6 Receive summarized fault notification from ASTER GDS (T227-3.02.06)

This test verifies that the capability of the fault management application service at the SMC to receive summarized fault notifications from ASTER GDS.

Test Configuration:	Hardware - X-terminal.
	Software - EBnet simulator, SMC configuration.
Input:	ASTER GDS summarized fault notification.
Output:	Alarm detecting the fault, management framework visually updates the fault location, event log updated with summarized fault notification.
Expected Results:	The ASTER GDS summarized fault is received and recorded in the MSS log file at the SMC. Depending on the type and severity of the fault(s), alarms are generated and the system configuration map at the SMC management framework is updated indicating the location of the fault(s).

5.64 AgentsThread

5.64.1 Thread Objectives

The objectives of the management agent thread are as follows:

- Provide the interface to exchange mode information.
- Provide the capability to exchange user registration status and user profile information.
- Provide the interface to receive plan and scheduling information.

5.64.2 Thread Test Description

The following tests verify the capability to interface with all ECS subsystem for conveying mode, accountability, and planning information:

Dependencies: (If Applicable)

To verify the objectives of the Management agent thread, the following interface and functional capabilities are required:

To verify the objectives of the performance management thread, the following interface and functional capabilities are required:

- Network environment (LAN and WAN)

Test Support Requirements

- Hardware:
  - TBS
- Software:
  - HP OpenView, Peer Network's Agent, X-runner
- Data:
  -

5.64.2.1 Sequence 1- CLS Interface

The following tests verify the correctness of the internal interface requirements between the Management Agent Service and the CLS subsystem.

Test Case 1 Receive account balance status request (T227-4.01.01)

This test verifies the capability to receive account balance status requests from the clients.

Test Configuration: ECS server, CLS interface simulator, HP OpenView server, x-terminal

Input: User account balance status request

Output: A pending user request for account balance status

Expected Results: An account balance status request is received and queued for processing. Client request is logged in the MSS log file.

Test Case 2 Send billing costs (T227-4.01.02)

This test verifies the capability to send billing costs information to the clients.

Test Configuration: ECS server, CLS interface simulator, HP OpenView server, x-terminal

Input: Billing costs data record

Output: Billing costs report

Expected Results: A billing costs report is sent to the user. Send event is recorded in the MSS log file.

Test Case 3 Send account status (T227-4.01.03)

This test verifies the capability to send account status information to the clients.

Test Configuration: ECS server, CLS interface simulator, HP OpenView server, x-terminal

Input: Billing costs data record for target client

Output: A billing costs data record

Expected Results: A user registration request is received and queued for processing. Events are logged.

5.64.2.2 Sequence 2 - IOS Interface

The following tests verify the correctness of the internal interface requirements between the Management Agent Service and the IOS subsystem.

Test Case 1 Receive current mode (T227-4.02.01)

This test verifies the capability to receive the current mode within the IOS subsystem.

Test Configuration: ECS server, IOS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the IOS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 2 Send mode request (T227-4.02.02)

This test verifies the capability to send a software mode request to the IOS subsystem.

Test Configuration: ECS server, IOS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the IOS subsystem

Expected Results: A request for setting the software mode is sent to the IOS subsystem. Appropriate MIB in IOS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

5.64.2.3 Sequence 3 - DMS Interface

The following tests verify the correctness of the internal interface requirements between the Management Agent Service and the DMS subsystem.

Test Case 1 Receive current mode (T227-4.03.01)

This test verifies the capability to receive the current mode within the DMS subsystem.

Test Configuration: ECS server, DMS interface simulator, HP OpenView server, x-terminal

Input: MIB for DMS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the DMS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 2 Send mode request (T227-4.03.02)

This test verifies the capability to send a software mode request to the DMS subsystem.

Test Configuration: ECS server, DMS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the DMS subsystem

Expected Results: A request for setting the software mode is sent to the DMS subsystem. Appropriate MIB in DMS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

5.64.2.4 Sequence 4 - PLS Interface

The following tests verify the correctness of the internal interface requirements between the Management Agent Service and the PLS subsystem.

Test Case 1 Receive current mode (T227-4.04.01)

This test verifies the capability to receive the current mode within the PLS subsystem.

Test Configuration: ECS server, PLS interface simulator, HP OpenView server, x-terminal

Input: MIB for PLS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the PLS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 2 Send mode request (T227-4.04.02)

This test verifies the capability to send a software mode request to the PLS subsystem.

Test Configuration: ECS server, PLS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the PLS subsystem

Expected Results: A request for setting the software mode is sent to the PLS subsystem. Appropriate MIB in PLS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

5.64.2.5 Sequence 5 - DPS Interface

The following tests verify the correctness of the internal interface requirements between the Management Agent Service and the DPS subsystem.

Test Case 1 Receive current mode (T227-4.05.01)

This test verifies the capability to receive the current mode within the DPS subsystem.

Test Configuration: ECS server, DPS interface simulator, HP OpenView server, x-terminal

Input: MIB for DPS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the DPS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 2 Send mode request (T227-4.05.02)

This test verifies the capability to send a software mode request to the DPS subsystem.

Test Configuration: ECS server, DPS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the DPS subsystem

Expected Results: A request for setting the software mode is sent to the DPS subsystem. Appropriate MIB in DPS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

5.64.2.6 Sequence 6 - INS Interface

The following tests verify the correctness of the internal interface requirements between the Management Agent Service and the INS subsystem.

Test Case 1 Receive current mode (T227-4.06.01)

This test verifies the capability to receive the current mode within the INS subsystem.

Test Configuration: ECS server, INS interface simulator, HP OpenView server, x-terminal

Input: MIB for INS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the INS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 2 Send mode request (T227-4.06.02)

This test verifies the capability to send a software mode request to the INS subsystem.

Test Configuration: ECS server, INS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the INS subsystem

Expected Results: A request for setting the software mode is sent to the INS subsystem. Appropriate MIB in INS subsystem is set with the

corresponding mode request. Set mode request is logged in the MSS log file.

5.64.2.7 Sequence 7 - DSS Interface

The following tests verify the correctness of the internal interface requirements between the Management Agent Service and the DSS subsystem.

Test Case 1 Receive current mode (T227-4.07.01)

This test verifies the capability to receive the current mode within the DSS subsystem.

Test Configuration: ECS server, DSS interface simulator, HP OpenView server, x-terminal

Input: MIB for DSS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the DSS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Testcase 2 Send mode request (T227-4.07.02)

This test verifies the capability to send a software mode request to the DSS subsystem.

Test Configuration: ECS server, DSS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the DSS subsystem

Expected Results: A request for setting the software mode is sent to the DSS subsystem. Appropriate MIB in DSS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

5.87.2.8 Sequence 8 - CSS Interface

The following tests verify the correctness of the internal interface requirements between the Management Agent Service and the CSS subsystem.

Test Case 1 Receive current mode (T227-4.08.01)

This test verifies the capability to receive the current mode within the CSS subsystem.

Test Configuration: ECS server, CSS interface simulator, HP OpenView server, x-terminal

Input:	MIB for CSS subsystem resource is set with a software mode. Request to read current mode within subsystem.
Output:	Current mode information.
Expected Results:	The current mode information is returned about the CSS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 2 Send mode request (T227-4.08.02)

This test verifies the capability to send a software mode request to the CSS subsystem.

Test Configuration:	ECS server, CSS interface simulator, HP OpenView server, x-terminal
Input:	MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.
Output:	A request for setting the software mode within the CSS subsystem
Expected Results:	A request for setting the software mode is sent to the CSS subsystem. Appropriate MIB in CSS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

5.65 External Interface Thread

5.65.1 Thread Objectives

The objectives of the external interface thread are:

- Provide MSS performance management application services to send and receive management information with external entities.
- Provide fault management application services to send and receive management information with external entities.
- Provide MSS security management application services to send and receive management information with external entities.
- Provide MSS accountability management application service to send and receive user data with external entities.
- Provide MSS scheduling service to send and receive PDS and EDS delivery records to and from external entities.
- Provide MSS to have the capability to send and receive schedules and plans to and from external entities.
- Provide network protocol service to receive the requests from external entity.
- Provide network hardware status and diagnostics for the request of external entity.

- Provide simple network management protocol (SNMP) to manage the network to provide management information.
- Provide message passing service with asynchronous, synchronous, and deferred synchronous mechanisms.
- Provide TCP/IP service for the data transfer with external entity.
- Provide remote file access services.

5.65.2 Thread Test Descriptions

Testing verifies the various objectives of the MSS interface thread. performance, fault, security, scheduling, and accountability management application services interfaces are tested.

System and network management information are exchanged between MSS system and a simulated external entity to verify its interface implementation.

Testing verifies the simple network management protocol is provided to supply the network management information. Testing demonstrates the ability to satisfy the request from external entity for network protocol status and diagnostics.

Testing is performed to verify the services of data transfer and remote file access.

Dependencies(If Applicable)

Test Support Requirements

- Hardware
  - Workstation, X Terminal
- Software:
  - MSS application, XRunner

5.65.2.1 Sequence 1 - MSS interfaces

This series of tests verifies that the MSS management application services have the capability to interface with external systems to support the exchange of management information.

Test Case 1 Performance service sends SysInfo to ASTER (T227-5.01.01)

This test verifies that the capability of the MSS performance management application (PMA) service to send ECS system management information to ASTER GDS.

Test Configuration:	Hardware - Workstation, X-terminal.
	Software - The PMA software, and a receiver simulator (RS), XRunner tool.
Input:	The PMA opens the RS. Enter the "send status" command.
Output:	The RS shows CPU status data.

Expected Results: The RS receives CPU status info and displays it.

Test Case 2 Fault service sends SysInfo to ASTER (T227-5.01.02)

This test verifies that the capability of the fault management application service to send ECS system management information to ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "send status" command.

Output: The RS shows CPU status data.

Expected Results: The RS receives CPU status info and displays it.

Test Case 3 Security service sends SysInfo to ASTER (T227-5.01.03)

This test verifies that the capability of the MSS security management application (SMA) service to send ECS system management information to ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SMA software, and a receiver simulator (RS), XRunner tool.

Input: The SMA opens the RS. Enter the "send status" command.

Output: The RS shows CPU status data.

Expected Results: The RS receives CPU status info and displays it.

Test Case 4 Performance service receives SysInfo from ASTER (T227-5.01.04)

This test verifies that the capability of the MSS performance management application (PMA) service to receive ASTER GDS system management information from ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the PMA. Enter the "send status" command.

Output: The PMA shows CPU status data.

Expected Results: The PMA receives CPU status info and displays it.

Test Case 5_ Fault service Receive SysInfo from ASTER (T227-5.01.05)

This test verifies that the capability of the fault management application service to receive ASTER GDS system management information from ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send status" command.

Output: The FMA shows CPU status data.

Expected Results: The FMA receives CPU status info and displays it.

Test Case 6_ Security service Receive SysInfo from ASTER (T227-5.01.06)

This test verifies that the capability of the MSS security management application (SMA) service to receive ASTER GDS system management information from ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the SMA. Enter the "send status command.

Output: The PMA shows CPU status data.

Expected Results: The PMA receives CPU status info and displays it.

Test Case 7_ Performance service sends NetInfo to ASTER (T227-5.01.07)

This test verifies that the capability of the MSS performance management application (PMA) service to send ECS network management information to ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "send netstatus" command.

Output: The RS shows network status data.

Expected Results: The RS receives network status info and displays it.

Test Case 8_ Fault service sends NetInfo to ASTER (T227-5.01.08)

This test verifies that the capability of the fault management application service to send ECS network management information to ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "send netstatus" command.

Output: The RS shows network status data.

Expected Results: The RS receives network status info and displays it.

Test Case 9 Performance service receives NetInfo from ASTER (T227-5.01.09)

This test verifies that the capability of the MSS performance management application (PMA) service to receive ASTER GDS network management information from ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the PMA. Enter the "send netstatus" command.

Output: The PMA shows network status data.

Expected Results: The PMA receives network status info and displays it.

Test Case 10 Fault service receives NetInfo from ASTER (T227-5.01.10)

This test verifies that the capability of the fault management application service to receive ASTER GDS network management information from ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send netstatus" command.

Output: The FMA shows network status data.

Expected Results: The FMA receives network status info and displays it.

Test Case 11 Performance service sends ReqNetInfo to ASTER (T227-5.01.11)

This test verifies that the capability of the MSS performance management application (PMA) service to send request for ASTER GDS network management information to ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "send reqnet" command.

Output: The RS shows the request data.

Expected Results: The RS receives the request and displays it.

Test Case 12 Fault service sends ReqNetInfo to ASTER (T227-5.01.12)

This test verifies that the capability of the fault management application (PMA) service to send request for ASTER GDS network management information to ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "send reqnet" command.

Output: The RS shows the request data.

Expected Results: The RS receives the request and displays it.

Test Case 13 Performance service receives ReqNetInfo from ASTER (T227-5.01.13)

This test verifies that the capability of the MSS performance management application (PMA) service to receive request for ECS network management information from ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the PMA. Enter the "send reqnet" command.

Output: The PMA shows the request data.

Expected Results: The PMA receives the request and displays it.

Test Case 14 Fault service receives ReqNetInfo from ASTER (T227-5.01.14)

This test verifies that the capability of the fault management application service to receive request for ECS network management information from ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send reqnet" command.

Output: The FMA shows the request data.

Expected Results: The FMA receives the request and displays it.

Test Case 15 MSS sends science plans to ASTER (T227-5.01.15)

This test verifies that the capability of the MSS to send EOS long term science plans to ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The MSS software, and a receiver simulator (RS), XRunner tool.

Input: The MSS opens the RS. Enter the "science <filename>" command.

Output: The RS shows the plans received.

Expected Results: The RS receives the plans and displays the message indicating the files received.

Test Case 16 MSS sends instrument plans to ASTER (T227-5.01.16)

This test verifies that the capability of the MSS to send EOS long term Instrument plans to ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The MSS software, and a receiver simulator (RS), XRunner tool.

Input: The MSS opens the RS. Enter the "sendfile <filename>" command.

Output: The RS shows the plans received.

Expected Results: The RS receives the plans and displays the message indicating the files received.

Test Case 17 MSS sends schedule data to ASTER (T227-5.01.17)

This test verifies that the capability of the MSS to send schedule adjudication data from ASTER GDS.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The MSS software, and a receiver simulator (RS), XRunner tool.

Input: The MSS opens the RS. Enter the "send sched" command.

Output: The RS shows the data received.

Expected Results: The RS receives the plans and displays the message indicating the files received.

Test Case 18 MSS receives schedule data from ASTER (T227-5.01.18)

This test verifies that the capability of the MSS to receive schedule adjudication data from ASTER GDS.

Test Configuration:	Hardware - Workstation, X-terminal.
	Software - The MSS software, and a sender simulator (SS), XRunner tool.
Input:	The SS opens the MSS. Enter the "send SCHED" command.
Output:	The MSS shows the data received.
Expected Results:	The MSS receives the plans and displays the message indicating the files received.

Test Case 19 MSS fault service sends NetInfo to SAA (T227-5.01.19)

This test verifies that the capability of the fault management application service to send ECS network management information to SAA(NOAA).

Test Configuration:	Hardware - Workstation, X-terminal.
	Software - The FMA software, and a receiver simulator (RS), XRunner tool.
Input:	The FMA opens the RS. Enter the "send netstatus" command.
Output:	The RS shows network status data.
Expected Results:	The RS receives network status info and displays it.

Test Case 20 MSS performance sends NetInfo to SAA (T227-5.01.20)

This test verifies that the capability of the MSS performance management application (PMA) service to send ECS network management information to SAA(NOAA).

Test Configuration:	Hardware - Workstation, X-terminal.
	Software - The PMA software, and a receiver simulator (RS), XRunner tool.
Input:	The PMA opens the RS. Enter the "send netstatus" command.
Output:	The RS shows network status data.
Expected Results:	The RS receives network status info and displays it.

Test Case 21 MSS fault service receives NetInfo from SAA (T227-5.01.21)

This test verifies that the capability of the fault management application service to send ECS network management information to SAA(NOAA).

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send netstatus" command.

Output: The FMA shows network status data.

Expected Results: The FMA receives network status info and displays it.

Test Case 22 MSS performance receives NetInfo from SAA (T227-5.01.22)

This test verifies that the capability of the MSS performance management application (PMA) service to receive ECS network management information from SAA(NOAA).

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the PMA. Enter the "send netstatus" command.

Output: The PMA shows network status data.

Expected Results: The PMA receives network status info and displays it.

Test Case 23 Fault service sends SysInfo to MMO (T227-5.01.23)

This test verifies that the capability of the fault management application service to send ECS system management information to MMO.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "send status" command.

Output: The RS shows CPU status data.

Expected Results: The RS receives CPU status info and displays it.

Test Case 24 Performance service sends SysInfo to MMO (T227-5.01.24)

This test verifies that the capability of the MSS performance management application (PMA) service to send ECS system management information to MMO.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "send status" command.

Output: The RS shows CPU status data.

Expected Results: The RS receives CPU status info and displays it.

Test Case 25 Security service sends SysInfo to MMO (T227-5.01.25)

This test verifies that the capability of the MSS security management application (SMA) service to send ECS system management information to MMO.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SMA software, and a receiver simulator (RS), XRunner tool.

Input: The SMA opens the RS. Enter the "send status" command.

Output: The RS shows CPU status data.

Expected Results: The RS receives CPU status info and displays it.

Test Case 26 Fault service receives SysInfo to MMO (T227-5.01.26)

This test verifies that the capability of the fault management application service to receive system management information from MMO.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send status" command.

Output: The FMA shows CPU status data.

Expected Results: The FMA receives CPU status info and displays it.

Test Case 27 Performance service receives SysInfo from MMO (T227-5.01.27)

This test verifies that the capability of the MSS performance management application (PMA) service to receive system management information from MMO.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the PMA. Enter the "send status" command.

Output: The PMA shows CPU status data.

Expected Results: The PMA receives CPU status info and displays it.

Test Case 28 Security service receives SysInfo from MMO (T227-5.01.28)

This test verifies that the capability of the MSS security management application (SMA) service to receive system management information from MMO.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the PMA. Enter the "send status" command.

Output: The SMA shows CPU status data.

Expected Results: The SMA receives CPU status info and displays it.

Test Case 29 MSS receives product cost from MMO (T227-5.01.29)

This test verifies that the capability of the MSS to receive product cost information from the MMO.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The MSS software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the MSS. Enter the "send cost" command.

Output: The MSS shows product cost information.

Expected Results: The MSS receives product cost information and displays it.

Test Case 30 Accountability service sends user data to MMO (T227-5.01.30)

This test verifies that the capability of the MSS Accountability management application (AMA) service to send user registration data to the MMO.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The AMA software, and a receiver simulator (RS), XRunner tool.

Input: The AMA opens the RS. Enter the "send user" command.

Output: The RS shows user registration data.

Expected Results: The RS receives user registration data and displays it.

Test Case 31 Accountability service receives user data from MMO (T227-5.01.31)

This test verifies that the capability of the MSS accountability management application (AMA) service to receive user registration data from the MMO.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The AMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the AMA. Enter the "send user" command.

Output: The AMA shows user registration data.

Expected Results: The AMA receives user registration data and displays

Test Case 32 Security service sends notification of breaches to NSI (T227-5.01.32)

This test verifies that the capability of the MSS security management application (SMA) service shall have the capability to send to NSI, notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SMA software, and a receiver simulator (RS), XRunner tool.

Input: The SMA opens the RS. Enter the "send notice" command.

Output: The RS receives and display the notification.

Expected Results: The RS receives notification of breaches.

Test Case 33 Fault service receives notification of fault from NSI (T227-5.01.33)

This test verifies that the capability of the fault management application service shall have the capability to receive notification from NSI of faults in NSI's network that may affect the quality of NSI services between ECS and its users.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send notice" command.

Output: The FMA receives and display the notification.

Expected Results: The RS receives notification of breaches.

Test Case 34 Fault service queries NSI for faults data (T227-5.01.34)

This test verifies that the capability of the fault management application service shall have the capability to query from NSI information regarding the fault status, estimated time to repair, and fault resolution, which may affect the quality of NSI services between ECS and its users.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "qry faultStatus", "qry timeRepair", and "qry result" commands.

Output: The FMA receives and display the query results.

Expected Results: The RS receives the query and reply to FMA with fault status, time to repair, and resolution.

Test Case 35 Fault service queries from NSI summary for faults (T227-5.01.35)

This test verifies that the capability of the fault management application service to query from NSI periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "qry suminfo" commands.

Output: The FMA receives and display the summary which contains the faults information.

Expected Results: The FMA receives the fault information.

Test Case 36 Performance service queries from NSI report for performance data (T227-5.01.36)

This test verifies that the capability of the MSS performance management application (PMA) service to query from NSI periodic reports of link utilization and transmission errors, reflecting or summarizing NSI performance measurements over various time intervals.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "qry rpt" commands.

Output: The PMA receives and display the report which contains the error and performance data.

Expected Results: The RS receives the query and reply to FMA with performance measurements data.

Test Case 37 Security service receives from NSI for security breaches (T227-5.01.37)

This test verifies that the capability of the MSS security management application (SMA) service to receive from NSI, notification of security breaches at NSI sits or within the NSI network that could potentially affect ECS sites.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the SMA. Enter the "send notice" commands.

Output: The SMA receives and display the notification.

Expected Results: The SMA receives the notification of breaches.

Test Case 38 Security service sends notice to NOLAN (T227-5.01.38)

This test verifies that the capability of the MSS security management application (SMA) service to send to NOLAN notifications of security breaches at ECS facilities that could affect NOLAN and other EOSDIS sites.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SMA software, and a receiver simulator (RS), XRunner tool.

Input: The SMA opens the RS. Enter the "send notice" command.

Output: The RS displays the notification.

Expected Results: The SMA detects the ECS security breaches and sends notification.

Test Case 39 Security service receives notice from NOLAN (T227-5.01.39)

This test verifies that the capability of the MSS security management application (SMA) service to receive, from NOLAN, notifications of security breaches at NOLAN sites or within the NOLAN network that could potentially affect ECS sites.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the SMA. Enter the "send notice" command.

Output: The SMA displays the notification.

Expected Results: The SMA accepts and displays the NOLAN security breaches.

Test Case 40_ Fault service receives notice from NOLAN (T227-5.01.40)

This test verifies that the capability of the fault management application service to receive, from NOLAN, notification of faults in the NOLAN network that may affect the quality of NOLAN services between ECS and its users.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send notice" command to send fault notification.

Output: The FMA displays the notification.

Expected Results: The FMA accepts the faults notification and displays it.

Test Case 41_ Fault service receives notice from NOLAN (T227-5.01.41)

This test verifies that the capability of the fault management application service to receive, from NOLAN, information regarding faults status and estimated time to repair or resolve NOLAN faults that may affect the quality of NOLAN services between ECS and its users.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send notice" command to send fault status and related information.

Output: The FMA displays the faults information.

Expected Results: The FMA accepts the faults notification and displays it.

Test Case 42_ Fault service receives summary from NOLAN (T227-5.01.42)

This test verifies that the capability of the fault management application service to receive, from NOLAN, periodic summary information about faults that may have affected the quality of NOLAN services between ECS and its users.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send summary" command to send summary information about NOLAN faults.

Output: The FMA displays the summary.

Expected Results: The FMA accepts and displays NOLAN summary information.

Test Case 43 Performance service receives network and link data from NOLAN (T227-5.01.43)

This test verifies that the capability of the MSS performance management application (PMA) service to receive periodic regarding NOLAN network performance and link utilization.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the PMA. Enter the "send netdata" command to send information about NOLAN network and link data.

Output: The PMA displays the summary.

Expected Results: The PMA accepts and displays NOLAN network data.

Test Case 44 Management agent receives data in ECS's API format (T227-5.01.44)

This test verifies that the capability of the management agent (MA) service to receive from the ASF, statistical and accounting information in ECS's standard API format.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The MA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the MA. Enter the "send stats" and "send acct" command.

Output: The MA shows statistics and accounting information.

Expected Results: The MA receives data in ECS's API format and displays them.

Test Case 45 Performance sends NetInfo to ADC (T227-5.01.45)

This test verifies that the capability of the MSS performance management application (PMA) service to send ECS network management information to the ADCs (NOAA).

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "send netstatus" command.

Output: The RS shows network status data.

Expected Results: The RS receives network status info and displays it.

Test Case 46 Fault service receives NetInfo from ADC (T227-5.01.46)

This test verifies that the capability of the fault management application service to receive ECS network management information from the ADCs (NOAA).

Test Configuration:	Hardware - Workstation, X-terminal.
	Software - The FMA software, and a sender simulator (SS), XRunner tool.
Input:	The SS opens the FMA. Enter the "send netstatus" command.
Output:	The FMA shows network status data.
Expected Results:	The FMA receives network status info and displays it.

Test Case 47 Performance service receives NetInfo from ADC (T227-5.01.47)

This test verifies that the capability of the MSS performance management application (PMA) service to receive ECS network management information from the ADCs (NOAA).

Test Configuration:	Hardware - Workstation, X-terminal.
	Software - The PMA software, and a sender simulator (SS), XRunner tool.
Input:	The SS opens the PMA. Enter the "send netstatus" command.
Output:	The PMA shows network status data.
Expected Results:	The PMA receives network status info and displays it.

Test Case 48 MSS sends schedule data to ADC (T227-5.01.48)

This test verifies that the capability of the MSS to send Schedule Adjudication information to the ADCs (NOAA).

Test Configuration:	Hardware - Workstation, X-terminal.
	Software - The MSS software, and a receiver simulator (RS), XRunner tool.
Input:	The MSS opens the RS. Enter the "send sched" command.
Output:	The RS shows schedule adjudication information.
Expected Results:	The RS receives schedule adjudication information and displays it.

Test Case 49 MSS receives schedule data from ADC (T227-5.01.49)

This test verifies that the capability of the MSS to receive schedule adjudication information from the ADCs (NOAA).

Test Configuration: Hardware - Workstation, X-terminal.

Software - The MSS software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the MSS. Enter the "send sched" command.

Output: The MSS shows schedule adjudication information.

Expected Results: The MSS receives schedule adjudication information and displays it.

Test Case 50 Scheduling service receives PDS delivery record (T227-5.01.50)

This test verifies that the capability of the MSS scheduling reconciliation/adjudication(SRA) service shall provide the capability to receive PDS Delivery Records as specified in Applicable Document 1 from EDOS following the delivery of a PDS from EDOS to any EGS element.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SRA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the SRA. Enter the "send pds" command.

Output: The SRA shows PDS delivery record.

Expected Results: The AMA receives PDS and PDS delivery record.

Test Case 51 Scheduling service receives EDS delivery record (T227-5.01.51)

This test verifies that the capability of the MSS scheduling reconciliation/adjudication(SRA) service shall provide the capability to receive EDS delivery records as specified in Applicable Document 1 from EDOS following the delivery of a EDS from EDOS to any EGS element.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SRA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the SRA. Enter the "send eds" command.

Output: The SRA shows EDS delivery record.

Expected Results: The AMA receives EDS and EDS delivery record.

Test Case 52 Performance service sends ReqNetInfo to IP (T227-5.01.52)

This test verifies that the capability of the MSS performance management application (PMA) service to send request for IP network management information to IP.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "send reqnet" command.

Output: The RS shows the request command.

Expected Results: The RS receives the request command and displays it.

Test Case 53 Fault service sends ReqNetInfo to IP (T227-5.01.53)

This test verifies that the capability of the fault management application (PMA) service to send request for IP network management information to IP.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "send reqnet" command.

Output: The RS shows the request command.

Expected Results: The RS receives the request command and displays it.

Test Case 54 Performance service receives NetInfo from IP (T227-5.01.54)

This test verifies that the capability of the MSS performance management application (PMA) service to receive IP network management information from the IPs.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the PMA. Enter the "send netinfo" command.

Output: The PMA displays the IP network management information.

Expected Results: The PMA receives the IP network information and displays it.

Test Case 55 Fault service receives NetInfo from ASTER (T227-5.01.55)

This test verifies that the capability of the fault management application service to receive IP network management information from the IPs.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send netinfo" command.

Output: The FMA displays the IP network management information.

Expected Results: The FMA receives the IP network information from the SS and displays it.

Test Case 56 Performance service sends NetInfo to IP (T227-5.01.56)

This test verifies that the capability of the MSS performance management application (PMA) service to send ECS network management information to the IPs.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "send ecsnet" command.

Output: The RS displays the ECS network management information.

Expected Results: The PMA sends ECS network management information to the RS, and the RS displays it.

Test Case 57 Fault service sends NetInfo to IP (T227-5.01.57)

This test verifies that the capability of the fault management application service to send ECS network management information to the IPs.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "send ecsnet" command.

Output: The RS displays the ECS network management information.

Expected Results: The FMA sends ECS network management information to the RS, and the RS displays it.

Test Case 58 Performance service receives ReqNetInfo from IP (T227-5.01.58)

This test verifies that the capability of the MSS performance management application (PMA) service to receive requests for ECS network management information from the IPs.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the PMA. Enter the "send reqnetinfo" command.

Output: The PMA displays the request from the IPs.

Expected Results: The PMA receives request for ECS network management information from the IPs and accepts it.

Test Case 59 Fault service receives ReqNetInfo from IP (T227-5.01.59)

This test verifies that the capability of the fault management application service to receive request for ECS network management information from the IPs.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send reqnetinfo" command.

Output: The FMA displays the request.

Expected Results: The FMA receives request for ECS network management information from the IPs and accepts it.

Test Case 60 Schedule service sends Schedule Data to IP (T227-5.01.60)

This test verifies that the capability of the MSS schedule reconciliation/adjudication service (SAS) to send schedule adjudication data to the IPs.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SAS software, and a receiver simulator (RS), XRunner tool.

Input: The SAS opens the RS. Enter the "send sadata" command.

Output: The RS displays the schedule adjudication data.

Expected Results: The SAS sends schedule adjudication to the RS, and the RS displays it.

Test Case 61 Schedule service receives Schedule Data from IP (T227-5.01.61)

This test verifies that the capability of the MSS schedule reconciliation/adjudication service (SAS) to receive schedule adjudication data from the IPs.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SAS software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the SAS. Enter the "send sadata" command.

Output: The SAS displays the schedule adjudication data.

Expected Results: The SS sends schedule adjudication to the SAS, and the SAS accepts it.

Test Case 62 Fault service sends NetInfo to ADC (T227-5.01.62)

This test verifies that the capability of the fault management application service to send ECS network management information to the ADCs (NOAA).

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "send netstatus" command.

Output: The RS shows network status data.

Expected Results: The RS receives network status info and displays it.

Test Case 63 MSS sends resource usage to the SCFs (T227-5.01.63)

This test verifies that the capability of the MSS application (MA) service to send resource usage to the SCFs.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The MA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "send usage" command.

Output: The RS shows resource usage data.

Expected Results: The MA can send resource data.

Test Case 64 MSS sends event notification to SMC (T227-5.01.64)

This test verifies that the capability of the MSS application (MA) service to send event notification to MSS at SMC.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The MA software, and a receiver simulator (RS), XRunner tool.

Input: The MA opens the RS. Enter the "send notice" command.

Output: The RS shows event notification data.

Expected Results: The MA can send event data.

Test Case 65 MSS receives event notification from SMC (T227-5.01.65)

This test verifies that the capability of the MSS application (MA) service to receive event notification from MSS at SMC.

Test Configuration: Hardware - Workstation, X-terminal.

	Software - The MA software, and a sender simulator (SS), XRunner tool.
Input:	The SS opens the MA. Enter the "send notice" command.
Output:	The MA shows event notification data.
Expected Results:	The MA can receive event data.

5.66 Real-Time Management Build

5.66.1 Build Objectives

The objectives of the Real-Time Management Build are:

- Provide the ability to monitor and optimize network performance
- Provide the ability to manage system performance through the collection and analysis of system performance data.
- Provide the ability to manage system failures through analysis, diagnosis and resolution in accordance with NASA guidelines and fault policies.

5.66.2 Build Test Description

Automated network performance measurement and management of network and communication services to understand the performance characteristics will be demonstrated during testing. This automated performance analysis is used for scheduling and load-balancing in order to optimize network resources.

The testing will demonstrate verification of the collection of system performance and monitoring data with subsequent analysis to support load balancing, tuning/optimization and trend analysis/capacity planning activities. Reporting of system performance data supports statistical analysis, ad-hoc database queries and performance modeling within a site or across all sites. This Build tests the ability to verify Landsat 7 performance criteria for operational availability and real time functions.

Testing will demonstrate verification that system failures are automatically detected through analysis of system event logs, and faults are resolved based on vendor diagnostics, procedures, reports and timing in accordance with fault policies.

Testing will demonstrate verification that the office automation (OA) tools are provided so that SMC can support the management of training and certification for the ECS, and the LSM can coordinate management of their element's training program with the SMC. Testers will verify that the OA tools are provided, and that they function properly. M&O should track the ability of the SMC to use office automation (OA) tools to support development of schedules for training courses, development of on-the-job training, development and use of training materials, support the evaluation of the effectiveness of the training programs, and send descriptions and schedules for training courses to the LSMs.

Dependencies: (If Applicable)

To verify the objectives of the Real-Time Management Build, the following interface and functional capabilities are required:

- Network environment (LAN and WAN)
- Established policies and procedures for EOS and individual elements

Test Support Requirements

- Hardware:

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- Software:

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- Data:

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5.66.2.1 Sequence 1 - Network management data exchange

This series of tests verifies that the MSS services have the capabilities to send and receive network management information.

Test Case 1 Performance service sends NetInfo to receiver (B227.01.01)

This test verifies that the capability of the MSS performance management application (PMA) service to send ECS network management information to receiver.

Test Configuration:	Hardware - Workstation, X-terminal.
	Software - The PMA software, and a receiver simulator (RS), XRunner tool.
Input:	The PMA opens the RS. Enter the "send netstatus" command.
Output:	The RS shows network status data.
Expected Results:	The RS receives network status info and displays it.

Test Case 2 Fault service sends NetInfo to receiver (B227.01.02)

This test verifies that the capability of the fault management application service to send ECS network management information to receiver.

Test Configuration:	Hardware - Workstation, X-terminal.
	Software - The FMA software, and a receiver simulator (RS), XRunner tool.
Input:	The FMA opens the RS. Enter the "send netstatus" command.

Output: The RS shows network status data.

Expected Results: The RS receives network status info and displays it.

Test Case 3 Performance service receives NetInfo from sender (B227.01.03)

This test verifies that the capability of the MSS performance management application (PMA) service to receive ASTER GDS network management information to sender.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a send simulator (SS), XRunner tool.

Input: The SS opens the PMA. Enter the "send netstatus" command.

Output: The PMA shows network status data.

Expected Results: The PMA receives network status info and displays it.

Test Case 4 Fault service receives NetInfo from sender (B227.01.04)

This test verifies that the capability of the fault management application service to receive network management information from sender.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a send simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send netstatus" command.

Output: The FMA shows network status data.

Expected Results: The FMA receives network status info and displays it.

5.66.2.2 Sequence 2 - Query from summary information

This series of tests verifies that the MSS services have the capabilities to query from the summary information about faults that may affect the quality of services.

Test Case 1 Fault service queries NSI for faults data (B227.02.01)

This test verifies that the capability of the fault management application service shall have the capability to query from NSI information regarding the fault status, estimated time to repair, and fault resolution, which may affect the quality of NSI services between ECS and its users.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "qry faultStatus", " qry timeRepair", and "qry result" commands.

Output: The FMA receives and display the query results.

Expected Results: The RS receives the query and reply to FMA with fault status, time to repair, and resolution.

Test Case 2 Fault service queries from NSI summary for faults (B227.02.02)

This test verifies that the capability of the fault management application service to query from NSI periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "qry suminfo" commands.

Output: The FMA receives and display the summary which contains the faults information.

Expected Results: The FMA receives the fault information.

Test Case 3 Performance service queries from NSI report for performance data (B227.02.03)

This test verifies that the capability of the MSS performance management application (PMA) service to query from NSI periodic reports of link utilization and transmission errors, reflecting or summarizing NSI performance measurements over various time intervals.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "qry rpt" commands.

Output: The PMA receives and display the report which contains the error and performance data.

Expected Results: The RS receives the query and reply to FMA with performance measurements data.

Test Case 4 Security service receives from NSI for security breaches (B227.02.04)

This test verifies that the capability of the MSS security management application (SMA) service to receive from NSI, notification of security breaches at NSI sits or within the NSI network that could potentially affect ECS sites.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the SMA. Enter the "send notice" commands.

Output: The SMA receives and display the notification.

Expected Results: The SMA receives the notification of breaches.

5.66.2.3 Sequence 3 - Performance Management

Test Case 1 On-line state (T227-2.03.01)

This test verifies the capability to determine that an ECS component is on-line.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to on-line.

Output: ECS component is reported in on-line state.

Expected Results: Performance statistics are reported for the ECS component in on-line state. All performance data recorded in the MSS log file is identified as on-line state.

Test Case 2 Off-line state (T227-2.03.02)

This test verifies the capability to recognize a ECS component is off-line.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to off-line.

Output: ECS component is reported in off-line state.

Expected Results: Performance statistics are not reported for the ECS component in off-line state. ECS component is recorded in the MSS log file to be off-line.

Test Case 3 Test mode state (T227-2.03.03)

This test verifies the capability to recognize a ECS component in test mode.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to test mode.

Output: ECS component is reported in test mode.

Expected Results: Performance monitoring should report statistics for the ECS component in test mode. All performance data recorded in the MSS log file is identified as test mode.

Test Case 4 Maintenance state (T227-2.03.04)

This test verifies the capability to recognize a ECS component in maintenance state.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to maintenance.

Output: ECS component is reported in maintenance state.

Expected Results: Performance statistics are not reported for the ECS component in maintenance state. ECS component is recorded in the MSS log file and in maintenance state.

Test Case 5 Simulation state (T227-2.03.05)

This test verifies the capability to recognize a ECS component in simulation state.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to simulation.

Output: ECS component is reported in simulation state.

Expected Results: Performance monitoring should report statistics for the ECS component in simulation state. All performance data recorded in the MSS log file is identified as simulation state.

5.66.2.4 Sequence 4 - Fault Management

Test Case 1 Receive notification of detected faults from EBnet (T227-3.04.01)

This test verifies that the capability of the fault management application service to receive notifications of detected faults from EBnet.

Test Configuration: Hardware - X-terminal.

Software - EBnet simulator.

Input: EBnet fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: The EBnet fault is received and recorded in the MSS log file. Depending on the type and severity of the fault, alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 2 Receive notification of detected faults from ASTER GDS (T227-3.04.02)

This test verifies that the capability of the fault management application service to receive notifications of detected faults from the ASTER GDS.

Test Configuration:	Hardware - X-terminal.
	Software - ASTER GDS simulator.
Input:	ASTER GDS fault notification.
Output:	Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.
Expected Results:	The ASTER GDS fault is received and recorded in the MSS log file. Depending on the type and severity of the fault, alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 3 Receive notification of performance degradation from EBnet (T227-3.04.03)

This test verifies that the capability of the fault management application service to receive notifications of performance degradation from EBnet.

Test Configuration:	Hardware - X-terminal.
	Software - EBnet simulator.
Input:	EBnet fault notification.
Output:	Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.
Expected Results:	The EBnet fault is received and recorded in the MSS log file. Alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 4 Receive notification of performance degradation from ASTER GDS (T227-3.04.04)

This test verifies that the capability of the fault management application service to receive notifications of performance degradation from the ASTER GDS.

Test Configuration:	Hardware - X-terminal.
	Software - ASTER GDS simulator.
Input:	ASTER GDS fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: The ASTER GDS fault is received and recorded in the MSS log file. Alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

5.66.2.5 Sequence 5 - Management Agents

Test Case 1 CLS Receive account balance status request (T227-4.05.01)

This test verifies the capability to receive account balance status requests from the clients.

Test Configuration: ECS server, CLS interface simulator, HP OpenView server, x-terminal

Input: User account balance status request

Output: A pending user request for account balance status

Expected Results: An account balance status request is received and queued for processing. Client request is logged in the MSS log file.

Test Case 2 Send CLS billing costs (T227-4.05.02)

This test verifies the capability to send billing costs information to the clients.

Test Configuration: ECS server, CLS interface simulator, HP OpenView server, x-terminal

Input: Billing costs data record

Output: Billing costs report

Expected Results: A billing costs report is sent to the user. Send event is recorded in the MSS log file.

Test Case 3 Receive CSS current mode (T227-4.05.03)

This test verifies the capability to receive the current mode within the CSS subsystem.

Test Configuration: ECS server, CSS interface simulator, HP OpenView server, x-terminal

Input: MIB for CSS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the CSS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 4 Send CSS mode request (T227-4.05.04)

This test verifies the capability to send a software mode request to the CSS subsystem.

Test Configuration: ECS server, CSS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the CSS subsystem

Expected Results: A request for setting the software mode is sent to the CSS subsystem. Appropriate MIB in CSS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

Test Case 5 Receive IOS current mode (T227-4.05.05)

This test verifies the capability to receive the current mode within the IOS subsystem.

Test Configuration: ECS server, IOS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the IOS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 6 Send IOS mode request (T227-4.05.06)

This test verifies the capability to send a software mode request to the IOS subsystem.

Test Configuration: ECS server, IOS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the IOS subsystem

Expected Results: A request for setting the software mode is sent to the IOS subsystem. Appropriate MIB in IOS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

Test Case 7 Receive DMS current mode (T227-4.05.07)

This test verifies the capability to receive the current mode within the DMS subsystem.

Test Configuration: ECS server, DMS interface simulator, HP OpenView server, x-terminal

Input: MIB for DMS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the DMS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 8 Send DMS mode request (T227-4.05.08)

This test verifies the capability to send a software mode request to the DMS subsystem.

Test Configuration: ECS server, DMS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the DMS subsystem

Expected Results: A request for setting the software mode is sent to the DMS subsystem. Appropriate MIB in DMS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

Test Case 9 Receive PLS current mode (T227-4.05.09)

This test verifies the capability to receive the current mode within the PLS subsystem.

Test Configuration: ECS server, PLS interface simulator, HP OpenView server, x-terminal

Input: MIB for PLS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the PLS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 10 Send PLS mode request (T227-4.05.10)

This test verifies the capability to send a software mode request to the PLS subsystem.

Test Configuration: ECS server, PLS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the PLS subsystem

Expected Results: A request for setting the software mode is sent to the PLS subsystem. Appropriate MIB in PLS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

Test Case 11 Receive DPS current mode (T227-4.05.11)

This test verifies the capability to receive the current mode within the DPS subsystem.

Test Configuration: ECS server, DPS interface simulator, HP OpenView server, x-terminal

Input: MIB for DPS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the DPS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 12 Send DPS mode request (T227-4.05.12)

This test verifies the capability to send a software mode request to the DPS subsystem.

Test Configuration: ECS server, DPS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the DPS subsystem

Expected Results: A request for setting the software mode is sent to the DPS subsystem. Appropriate MIB in DPS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

Test Case 13 Receive INS current mode (T227-4.05.13)

This test verifies the capability to receive the current mode within the INS subsystem.

Test Configuration: ECS server, INS interface simulator, HP OpenView server, x-terminal

Input: MIB for INS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the INS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 14 Send INS mode request (T227-4.05.14)

This test verifies the capability to send a software mode request to the INS subsystem.

Test Configuration: ECS server, INS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the INS subsystem

Expected Results: A request for setting the software mode is sent to the INS subsystem. Appropriate MIB in INS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

Testcase 15 Receive DSS current mode (T227-4.05.15)

This test verifies the capability to receive the current mode within the DSS subsystem.

Test Configuration: ECS server, DSS interface simulator, HP OpenView server, x-terminal

Input: MIB for DSS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the DSS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Testcase 16 Send DSS mode request (T227-4.05.16)

This test verifies the capability to send a software mode request to the DSS subsystem.

Test Configuration: ECS server, DSS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the DSS subsystem

Expected Results: A request for setting the software mode is sent to the DSS subsystem. Appropriate MIB in DSS subsystem is set with the

corresponding mode request. Set mode request is logged in the MSS log file.

5.67 System Management Build

5.67.1 Build Objectives

The objectives of the CSMS System Management Build are:

- Provide the ability to manage system performance through the collection and analysis of system performance data.
- Provide the ability to manage system failures through analysis, diagnosis and resolution in accordance with NASA guidelines and fault policies.
- Provide the ability to manage accounting/accountability policies and procedures, accounts payable and receivable, credit tracking, price estimation, invoicing and billing and reporting.
- Provide the ability to generate detailed reports of results of accounting audits of ground resources, security, work in process and uses of the system.

5.67.2 Build Test Description

The testing will demonstrate verification of the collection of system performance and monitoring data with subsequent analysis to support load balancing, tuning/optimization and trend analysis/capacity planning activities. Reporting of system performance data supports statistical analysis, ad-hoc database queries and performance modeling within a site or across all sites. This Build tests the ability to verify Landsat 7 performance criteria for operational availability and real time functions.

Testing will demonstrate verification that system failures are automatically detected through analysis of system event logs, and faults are resolved based on vendor diagnostics, procedures, reports and timing in accordance with fault policies.

Testing verifies the ability to perform accounting of ground segment resources by ECS and external users, end-to-end cost accounting, accounts payable and receivable and resource utilization. Testing will demonstrate verification of accounting and accountability management for conformance with GAO and OMB policies and procedures. Accounting policies such as privileges for guest versus registered users, definition of accounting processes to be applied to various user classes, pricing, payment handling and supply/service ordering/payment are distributed and available system-wide will be tested. Testing will verify that accounts payable and receivable handles payments for user account refunds, external suppliers and shipping providers, and handles receiving amounts due from users for products, media, consumables and shipping, and credits from external providers. Credit tracking provides distributed, mostly automated deduction or posting of charges or credits from or to user account balances, excluding non-ECS data services (ADC, ODC). Price estimation provides representative pricing information (based on a standardized pricing table up datable by the SMC accountant) for ECS and non-ECS providers to give the user a feel for the price prior to ordering a product. Invoicing

and billing provides periodic formal reporting of account status to users and notification of payment requirements (if necessary). Reports can be generated to assist in trending/planning, policy reviews and financial audits.

This Build tests the ability to generate reports showing maintenance schedules for system hardware, software, and scientific software for routine, non-routine and upgrade maintenance activities. Testing will demonstrate the ability to generate reports on the standard analysis of system event logs and ad-hoc reports utilizing a fourth generation language.

Dependencies: (If Applicable)

To verify the objectives of the CSMS System Management Build, the following interface and functional capabilities are required:

- Network environment (LAN and WAN)
- System performance database
- Established user accounts
- Established accounting policies and procedures
- Established standardized pricing information

Test Support Requirements

- Hardware:
  - TBD
- Software:
  -
- Data:
  -

5.67.2.1 Sequence 1 - ECS Policies and Procedures at the SMC

This testing will verify the SMC functions for administration of ECS policies and procedures by utilizing the MSS Policy and Procedures Management Application Service.

Test Case 1 Prepare, Store, Maintain, and Make Available for Distribution ECS Policies and Procedures (B228.01.01)

This test verifies the ability of the Policy and Procedures Management Application Service to prepare, store, maintain, and make available for distribution ECS policies and procedures at the SMC.

Test Configuration: Hardware - workstations

Software - MSS Policy and Procedures Management Application Service

Input: The tester at a simulated SMC, using the Policies and Procedures Management Application Service, attempts to prepare, store, maintain, and make available for distribution an ECS policy and procedure.

Output: Messages indicating the preparation, update, and storage of ECS policies and procedures. The display and hard copy of ECS policies and procedures.

Expected Results: The tester successfully completes the preparation, update, and storage of the ECS policy and procedure. The tester is able to produce a display and hard copy of ECS policies and procedures.

Test Case 2 Provide Bulletin Board Service with Information on ECS, Status, Events and News (B228.01.02)

This test verifies the ability of the Policy and Procedures Management Application Service to provide bulletin board service with information on ECS, status, events and news.

Test Configuration: Hardware - workstations

Software - MSS Policy and Procedures Management Application Service, CSS Bulletin Board Service

Input: The tester will attempt to provide information on ECS (status, events and news) to the CSS Bulletin Board Service. The tester, using a web browser, will attempt to access the CSS Bulletin Board Service to view the information on ECS.

Output: Messages indicating that the information on ECS is received by the CSS Bulletin Board Service. The information on ECS is displayed on the CSS Bulletin Board Service.

Expected Results: Messages indicating that the information on ECS is received by the CSS Bulletin Board Service are logged. The information on ECS will be displayed on the CSS Bulletin Board Service by the web browser.

Test Case 3 Maintain Bulletin Board Service with Information on ECS, Status, Events and News (B228.01.03)

This test verifies the ability of the Policy and Procedures Management Application Service to maintain bulletin board service with information on ECS, status, events and news.

Test Configuration: Hardware - workstations

Software - MSS Policy and Procedures Management Application Service, CSS Bulletin Board Service

Input: The tester will attempt to maintain (update) information on ECS (status, events and news) to the CSS Bulletin Board Service. The tester, using a web browser, will attempt to access the CSS Bulletin Board Service to view the information on ECS.

Output: Messages indicating that the information on ECS is updated by the CSS Bulletin Board Service. The updated information on ECS is displayed on the CSS Bulletin Board Service.

Expected Results: Messages indicating that the information on ECS is updated by the CSS Bulletin Board Service are logged. The updated information on ECS will be displayed on the CSS Bulletin Board Service by the web browser.

5.67.2.2 Sequence 2 - ECS and Site-Specific Policies and Procedures

This testing will verify the site functions for administration of site-specific policies and procedures by utilizing the MSS Policy and Procedures Management Application Service.

Test Case 1 Access, Select, and Display/Print ECS Policies and Procedures (B228.02.01)

This test verifies the ability of the Policy and Procedures Management Application Service to access, select, and display/print ECS policies and procedures.

Test Configuration: Hardware - workstations

Software - MSS Policy and Procedures Management Application Service

Input: The tester will attempt to access, select, and display/print ECS policies and procedures at a site.

Output: Messages indicating the selection, and access of ECS policies and procedures at a site. The ECS policies and procedures are displayed and printed.

Expected Results: The ECS policies and procedures selected by the tester are accessed. The ECS policies and procedures are displayed and printed.

Test Case 2 Input, Store, Maintain, and View/Print Site Specific Policies and Procedures (B228.02.02)

This test verifies the ability of the Policy and Procedures Management Application Service to Input, store, maintain, and view/print site specific policies and procedures.

Test Configuration: Hardware - workstations

Software - MSS Policy and Procedures Management Application Service

Input: The tester will attempt toInput, store, maintain, and view/print a site specific policy and procedure for a site.

Output: Messages indicating theInput, storage, and update of a site specific policy and procedure for a site. The site specific policy and procedure is viewed and printed.

Expected Results: The site specific policy and procedure entered by the tester isInput, stored and updated. The site specific policy and procedure is viewed and printed.

5.67.2.3 Sequence 3 - Billing and Accounting

This testing will verify that the billing and accounting functions of the MSS Billing and Accounting Application Service continues to meet requirements when integrated with the MSS Report Generation function.

Test Case 1 Generate User Account Billing Statements as well as Billing Invoices (B228.03.01)

This test case will test the ability to generate user account billing statements and invoices for a billing cycle.

Test Configuration: Hardware - workstations

Software - BAAS Management

Data - Account activity data from the ECS Management Database.

Input: The tester will initiate the Billing and Invoicing function of the BAAS by simulation of the end of the billing cycle. This can be accomplished through manipulation of the billing cycle parameters for the system, and/or manipulation of the system date. As part of the billing process, the collection of Account activity data from the ECS Management Database will be invoked, and Account activity data is distributed to the Billing and Invoicing function invoking it.

Output: Billing statements and invoices for the user accounts which have user activity during the billing cycle.

Expected Results: The appropriate billing statements and invoices for the user accounts which have user activity during the billing cycle are generated.

Test Case 2 Maintain Current Updated Individual and Summary User Account Balances (B228.03.02)

The ability of the BAAS Accounts Receivable function to maintain current updated individual and summary user account balances will be tested.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will request from the accounts receivable function individual and summary user account balances.

Output: Individual and summary user account balances are displayed to the tester.

Expected Results: Individual and summary user account balances will accurately reflect the true balances for the user accounts.

Test Case 3 Reference All Update Transactions to the Appropriate Supporting Documents (B228.03.03)

The ability to reference all update transactions to the appropriate supporting documents by supplying a document identifier (e.g., billing invoice number).

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will process some receipts.

Output: Update transactions for the receipts processed.

Expected Results: The logged update transactions for the receipts processed includes a reference to the appropriate supporting document.

Test Case 4 Maintain Vendor/Payee Master Files (B228.03.04)

This test verifies the ability of the BAAS Accounts Payable function to maintain vendor/payee master files.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester attempts to view the vendor/payee master file.

Output: The vendor/payee master file is displayed.

Expected Results: The vendor/payee master file is displayed to the tester.

Test Case 5 Update Vendor/Payee Master Files (B228.03.05)

This test verifies the ability of the BAAS Accounts Payable function to update vendor/payee master files.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester attempts to update the vendor/payee master file, but adding new vendors/payees, and modify existing vendors/payees.

Output: Updated vendor/payee master files.

Expected Results: The vendor/payee master files contain the added and modified vendor/payee information.

Test Case 6 Maintain Payee Account Balances (B228.03.06)

This test verifies the ability of the BAAS Accounts Payable function to maintain payee account balances.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will process payments to and charges from vendors/payees, and then requests to see the balances for the appropriate vendors/payees.

Output: The balances for the appropriate vendors/payees are displayed.

Expected Results: The balances for the appropriate vendors/payees will accurately reflect the actual balances based on the initial balances and the adjustments for the payments and charges.

Test Case 7 Identify Delinquent Accounts (B228.03.07)

This test verifies the ability of the BAAS Collections function to identify delinquent accounts; those accounts which have violated ECS-determined account aging parameters (TBD).

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester simulates the passing of time (TBD days), through manipulation of the system date, and requests the BAAS Collections function to identify delinquent accounts.

Output: Messages identifying delinquent accounts.

Expected Results: All delinquent accounts are identified by the BAAS Collections function.

Test Case 8 Set Up a Chart of Accounts (B228.03.08)

This test verifies the ability of the BAAS General Ledger function to set up a chart of accounts.

Test Configuration: Hardware - workstations

	Software - BAAS Management
Input:	The tester sets up a chart of accounts.
Output:	The chart of accounts.
Expected Results:	The chart of accounts is set up.

Test Case 9 Perform End-of-Period Process, Accruals, and Consolidation Processes (B228.03.09)

This test verifies the ability of the BAAS General Ledger function to perform end-of-period process (trial balances), accruals, and consolidation processes under the control of authorized staff.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester, acting as a member of the authorized staff, performs end-of-period process, accruals, and consolidation processes.
Output:	Messages indicating that the end-of-period process, accruals, and consolidation processes are performed.
Expected Results:	The end-of-period process, accruals, and consolidation processes are performed by the BAAS General Ledger function under the control of the tester.

Test Case 10 Archive Data Needed for Comparative Analysis and Presentation of Historical Information (B228.03.10)

This test verifies the ability of the BAAS General Ledger function to archive data needed for comparative analysis and presentation of historical information.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will attempt to archive data needed for comparative analysis and presentation of historical information.
Output:	Messages indicating that the data needed for comparative analysis and presentation of historical information is archived.
Expected Results:	The data needed for comparative analysis and presentation of historical information is archived, and the information required to access the archive is provided.

Test Case 11 Provide End-of-Period Reports (B228.03.11)

This test verifies the ability of the BAAS General Ledger function to provide end-of-period reports (e.g., end-of-month, end-of-quarter, end-of-year).

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to run the end-of-period reports.

Output: The end-of-period reports are provided.

Expected Results: The end-of-period reports are provided for end-of-month, end-of-quarter, and end-of-year.

Test Case 12 Maintain Authorized Billing Algorithms to Value Products and Services, and the Cost of Serving Users (B228.03.12)

This test verifies the ability of the BAAS Cost Accounting function to maintain authorized billing algorithms to value products and services, and the cost of serving users.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to access the billing algorithms maintained by the BAAS Cost Accounting function, as an authorized and an unauthorized user.

Output: Messages indicating access or denial of access to the billing algorithms.

Expected Results: Access to the billing algorithms is allowed for the tester as an authorized user, and denied for the tester as an unauthorized user.

Test Case 13 Assign Costs to Processes Using Authorized Cost Algorithms (B228.03.13)

This test verifies the ability of the BAAS Cost Accounting function to assign costs to processes using authorized cost algorithms.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function will run and assign costs to processes using authorized cost algorithms. The tester views the log.

Output: Messages indicating that costs are assigned to processes.

Expected Results: The log is viewed, and contains messages indicating that costs are assigned to processes. The costs should be calculated correctly based on the authorized cost algorithms.

Test Case 14 Assign Costs to ECS Products Using Authorized Cost Algorithms (B228.03.14)

This test verifies the ability of the BAAS Cost Accounting function to assign costs to ECS products using authorized cost algorithms.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester invokes the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function runs to assign costs to ECS products using authorized cost algorithms. The tester views the log.

Output: Messages indicating costs are assigned to ECS products.

Expected Results: The log is viewed, and contains messages indicating that costs are assigned to ECS products. The costs should be calculated correctly based on the authorized cost algorithms.

Test Case 15 Assign Costs to Serve Different Users (B228.03.15)

This test verifies the ability of the BAAS Cost Accounting function to assign costs to serve different users.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester invokes the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function runs to assign costs to different users. The tester views the log.

Output: Messages indicating costs are assigned to different users.

Expected Results: The log is viewed, and contains messages indicating costs are assigned to different users.

Test Case 16 Receive Resource and Product Utilization Information (B228.03.16)

This test verifies the ability of the BAAS Cost Accounting function to receive resource and product utilization information from the ECS Management Database to track costs to identifiable and quantifiable sources.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester invokes the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function runs to assign costs to ECS products using the resource and product utilization information from the ECS Management Database. The tester views the log.

Output: Messages indicating resource and product utilization information from the ECS Management Database are received.

Expected Results: The log is viewed, and contains messages indicating that resource and product utilization information from the ECS Management Database have been received. The costs should be calculated correctly based on the resource and product utilization information received.

Test Case 17 Provide Standard Automated Financial Statements and Summary Reports (B228.03.17)

This test verifies the ability of the BAAS Reporting function to provide standard automated financial statements and summary reports.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to run the standard automated financial statements and summary report.

Output: The standard automated financial statements and summary report are provided.

Expected Results: The standard automated financial statements and summary report are provided.

Test Case 18 Transfer of Information to Other Applications Outside of the Billing/Accounting Application Service (B228.03.18)

This test verifies the ability of the BAAS Reporting function to allow the transfer of information to other applications outside of the Billing/Accounting Application Service.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will attempt to transfer information to other applications outside of the Billing/Accounting Application Service.
Output:	Report information for the transfer is provided.
Expected Results:	The information is transferred to other applications outside of the Billing/Accounting Application Service.

5.67.2.4 Sequence 4 - Report Generation Support

This testing will verify that the billing and accounting functions of the MSS Billing and Accounting Application Service continues to meet requirements when integrated with the MSS Report Generation function.

Test Case 1 Standard and Ad-Hoc Reports and Queries on the Management and Related Data Maintained in the Management Database (B228.04.01)

This test verifies the ability of the MSS Report Generation function to generate standard and ad-hoc reports and queries on all or portions of the management and related data maintained in the management database.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate standard and ad-hoc reports and queries.
Output:	The generate standard and ad-hoc reports and queries are generated.
Expected Results:	The standard and ad-hoc reports and queries are generated on all or portions of the management and related data maintained in the management database.

Test Case 2 Motif Based GUI Workbench for Use by Database Specialist M&O Staff (B228.04.02)

This test verifies the ability of the MSS Report Generation function to provide a Motif based GUI workbench for use by database specialist M&O staff to generate standard and ad-hoc reports and queries.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester using the Motif based GUI workbench selects to generate standard and ad-hoc reports and queries.

Output: The standard and ad-hoc reports and queries are generated.

Expected Results: By using the Motif based GUI workbench the standard and ad-hoc reports and queries are generated.

Test Case 3 HTML Based User Interface for Use by Non-Database Specialists on the M&O Staff for Requesting Standard Reports (B228.04.03)

This test verifies the ability of the MSS Report Generation function to provide an HTML based user interface for use by non-database specialists on the M&O staff for requesting standard reports.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester using the HTML based user interface requests to generate a standard report.

Output: The standard report is generated.

Expected Results: By using the HTML based user interface for use by non-database specialists on the M&O staff a requested standard report is generated.

Test Case 4 Output Generated Reports to the User's Console, a File, or a Printer (B228.04.04)

This test verifies the ability of the MSS Report Generation function to output generated reports to the user's console, a file, or a printer.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate some reports, andOutput them to the user's console, a file, or a printer.

Output: The generated reports.

Expected Results: The generated reports areOutput to the user's console, a file, or a printer.

Test Case 5 Output Report Query Results to a File in a Tabular Format Which Can Be Imported by Analysis Tools Such as Spreadsheets (B228.04.05)

This test verifies the ability of the MSS Report Generation function to output report query results to a file in a tabular format which can be imported by analysis tools such as spreadsheets.

Test Configuration: Hardware - workstations

Software - MSS Report Generation, spreadsheet application

Input: The tester selects generate a report and toOutput the report query results to a file in a tabular format which can be imported by analysis tools such as spreadsheets.

Output: The report query results in a tabular format file.

Expected Results: The report queried results are generated andOutput to a file in a tabular format which is imported by analysis tools such as spreadsheets. The file is then imported into a spreadsheet application.

Test Case 6 Generate a Routine Data Production Performance Detail Report (B228.04.06)

This test verifies the ability of the MSS Report Generation function to generate a Routine Data Production Performance Detail Report itemizing scheduled vs. actual times for data collection, processing, retrieval, and delivery along with: reason for schedule variance, data quality, and user feedback.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Routine Data Production Performance Detail Report.

Output: The Routine Data Production Performance Detail Report is generated.

Expected Results: The Routine Data Production Performance Detail Report is generated and itemized scheduled vs. actual times for data collection, processing, retrieval, and delivery along with: reason for schedule variance, data quality, and user feedback.

Test Case 7 Generate a Routine Data Production Performance Summary Report (B228.04.07)

This test verifies the ability of the MSS Report Generation function to generate a Routine Data Production Performance Summary Report containing statistical rollups of scheduled vs. actual deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data. .

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Routine Data Production Performance Summary Report.

Output: The Routine Data Production Performance Summary Report is generated.

Expected Results: The Routine Data Production Performance Summary Report is generated and contains statistical rollups of scheduled vs. actual deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data.

Test Case 8 Generate an Interface Traffic Report (B228.04.08)

This test verifies the ability of the MSS Report Generation function to generate an Interface Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an Interface Traffic Report.

Output: Interface Traffic Report is generated.

Expected Results: Interface Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 9 Generate an Ethernet Traffic Report (B228.04.09)

This test verifies the ability of the MSS Report Generation function to generate an Ethernet Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an Ethernet Traffic Report.

Output: Ethernet Traffic Report is generated.

Expected Results: Ethernet Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 10 Generate an SNMP Traffic Report (B228.04.10)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an SNMP Traffic Report.

Output: SNMP Traffic Report is generated.

Expected Results: SNMP Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 11 Generate an SNMP Operations Report (B228.04.11)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Operations Report graphically plotting the number of selected SNMP operations/sec requested to be performed by the SNMP agent on the selected node(s).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an SNMP Operations Report on selected nodes.

Output: SNMP Operations Report is generated.

Expected Results: SNMP Operations Report is generated and graphically plots the number of selected SNMP operations/sec requested to be performed by the SNMP agent on selected nodes.

Test Case 12 Generate a Site Host Resource Utilization Report (B228.04.12)

This test verifies the ability of the MSS Report Generation function to generate a Site Host Resource Utilization Report indicating minimum/average/maximum measured percent usage of host CPU and memory resources and disk reads and writes over the report interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a Site Host Resource Utilization Report.

Output: The Site Host Resource Utilization Report is generated.

Expected Results: The Site Host Resource Utilization Report is generated and indicated minimum/average/maximum measured percent usage of host CPU and memory resources and disk reads and writes over the report interval.

Test Case 13 Generate a User Service Performance Report (B228.04.13)

This test verifies the ability of the MSS Report Generation function to generate a User Service Performance Report containing summary and detailed analysis of user feedback including: User information, Type of transaction, Satisfaction statistics, User recommendations, and SMC recommendations.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a User Service Performance Report.

Output: The User Service Performance Report is generated.

Expected Results: The User Service Performance Report is generated and contains summary and detailed analysis of user feedback including: User information, type of transaction, satisfaction statistics, user recommendations, and SMC recommendations.

Test Case 14 Generate a Data Distribution Performance Report (B228.04.14)

This test verifies the ability of the MSS Report Generation function to generate a Data Distribution Performance Report listing the time a request was received, assigned, processed, verified, and delivered and variances from nominal.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a Data Distribution Performance Report.

Output: The Data Distribution Performance Report is generated.

Expected Results: The Data Distribution Performance Report is generated and lists the time a request was received, assigned, processed, verified, and delivered and variances from nominal.

Test Case 15 Generate a Fault Management Report (B228.04.15)

This test verifies the ability of the MSS Report Generation function to generate a Fault Management Report containing summary and detailed information on fault management

of ground resources including: fault type and description, time of fault occurrence, effect of fault on system, status of fault resolution, and fault statistics.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Fault Management Report.
Output:	The Fault Management Report is generated.
Expected Results:	The Fault Management Report is generated and contains summary and detailed information on fault management of ground resources including: fault type and description, time of fault occurrence, effect of fault on system, status of fault resolution, and fault statistics.

Test Case 16 Generate a Trouble Status Report (B228.04.16)

This test verifies the ability of the MSS Report Generation function to generate a Trouble Status Report containing statistics on the number of trouble tickets opened, closed, and in work at a site and the average time to close a trouble ticket over the reporting period.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Trouble Status Report.
Output:	The Trouble Status Report is generated.
Expected Results:	The Trouble Status Report is generated and contains statistics on the number of trouble tickets opened, closed, and in work at a site and the average time to close a trouble ticket over the reporting period.

Test Case 17 Generate a Ground Resource Availability Audit Report (B228.04.17)

This test verifies the ability of the MSS Report Generation function to generate a Ground Resource Availability Audit Report itemizing the occurrence of each resource outage, the reason for the outage, the duration, and the availability over the report interval.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Ground Resource Availability Audit Report.
Output:	The Ground Resource Availability Audit Report is generated.

Expected Results: The Ground Resource Availability Audit Report is generated and itemizes the occurrence of each resource outage, reason for the outage, duration, and availability over the report interval.

Test Case 18 Generate a Data Accountability Audit Report (B228.04.18)

This test verifies the ability of the MSS Report Generation function to generate a Data Accountability Audit Report tracing a data item's status changes/ accesses over the reporting interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Data Accountability Audit Report.

Output: The Data Accountability Audit Report is generated.

Expected Results: The Data Accountability Audit Report is generated and traces a data item's status changes/ accesses over the reporting interval.

Test Case 19 Generate a User Activity Audit Report (B228.04.19)

This test verifies the ability of the MSS Report Generation function to generate a User Activity Audit Report tracing a user's activity during a logon including products requested and files accessed.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a User Activity Audit Report.

Output: The User Activity Audit Report is generated.

Expected Results: The User Activity Audit Report was generated and traces a user's activity during a logon including products requested and files accessed.

Test Case 20 Generate a Security Audit Report (B228.04.20)

This test verifies the ability of the MSS Report Generation function to generate a Security Audit Report.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a Security Audit Report.

Output: The Security Audit Report is generated.

Expected Results: The Security Audit Report is generated.

Test Case 21 Generate an Ingest History Report (B228.04.21)

This test verifies the ability of the MSS Report Generation function to generate an Ingest History Report containing the log of ingest events selected by start/stop time, external data provider, data type identifier, and request status.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	Tester generates an Ingest History Report.
Output:	Ingest History Report is generated.
Expected Results:	Ingest History Report is generated and contains the log of ingest events selected by start/stop time, external data provider, data type identifier, and request status.

Test Case 22 Generate a Processing Log Report (B228.04.22)

This test verifies the ability of the MSS Report Generation function to generate a Processing Log Report containing the log of product processing events selected by start/stop time, data type identifier, and processing status.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Processing Log Report.
Output:	Processing Log Report is generated.
Expected Results:	Processing Log Report is generated and contains the log of product processing events selected by start/stop time, data type identifier, and processing status.

Test Case 23 Generate a Production and Data Processing Request Status Report (B228.04.23)

This test verifies the ability of the MSS Report Generation function to generate a Production and Data Processing Request Status Report containing the list of pending production and user-requested product data processing requests.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester generates a Production and Data Processing Request Status Report.
Output:	The Production and Data Processing Request Status Report is generated.

Expected Results: The Production and Data Processing Request Status Report is generated and contains the list of pending production and user-requested product data processing requests.

Test Case 24 Generate a Planning Workload and Processing Turn-Around Report (B228.04.24)

This test verifies the ability of the MSS Report Generation function to generate a Planning Workload and Processing Turn-Around Report.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a Planning Workload and Processing Turn-Around Report.

Output: The Planning Workload and Processing Turn-Around Report is generated.

Expected Results: The Planning Workload and Processing Turn-Around Report is generated.

Test Case 25 Generate a Planning Management Report (B228.04.25)

This test verifies the ability of the MSS Report Generation function to generate a Planning Management Report.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a Planning Management Report.

Output: The Planning Management Report is generated.

Expected Results: The Planning Management Report is generated.

Test Case 26 Generate a Service Cost Schedule Report (B228.04.26)

This test verifies the ability of the MSS Report Generation function to generate a Service Cost Schedule Report containing resource usage cost by service offered.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a Service Cost Schedule Report.

Output: The Service Cost Schedule Report is generated.

Expected Results: The Service Cost Schedule Report is generated and contains resource usage cost by service offered.

Test Case 27 Generate a Standard Product Cost Schedule Report (B228.04.27)

This test verifies the ability of the MSS Report Generation function to generate a Standard Product Cost Schedule Report containing end to end cost accounting information by standard product.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: Tester generates a Standard Product Cost Schedule Report.

Output: The Standard Product Cost Schedule Report is generated.

Expected Results: The Standard Product Cost Schedule Report is generated and contains end to end cost accounting information by standard product.

Test Case 28 Generate a Configuration Status Report (B228.04.28)

This test verifies the ability of the MSS Report Generation function to generate a Configuration Status Report noting the operational status of all H/W, system S/W and science S/W with a reason why an item is not currently operational .

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: Tester generates a Configuration Status Report.

Output: The Configuration Status Report is generated.

Expected Results: The Configuration Status Report is generated and notes the operational status of all H/W, system S/W and science S/W with a reason why an item is not currently operational.

Test Case 29 Generate a Maintenance Schedule Report (B228.04.29)

This test verifies the ability of the MSS Report Generation function to generate a Maintenance Schedule Report on H/W, system S/W and science S/W indicating the type of maintenance (i.e., routine, non-routine and upgrade).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: Tester generates a Maintenance Schedule Report.

Output: The Maintenance Schedule Report is generated.

Expected Results: The Maintenance Schedule Report is generated on H/W, system S/W and science S/W indicating the type of maintenance (i.e., routine, non-routine and upgrade).

Test Case 30 Generate a Training Program Report (B228.04.30)

This test verifies the ability of the MSS Report Generation function to generate a Training Program Report containing: Training programs, Training schedules, Training course contents, Training course locations, and Training attendees.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: Tester generates a Training Program Report.

Output: The Training Program Report is generated.

Expected Results: The Training Program Report is generated and contains: Training programs, Training schedules, Training course contents, Training course locations, and Training attendees.

Test Case 31 Generate an Inventory Status Report (B228.04.31)

This test verifies the ability of the MSS Report Generation function to generate an Inventory Status Report containing summary and detailed status information on H/W, system S/W and science S/W and listing spares and consumables status at sites.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates an Inventory Status Report.

Output: Inventory Status Report is generated.

Expected Results: Inventory Status Report is generated and contains summary and detailed status information on H/W, system S/W and science S/W and listing spares and consumables status at sites.

Test Case 32 Generate a Security Compromise Report (B228.04.32)

This test verifies the ability of the MSS Report Generation function to generate a Security Compromise Report listing occurrences of login failures, unauthorized accesses, break-ins, viruses and worms indicating time, cause, impact, resolution status, and results of security compromise risk analysis.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: Tester generates a Security Compromise Report.

Output: The Security Compromise Report is generated.

Expected Results: The Security Compromise Report is generated and lists occurrences of login failures, unauthorized accesses, break-ins, viruses and worms indicating time, cause, impact, resolution status, and results of security compromise risk analysis.

5.67.2.5 Sequence 5 - Network management data exchange

This series of tests verifies that the MSS services have the capabilities to send and receive network management information.

Test Case 1 Performance service sends NetInfo to receiver (B228.05.01)

This test verifies that the capability of the MSS performance management application (PMA) service to send ECS network management information to receiver.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "send netstatus" command.

Output: The RS shows network status data.

Expected Results: The RS receives network status info and displays it.

Test Case 2 Fault service sends NetInfo to receiver (B228.05.02)

This test verifies that the capability of the fault management application service to send ECS network management information to receiver.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "send netstatus" command.

Output: The RS shows network status data.

Expected Results: The RS receives network status info and displays it.

Test Case 3 Performance service receives NetInfo from sender (B228.05.03)

This test verifies that the capability of the MSS performance management application (PMA) service to receive ASTER GDS network management information to sender.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a send simulator (SS), XRunner tool.

Input: The SS opens the PMA. Enter the "send netstatus" command.

Output: The PMA shows network status data.

Expected Results: The PMA receives network status info and displays it.

Test Case 4 Fault service receives NetInfo from sender (B228.05.04)

This test verifies that the capability of the fault management application service to receive network management information from sender.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a send simulator (SS), XRunner tool.

Input: The SS opens the FMA. Enter the "send netstatus" command.

Output: The FMA shows network status data.

Expected Results: The FMA receives network status info and displays it.

5.67.2.6 Sequence 6 - Query from summary information

This series of tests verifies that the MSS services have the capabilities to query from the summary information about faults that may affect the quality of services.

Test Case 1 Fault service queries NSI for faults data (B228.06.01)

This test verifies that the capability of the fault management application service shall have the capability to query from NSI information regarding the fault status, estimated time to repair, and fault resolution, which may affect the quality of NSI services between ECS and its users.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "qry faultStatus", " qry timeRepair", and "qry result" commands.

Output: The FMA receives and display the query results.

Expected Results: The RS receives the query and replies to FMA with fault status, time to repair, and resolution.

Test Case 2 Fault service queries from NSI summary for faults (B228.06.02)

This test verifies that the capability of the fault management application service to query from NSI periodic summary information about faults that may have affected the quality of NSI services between ECS and its users.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "qry suminfo" commands.

Output: The FMA receives and display the summary which contains the faults information.

Expected Results: The FMA receives the fault information.

Test Case 3 Performance service queries from NSI report for performance data (B228.06.03)

This test verifies that the capability of the MSS performance management application (PMA) service to query from NSI periodic reports of link utilization and transmission errors, reflecting or summarizing NSI performance measurements over various time intervals.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "qry rpt" commands.

Output: The PMA receives and displays the report which contains the error and performance data.

Expected Results: The RS receives the query and replies to FMA with performance measurements data.

Test Case 4 Security service receives from NSI for security breaches (B228.06.04)

This test verifies that the capability of the MSS security management application (SMA) service to receive from NSI, notification of security breaches at NSI sits or within the NSI network that could potentially affect ECS sites.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the SMA. Enter the "send notice" commands.

Output: The SMA receives and displays the notification.

Expected Results: The SMA receives the notification of breaches.

5.67.2.7 Sequence 7 - Performance Management

Test Case 1 On-line state (B228.07.01)

This test verifies the capability to determine that a ECS component is on-line.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to on-line.

Output: ECS component is reported in on-line state.

Expected Results: Performance statistics are reported for the ECS component in on-line state. All performance data recorded in the MSS log file is identified as on-line state.

Test Case 2 Off-line state (B228.07.02)

This test verifies the capability to recognize a ECS component is off-line.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to off-line.

Output: ECS component is reported in off-line state.

Expected Results: Performance statistics are not reported for the ECS component in off-line state. ECS component is recorded in the MSS log file to be off-line.

Test Case 3 Test mode state (B228.07.03)

This test verifies the capability to recognize a ECS component in test mode.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to test mode.

Output: ECS component is reported in test mode.

Expected Results: Performance monitoring should report statistics for the ECS component in test mode. All performance data recorded in the MSS log file is identified as test mode.

Test Case 4 Maintenance state (B228.07.04)

This test verifies the capability to recognize a ECS component in maintenance state.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to maintenance.

Output: ECS component is reported in maintenance state.

Expected Results: Performance statistics are not reported for the ECS component in maintenance state. ECS component is recorded in the MSS log file to be in maintenance state.

Test Case 5 Simulation state (B228.07.05)

This test verifies the capability to recognize a ECS component in simulation state.

Test Configuration: ECS server, HP OpenView server, x-terminal

Input: Simulated network and system map in HP OpenView. ECS component's state is set to simulation.

Output: ECS component is reported in simulation state.

Expected Results: Performance monitoring should report statistics for the ECS component in simulation state. All performance data recorded in the MSS log file is identified as simulation state.

5.67.2.8 Sequence 8 - Fault Management

Test Case 1 Receive notification of detected faults from EBnet (B228.08.01)

This test verifies that the capability of the fault management application service to receive notifications of detected faults from EBnet.

Test Configuration: Hardware - X-terminal.

Software - EBnet simulator.

Input: EBnet fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: The EBnet fault is received and recorded in the MSS log file. Depending on the type and severity of the fault, alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 2 Receive notification of detected faults from ASTER GDS (B228.08.02)

This test verifies that the capability of the fault management application service to receive notifications of detected faults from the ASTER GDS.

Test Configuration: Hardware - X-terminal.

Software - ASTER GDS simulator.

Input: ASTER GDS fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: The ASTER GDS fault is received and recorded in the MSS log file. Depending on the type and severity of the fault, alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 3 Receive notification of performance degradation from EBnet (B228.08.03)

This test verifies that the capability of the fault management application service to receive notifications of performance degradation from EBnet.

Test Configuration: Hardware - X-terminal.

Software - EBnet simulator.

Input: EBnet fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: The EBnet fault is received and recorded in the MSS log file. Alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 4 Receive notification of performance degradation from the ASTER GDS (B228.08.04)

This test verifies that the capability of the fault management application service to receive notifications of performance degradation from the ASTER GDS.

Test Configuration: Hardware - X-terminal.

Software - ASTER GDS simulator.

Input: ASTER GDS fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: The ASTER GDS fault is received and recorded in the MSS log file. Alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

5.67.2.9 Sequence 9 - Management Agents

Test Case 1 CLS Receive account balance status request (B228.09.01)

This test verifies the capability to receive account balance status requests from the clients.

Test Configuration: ECS server, CLS interface simulator, HP OpenView server, x-terminal

Input: User account balance status request

Output: A pending user request for account balance status

Expected Results: An account balance status request is received and queued for processing. Client request is logged in the MSS log file.

Test Case 2 Send CLS billing costs (B228.09.02)

This test verifies the capability to send billing costs information to the clients.

Test Configuration: ECS server, CLS interface simulator, HP OpenView server, x-terminal

Input: Billing costs data record

Output: Billing costs report

Expected Results: A billing costs report is sent to the user. Send event is recorded in the MSS log file.

Test Case 3 Receive CSS current mode (B228.09.03)

This test verifies the capability to receive the current mode within the CSS subsystem.

Test Configuration: ECS server, CSS interface simulator, HP OpenView server, x-terminal

Input: MIB for CSS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the CSS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 4 Send CSS mode request (B228.09.04)

This test verifies the capability to send a software mode request to the CSS subsystem.

Test Configuration: ECS server, CSS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the CSS subsystem

Expected Results: A request for setting the software mode is sent to the CSS subsystem. Appropriate MIB in CSS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

Test Case 5 Receive IOS current mode (B228.09.05)

This test verifies the capability to receive the current mode within the IOS subsystem.

Test Configuration: ECS server, IOS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the IOS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 6 Send IOS mode request (B228.09.06)

This test verifies the capability to send a software mode request to the IOS subsystem.

Test Configuration: ECS server, IOS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the IOS subsystem

Expected Results: A request for setting the software mode is sent to the IOS subsystem. Appropriate MIB in IOS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

Test Case 7 Receive DMS current mode (B228.09.07)

This test verifies the capability to receive the current mode within the DMS subsystem.

Test Configuration: ECS server, DMS interface simulator, HP OpenView server, x-terminal

Input: MIB for DMS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the DMS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 8 Send DMS mode request (B228.09.08)

This test verifies the capability to send a software mode request to the DMS subsystem.

Test Configuration: ECS server, DMS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the DMS subsystem

Expected Results: A request for setting the software mode is sent to the DMS subsystem. Appropriate MIB in DMS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

Test Case 9 Receive PLS current mode (B228.09.09)

This test verifies the capability to receive the current mode within the PLS subsystem.

Test Configuration: ECS server, PLS interface simulator, HP OpenView server, x-terminal

Input: MIB for PLS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the PLS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 10 Send PLS mode request (B228.09.10)

This test verifies the capability to send a software mode request to the PLS subsystem.

Test Configuration: ECS server, PLS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the PLS subsystem

Expected Results: A request for setting the software mode is sent to the PLS subsystem. Appropriate MIB in PLS subsystem is set with the

corresponding mode request. Set mode request is logged in the MSS log file.

Test Case 11 Receive DPS current mode (B228.09.11)

This test verifies the capability to receive the current mode within the DPS subsystem.

Test Configuration: ECS server, DPS interface simulator, HP OpenView server, x-terminal

Input: MIB for DPS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the DPS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 12 Send DPS mode request (B228.09.12)

This test verifies the capability to send a software mode request to the DPS subsystem.

Test Configuration: ECS server, DPS interface simulator, HP OpenView server, x-terminal

Input: MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: A request for setting the software mode within the DPS subsystem

Expected Results: A request for setting the software mode is sent to the DPS subsystem. Appropriate MIB in DPS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

Test Case 13 Receive INS current mode (B228.09.13)

This test verifies the capability to receive the current mode within the INS subsystem.

Test Configuration: ECS server, INS interface simulator, HP OpenView server, x-terminal

Input: MIB for INS subsystem resource is set with a software mode. Request to read current mode within subsystem.

Output: Current mode information.

Expected Results: The current mode information is returned about the INS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 14 Send INS mode request (B228.09.14)

This test verifies the capability to send a software mode request to the INS subsystem.

Test Configuration:	ECS server, INS interface simulator, HP OpenView server, x-terminal
Input:	MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.
Output:	A request for setting the software mode within the INS subsystem
Expected Results:	A request for setting the software mode is sent to the INS subsystem. Appropriate MIB in INS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

Test Case 15 Receive DSS current mode (B228.09.15)

This test verifies the capability to receive the current mode within the DSS subsystem.

Test Configuration:	ECS server, DSS interface simulator, HP OpenView server, x-terminal
Input:	MIB for DSS subsystem resource is set with a software mode. Request to read current mode within subsystem.
Output:	Current mode information.
Expected Results:	The current mode information is returned about the DSS resource. Mode information matches MIB content. Current mode request is logged in the MSS log file.

Test Case 16 Send DSS mode request (B228.09.16)

This test verifies the capability to send a software mode request to the DSS subsystem.

Test Configuration:	ECS server, DSS interface simulator, HP OpenView server, x-terminal
Input:	MIB for IOS subsystem resource is set with a software mode. Request to read current mode within subsystem.
Output:	A request for setting the software mode within the DSS subsystem
Expected Results:	A request for setting the software mode is sent to the DSS subsystem. Appropriate MIB in DSS subsystem is set with the corresponding mode request. Set mode request is logged in the MSS log file.

5.68 Integrated Product Generation and Management Build 7

The Integrated Product Generation and Management Build 7 is an integrated build of the following builds:

- System Management Build
- Integrated Client Services Build 3
- Integrated Communication Services Build 5
- DAAC Build 6

5.68.1 Build Objectives

The objectives of the Integrated Product Generation and Management build 7 are:

- Provide the capability to generate reports to support audits and to perform various analyses.
- Provide the capability to manage system performance, system failures and accounting/accountability.
- Provide the capability to perform client and data server management services.
- Provide the capability to perform data access and search services.
- Provide the capability to perform production planning, scheduling and product generation.
- Provide the capability to perform ingest services.

5.68.2 Build Test Description

Testing is performed to verify system performance monitoring and data collection during simultaneous processing of individual requests and normal operation of the system. Testers will develop requests with the help of client services. These requests will be distributed appropriately. Production planning, scheduling, and product generation will be performed. Products will be ingested and distributed according to the requests. Level 0 data products will be ingested from ground system interfaces. Once products are ingested, the tester can access data through the client interface.

Analysis of system performance monitoring and data collection will support load balancing, tuning/optimization and trends analysis/capacity planning activities. System failures are automatically detected through analysis of system event logs and faults are resolved based on vendor diagnostics, procedures, reports and timing in accordance with fault policies.

Testing is performed to verify accounting and accountability management. Accounting policies are distributed and available system-wide. Privileges for guest versus registered users will be verified. Accounts payable and receivable, credit tracking, price estimation, invoicing, billing and reporting will be managed by the system.

Dependencies: (If Applicable)

In order to verify the objectives of the Integrated Product Generation and Management Build 7, the following interface and functional capabilities are required:

- Network environment (LAN and WAN).
- Interface to network communication management tools.
- Interface to EOSView.
- Interface between ASTER and ECS.
- Interface between SAGE III and ECS.
- Interface between ADEOS II and ECS.
- Report generation application service must be established.
- Data server containing simulated data.
- Interface to data server, data dictionary, LIM, and DIM for data access.
- Interface to product generation system to support product planning, scheduling, and generation.
- Interface between SDPS and CSMS.
- Interface to ECS for non-ECS-clients.

Test Support Requirements

- Hardware:
  - Workstations
  - Dumb terminals
  - Bitmapped-display terminals
  - Production Planner Workstation
  - Planning Database Server host
- Software:
  - Desktop Manager, Desktop
  - Scientist Workbench
  - Data Dictionary Server, Data Dictionary DBMS
  - User Registration Tool
  - Visualization Tool
  - SMC interface
  - MSS Billing and Accounting Application Service
  - Advertising Service

- Resource Management COTS tool
- GUI Interface for queue control and monitoring
- CSMS LSM Services

  Configuration Management Applications

  Resource Scheduling Applications

- Data:
  - simulated data granules
  - metadata, algorithm executables, ancillary data products

5.68.2.1 Sequence 1- Status and Notifications

The following tests verify the ability to retrieve status information and receive status notifications.

Test Case 1 Conclusion of Processing (B229.01.01)

This test verifies that the client will receive a data request status at the conclusion of the processing of a data request.

Test Configuration:	Hardware - workstations
	Software - Request Tool, Desktop, Workbench
Input:	A number of data requests are present. Several of the data requests have concluded processing.
Output:	A data request status is received by the client and displayed.
Expected Results:	The user successfully receives a data request status at the conclusion of the processing of a data request.

Test Case 2 Reprocessing Status (B229.01.02)

This test verifies that the user can determine the reprocessing status of products which are being reprocessed.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench
Input:	A number of products are being reprocessed. Request reprocessing status of products.
Output:	Reprocessing status is received by the client and displayed.
Expected Results:	The user can successfully determine the reprocessing status of products which are being reprocessed.

Test Case 3 Periodic Distribution Status (B229.01.03)

This test verifies that the desktop will issue periodic distribution status requests for a user-specified distribution request, at time intervals specified by the user.

Test Configuration:	Hardware - workstations
	Software - Request Tool, Desktop, Workbench
Input:	Distribution requests are present. Specify distribution request and time interval.
Output:	Desktop issues periodic distribution status request. Responses are returned to the client.
Expected Results:	The desktop successfully issues periodic distribution status requests for a user-specified distribution request, at time intervals specified by the user.

Test Case 4 Delay Notification for Processing (B229.01.04)

This test verifies that the user will be provided notification when processing will not be completed within the estimated time.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench
Input:	Product requests are present. A number of the requests will not be completed within the estimated time.
Output:	Notification is received by the client and displayed to the user.
Expected Results:	The user is successfully provided notification when processing will not be completed within the estimated time.

Test Case 5 Conflict Adjudication Request (B229.01.05)

This test verifies that the user can submit a conflict adjudication request to the SMC, in the event a processing conflict cannot be resolved by the data server, the science user, and the data processing subsystem. A conflict adjudication response will be provided from the SMC after submitting a conflict adjudication request.

Test Configuration:	Hardware - workstations
	Software - Product Request Tool, Desktop, Workbench, SMC
Input:	Product request conflicts are present. Submit a conflict adjudication request to the SMC from the client.
Output:	Conflict adjudication request is created and submitted to the SMC. A conflict adjudication response is returned from the SMC.

Expected Results: A conflict adjudication request is successfully submitted in response to a conflict. A conflict adjudication response is successfully returned from the SMC.

Test Case 6 Preview Billing Prior to Data Request (B229.01.06)

This test verifies that the user can preview billing costs for non-EOSDIS data products prior to data request submission.

Test Configuration: Hardware - workstations

Software - Request Tool, Desktop, Workbench

Input: Display request submission window. Complete data request for non-EOSDIS data products. Request to preview billing costs.

Output: Request submission window is displayed. Preview of billing costs is provided.

Expected Results: The user can successfully preview billing costs of non-EOSDIS data products prior to data request submission.

Test Case 7 Cost Estimates Prior to Search (B229.01.07)

This test verifies that when a user submits a distribution request, they shall be given an opportunity to review the total amount that will be billed for the order and affirm, cancel or modify the search request.

Test Configuration: Hardware - workstations

Software - Request Tool, Desktop, Workbench

Input: Display search request submission window. Complete a number of search requests. Submit requests. Affirm, cancel and modify a number of search requests after reviewing the total amount that will be billed.

Output: Request submission window is displayed. Review of billing costs is provided. Search requests are affirmed, canceled or modified according to request.

Expected Results: The user can successfully review the total amount that will be billed for an order and affirm, cancel or modify the search request.

5.68.2.2 Sequence 2- Planning and Production

The following tests verify the ability to create a candidate plan. This includes the ability to receive data availability schedules (DAS) from remote ECS sites, EDOS, IPs, and ODCs. Candidate plans will satisfy production requests for reprocessing and on-demand data products. Candidate plans will also consolidate any outstanding data processing requests in the current active plan. Production strategies will be properly used when creating a candidate plan. On-

demand production requests will be processed according to the active plan and made available to the data server for distribution.

Test Case 1 Remote DASs (B229.02.01)

This test verifies that data availability schedules (DAS) can be obtained through subscriptions submitted to remote ECS sites, EDOS, IPs, ODCs, and to the data server for FOS plans and schedules. Subscriptions will be submitted, notification of indicating DAS arrival will be received, and DASs will be accepted.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host Software - AutoSys, AutoXpert, Production Management DBMS
Input:	Data subscriptions for data availability schedules are submitted to remote ECS sites, EDOS, IPs, ODCs, and to the data server for FOS plans and schedules. This includes the SMC.
Output:	Data subscriptions are accepted and are sent to the appropriate sites. Notices indicating arrival are received. DASs are accepted from other sites.
Expected Results:	DASs are sent from requested sites including the SMC.

Test Case 2 Plan Creation (B229.02.02)

This test verifies the creation of a candidate plan that will satisfy production requests for reprocessing, on-demand data products, and outstanding data processing requests in the current active plan. The plan will be generated using specified production strategies and DASs. Some requests entered will include intermediate results. Conflicts and dependencies will be identified.

Test Configuration:	Hardware - Production Planner workstation, Planning Database Server host Software - AutoSys, AutoXpert, Production Management DBMS
Input:	A number of reprocessing requests, on-demand data product requests, and data processing requests that will not be accommodated in the active plan are entered into the planning system. Initiate the creation of a candidate plan using a specific production strategy. Display the candidate plan.
Output:	A candidate plan is created and displayed. Plans are sent to the data server for archival and data access.
Expected Results:	The candidate plan is successfully created and satisfies production requests for reprocessing and on-demand data products. The candidate plan incorporates any outstanding data processing

requests. Production Strategies and DASs are successfully used in creating the candidate plans.

Test Case 3 On-Demand DPR (T229.02.03)

This test verifies that an on-demand data processing request issued by the data server is relayed to planning for scheduling. Planning compares the resource requirements of the PR to the acceptable and available resources, and if they are within the allotted amount, and the data server indicates the data is available, the PR is used to generate DPR(s) which are then passed on to data processing. Processing processes the DPR(s), updates the status of the DPR(s) and sends the data product to the data server. Processing then interfaces with the data server to release the resources held by that data processing request.

Test Configuration: Hardware - data server, workstation, science processor.

Software - GUI interface.

Input: A valid on-demand processing request.

Output: An on-demand processing request is sent to planning. Planning generates a DPR(s) and sends it to processing. Processing informs planning of the status of the DPR(s). Processing requests the necessary data from the data server. Upon completion, processing destages the finished data product to the data server.

Expected Results: The data server receives the on-demand processing request. The data server passes the processing request to planning. Planning generates a DPR(s) and automatically compares the requirements of the DPR(s) to various acceptance criteria and usage thresholds. If the resources required by the DPR(s) are within the acceptable range, the DPR(s) is passed on to processing. Processing receives the DPR(s), and requests the necessary data from the data server at the appropriate time. Processing informs planning of the status of the DPR(s) when the DPR(s) is run. Processing finishes the DPR(s) and destages the finished data product to the data server. Planning is notified of the completed status of the DPR(s).

5.68.2.3 Sequence 3 - Integrated Data Access Functions

The following tests verify the ability of the Document Data Server to receive, and insert into the archive, documentation in various formats. Other tests include the ability of the Document Server to accept and appropriately respond to search requests. Ability to manipulate data in the archive. Also the ability to perform operations on sessions. Accept distribution requests for distribution of data on physical media. Monitor the Data Server System, manage the storage archive devices and appropriately respond to system faults. Search for instruments by product id and sort them by product id. Other tests include user capability to perform spatial metadata graphical inventory search. This sequence of tests also verifies that combinations of graphical/character oriented

attributes can be constructed and executed. The result package is graphically/character represented. The Inventory Search verifies the capability to perform queries of metadata describing granules or aggregations of granules. Ability for data services to support a data administration utilities. Such services include advertising services, LIM activities, DIM activities, Data Dictionary functions and the ability to receive and send FDF data from other DAACs. Also being able to perform some product support functions

Test Case 1 Document Addition API Test (B229.03.01)

This test verifies the ability to provide application programming interfaces which will support the development of extensions for additions of documents. This will be used as Guide data for DAAC-specific Data Products.

Test Configuration:	Hardware - workstation
	Software - DDSRV
Input:	Using the API, extensions are generated to allow document additions. These additions support storage of Guide data for DAAC specific Data Products.
Output:	Documents submitted will be in Guide.
Expected Results:	All documents submitted will be in the Guide.

Test Case 2 Guide Search Performance Test (B229.03.02)

This test verifies the capability to complete a search for a guide document. The software will be able to do this by a single keyword; however, the search is not to exceed 8 seconds.

Test Configuration:	Hardware - workstation
	Software - DDSRV
Input:	Submit single keyword searches to guide and collect information on search time.
Output:	Submit searches successfully and return guide data.
Expected Results:	Search will not take any longer than 8 seconds for a single keyword search.

Test Case 3 File Directory Record Deletion Test (B229.03.03)

This test verifies the capability to provide a mechanism to delete records from the File Directory.

Test Configuration:	Hardware - workstation
	Software - STMGT

Input: A series of commands are submitted to view the File Directory and delete existing records from the File Directory.

Output: File Directory display.

Expected Results: All commands are received. The File Directory is viewed before and after File Directory record deletion. Appropriate files are deleted.

Test Case 4 Metadata Update Test (B229.03.04)

This test verifies the ability of Data Server software to update metadata under the following circumstances:

- purged data item
- relocation of data item
- addition of metadata fields

Test Configuration: Hardware - workstation

Software - SDSRV

Input: Commands are submitted to view metadata. Operator requests are submitted to purge, update, and relocate data.

Output: Metadata is displayed.

Expected Results: Commands to purge, relocate and update metadata are accepted and processed. Metadata is viewed before and after purge, update, and relocate commands are processed. The appropriate metadata changes are made.

Test Case 5 Operations Suspension of Client Session Test (B229.03.05)

This test verifies the capability to provide the operations staff with the ability to suspend all active client sessions.

Test Configuration: Hardware - workstation

Software - SDSRV

Input: Several client sessions are opened. Operational commands are submitted for suspension of all sessions active.

Output: Notification of session suspension.

Expected Results: All active sessions are suspended upon request. Complete and appropriate notification is sent to the requester.

Test Case 6 Operations Resumption of Client Session Test (B229.03.06)

This test verifies the capability to provide the operations staff with the ability to resume all active client sessions.

Test Configuration:	Hardware - workstation
	Software - SDSRV
Input:	Several client sessions are suspended. Operational commands are submitted for resumption of all sessions active.
Output:	Notification of session resumption.
Expected Results:	All active sessions are resumed upon request. Complete and appropriate notification is sent to the requester.

Test Case 7 Archive Media Removal Test (B229.03.07)

This test verifies the capability to provide the operations staff the ability to alter the criteria that determines removal of archive media from storage devices to allow insertion of new or different archive media in the storage device. Note, that in determining the archive media that should be removed, the criteria shall consider the media's capacity for storing additional data, the last time data was accessed on the media and whether the media is currently in use to store or retrieve data.

Test Configuration:	Hardware - workstation
	Software - STMGT
Input:	Operational commands are submitted to display the criteria of media device removal. Operational commands are submitted to modify the criteria. At least one request for each criteria selection is submitted. A series of Service Requests are submitted, enough to cause removal of media.
Output:	Media criteria device display.
Expected Results:	All operational commands are accepted and criteria information is displayed or modified according to the command. Archive is successfully removed according to current parameter criteria.

Test Case 8 Archive Performance Monitoring Test (B229.03.08)

This test verifies the capability to provide the ability to monitor the performance of the ECS archival storage system. Also, the operations staff is provided with the capability to view/display performance information on the storage system.

Test Configuration:	Hardware - workstation
	Software - STMGT

Input: A series of Service Requests are submitted for the purpose of collecting storage system performance data. Commands are submitted to display performance information.

Output: Reports are displayed.

Expected Results: Reports accurately display performance information.

Test Case 9 Archive Storage Cost Test (B229.03.09)

This test verifies that archive storage costs, based on distribution size, are correctly recorded.

Test Configuration: Hardware - workstation

Software - DDIST

Input: A series of Distribution Requests is submitted to include requests for data of various size.

Output: Files containing archive storage costs.

Expected Results: All Distribution Requests submitted are processed successfully. Archive storage costs are generated and successfully recorded.

Test Case 10 Administrative Service Request API Test (B229.03.10)

This test verifies the capability to provide an application program interface, for the submission of Administrative Service Requests.

Test Configuration: Hardware - workstation

Software - SDSRV

Input: Administrative Services Requests are submitted, via the API.

Output: Processing results for the Service Request.

Expected Results: All Administrative Services Requests submitted are successfully received and processed. The requester is notified of Administrative Service Request Processing results.

Test Case 11 All other instruments Data list search by product id (B229.03.11)

This test case verifies that all other instruments (COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3) data can be searched on by product ID. The tester generates a data search on all other instrument data specifying a product ID keyword. After the search result package has been received, the tester prints the data list and verifies that all other instruments data contains only data related to the product ID provided and that no extraneous data is included.

Test Configuration: Hardware - workstations

	Software - Scientist workbench, Storage device, Desktop manager
Input:	All other instruments data search request by product ID.
Output:	All other instruments data search result package.
Expected Results:	The data list contains all other instruments data information related to the product ID keyword.

Test Case 12 All other Instruments Data List Sort by Product ID (B229.03.12)

This test case verifies that all other instruments (COLOR, ADEOS II, ALTRADAR, ACRIMSAT and Meteor-3) data can be sorted by product ID. The tester generates a data search on all other instruments data, requesting it to be sorted by data type. After the search result package has been received, the tester prints the data list. The tester then requests the data to be sorted by product ID. The data list is then sorted. The tester verifies that the sorted list includes all data from the original list, sorted by product ID.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	All other instruments data search request, sort request.
Output:	All other Instruments data lists, one sorted by data type, one sorted by product ID.
Expected Results:	Both data lists contain the same information regardless of the order sorted.

Test Case 13 Valid Data Set Start/Stop Time Combinations (B229.03.13)

This test verifies data search request results from using the data set start/stop time format. The tester inputs various combinations of data set start and stop times and inspects the returned results package to ensure that only data within the data set start and stop time specifications are returned.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Valid combinations of data set start/stop times for the search request.
Output:	Returned search results package.
Expected Results:	The returned search results package is verified for content.

Test Case 14_ Complex query using "AND" (B229.03.14)

The tester Inputs a complex query composed of multiple "and's". After the query is built, it is examined and submitted. The search results package is verified. The result package only contains character data in response to the search request, no graphical data is available.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Complex query composed with multiple "and" operators, expected results, search request.
Output:	Search result package.
Expected Results:	The search results package matches the expected results.

Test Case 15_ Global Granule search (B229.03.15)

This test verifies that a user can perform a graphical inventory search using global land attributes. The tester uses the mapping tool to bring up a global view of the earth. The tester then performs a global land search on a selected data type. The search result package is verified against search criteria.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Mapping tool, global land request.
Output:	All data available for the selected data type.
Expected Results:	The search result package contains all the land data for the selected data type.

Test Case 16_ Polygon searches (B229.03.16)

This test verifies that a user can perform polygon searches. The tester uses the cursor to draw a polygon on a map and submit a search request. The result package is verified to insure the data is correct. The result package is represented graphically.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Polygon , search request.
Output:	Search result package.
Expected Results:	The returned search result package contains data within the boundaries.

Test Case 17 Time Search (B229.03.17)

The tester graphically selects a period of time using the time line tool and selects a core metadata search. The result package reflects any metadata found within the time period selected.

Test Configuration:	Hardware - workstations
	Software - Scientist workbench, Storage device, Desktop manager
Input:	Data period with metadata available.
Output:	Search result package.
Expected Results:	The search result package contains a graphical representation of the metadata found within the specified time.

Test Case 18 Simple directory search (B229.03.18)

This test demonstrates the ability of the Client to provide access to the Global Change Master Directory (GCMD) database. Directory information consist of summary information on available data sets such as data set attributes, platforms, temporal coverage, and geographic coverage. Directory searches areperformed by specifying search criteria such as source, parameter, spatial coverage and temporal coverage. The GUI and CHUI are tested. The following tests verify the administrator's capabilities to manipulate the data in the data dictionary (add, delete, modify entries).

Test Configuration:	Hardware - Workstation, Data Dictionary DBMS Server, Software - Working Storage, Data Repository, Distribution Management, Data Dictionary Server, Database Management, Data Server Interface, Earth Science Object
Input:	Directory Search criteria
Output:	Summary information on data sets and appropriate error messages
Expected Results:	This test is considered successful if the directory search accesses the GCMD and returns the summary information on data sets that meet the search criteria. The client must also display appropriate error messages for searches that are performed but can not be satisfied.

Test Case 19 On-line Incremental Backup (B229.03.19)

The following tests the authorized user's capability to perform on-line incremental backup. A set of advertising service operations will be performed before the recovery, such as executing several data/service searches and browsing through the available advertisements. The results of this operation is recorded.

Test Configuration:	Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Enter incremental backup data command.

Output: Incremental backup of advertising Service Database. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful if all the incremental backup files have been backed-up completely.

Test Case 20 Create subscription (B229.03.20)

The following test demonstrates the ability to support the creation of subscriptions. The client will provide GUI interface to create subscription.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Select create subscription option from GUI interface

Output: Subscription is created for the user. Administrative log contains an entry for the above function.

Expected Results: This test is considered successful when the user's subscription is created and displayed.

Test Case 21 Delete Data Server subscription (B229.03.21)

The following test demonstrates the ability to support deletion of subscriptions. The client will provide GUI interface to delete subscription.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Select delete subscription option from GUI interface

Output: Subscription is deleted from the subscription list. Administrative log reflects an entry for the above function.

Expected Results: This test is considered successful when the subscription list for that particular user does not show the subscription in the list.

Test Case 22 Read Advertising Data (B229.03.22)

This test verifies the capability to read advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Workbench interface to read advertisement data.

Output: User able to read advertising information. Information provided is the advertising information requested. Event log contains an entry for the activation of the read access.

Expected Results: User able to read advertising information pertaining to the advertising service.

Test Case 23 Delete Advertising Data (B229.03.23)

This test verifies the capability to delete advertising information from the advertising service.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Desktop manager

Input: Workbench interface to delete advertisement data.

Output: User able to delete advertising information. Information indicates a delete did take place. Event log contains an entry for the activation of the delete access.

Expected Results: User able to delete advertising information pertaining to the advertising service.

Test Case 24 Add New Data to LIM Schema (B229.03.24)

This test verifies the administrator's capability to add new data to the LIM schema. After the data is added to the LIM, an attempt is made to access the data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Administrator tool, addition of new data type, new product, etc.

Output: New data type, etc has been added to the LIM schema and is accessible to the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.

Expected Results: The LIM database contains the updated information.

Test Case 25 Delete Data from LIM Schema (B229.03.25)

This test verifies the administrator's capability to delete existing data from the LIM schema. After the data is deleted from the LIM, an attempt is made to access the data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Administrator tool, deletion of an existing data set and its associated information.

Output: The data set is deleted, the LIM schema is updated and the deleted data set is no longer accessible by the user community. Administration log contains an entry for the change to the LIM schema. File directory is updated.

Expected Results: The LIM database no longer has the data set information.

Test Case 26 Add New Data to DIM Schema (B229.03.26)

This test verifies the administrator's capability to add new data to the DIM schema. After the data is added to the DIM, an attempt is made to access the data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Administrator tool, addition of new data type, new product, etc.

Output: New data type, etc has been added to the DIM schema and is accessible to the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.

Expected Results: The DIM database contains the updated information.

Test Case 27 Delete Data from DIM Schema (B229.03.27)

This test verifies the administrator's capability to delete existing data from the DIM schema. After the data is deleted from the DIM, an attempt is made to access the data.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Administrator tool, deletion of an existing data set and its associated information.

Output: The data set is deleted, the DIM schema is updated and the deleted data set is no longer accessible by the user community. Administration log contains an entry for the change to the DIM schema. File directory is updated.

Expected Results: The DIM database no longer has the data set information.

Test Case 28 Add an entry in DD (B229.03.28)

This test verifies the capability of adding an individual entry to the data dictionary

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data dictionary information, administration account and DDS administration tool.

Output: The data dictionary contains a new entry. Administration log contains record of new entry being added to the DD.

Expected Results: The new item is properly entered into the DD and is accessible by all users.

Test Case 29 Delete an Entry in DD (B229.03.29)

This test verifies the capability to delete an individual entry in the data dictionary.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Data dictionary information, administration account and DDS administration tool.

Output: The data dictionary entry is deleted. Administration log contains record of the deleted entry.

Expected Results: The entry is deleted in the DD and no longer accessible by the users.

Test Case 30 Receive FDF Orbit Data (B229.03.30)

This test verifies the capability to receive orbit data. Testing verifies the ability to receive data from the FDF. Testing is performed to support release testing of the AM-1.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Orbit data. External interface with FDF. (interface may be simulated or stubbed). Ingest ready to receive data notification.

Output: Data ingest log contains an entry for the successful ingest of orbit data from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: Orbit data written to the staging area.

Test Case 31 Send DAR status request ASTER ICC (B229.03.31)

This test verifies the capability to Send DAR status request. Testing verifies the ability to send status request to ASTER ICC. Testing is performed to support Release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: External interface with DAR. (interface may be simulated or stubbed). Issue command to send DAR status request to other sites

Output: DAR status request sent to other sites as per request. Distribution log contains an entry for each distribution requests.

Expected Results: DAR status request sent to other site.

Test Case 32 Receive V0 Inventory requests from the V0 IMS using V0 system protocols (B229.03.32)

This test verifies the capability to receive VO inventory requests. With the use of VO system protocols, VO inventory request will be received from the VO IMS. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: VO Inventory requests. External interface with VO IMS. (interface may be simulated or stubbed). Ingest ready to receive data notification.

Output: Data ingest log contains an entry for the successful ingest of VO Inventory requests from the external source, data written to temporary storage. Ingest log contains an entry for the initiation of data ingest, success of ingest, and data staging.

Expected Results: VO Inventory requests written to the staging area.

Test Case 33 Send browse request to the NOAA SAAs using VO system protocols (B229.03.33)

This test verifies the capability to send browse request to NOAA SAAs using VO system protocols. Testing is performed to support release B testing.

Test Configuration: Hardware - workstations

Software - Scientist workbench, Storage device, Desktop manager

Input: Browse request. External interface with NOAA. (interface may be simulated or stubbed). Issue command to send browse request.

Output: Browse request sent to NOAA SAA via the VO system Protocols. Distribution log contains an entry for each distribution request and transfer of browse request.

Expected Results: Browse request sent to NOAA SAA.

5.68.2.4 Sequence 4 - Ingest

This testing will verify the ingest functionality when the INGST software is integrated with the System Initialization, Network services, and MLCI Build software.

Test Case 1 GSFC EDOS Nominal Rate Ingest Test (B229.04.01)

This test verifies that the GSFC DAAC has the capability of ingesting data from the EDOS at the nominal daily rate.

Test Configuration:	Hardware - workstation
	Software - INGST
Input:	A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.
Output:	Rate performance data is collected.
Expected Results:	Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 2 GSFC EDOS Maximum Rate Ingest Test (B229.04.02)

This test verifies that the GSFC DAAC has the capability of ingesting data from EDOS at a maximum daily rate that is three times the nominal rate.

Test Configuration:	Hardware - workstation
	Software - INGST
Input:	A series of Ingest requests are submitted continuously over timed intervals. The number of ingest requests is increased, until the system can no longer accept requests. Requests are for data of various size and type. The system is monitored during Ingest processing.
Output:	Rate performance data is collected.
Expected Results:	Performance data is examined. The performance data is analyzed to determine if ingest data can be ingested at a rate that is three times the acceptable nominal rate.

Test Case 3 LaRC EDOS Nominal Rate Ingest Test (B229.04.03)

This test verifies that the LaRC DAAC has the capability of ingesting data from the EDOS at the nominal daily rate.

Test Configuration:	Hardware - workstation
	Software - INGST
Input:	A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 4 LaRC EDOS Maximum Rate Ingest Test (B229.04.04)

This test verifies that the GSFC DAAC has the capability of ingesting data from EDOS at a maximum daily rate that is three times the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted continuously over timed intervals. The number of ingest requests is increased, until the system can no longer accept requests. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data can be ingested at a rate that is three times the acceptable nominal rate.

Test Case 5 EDC Landsat 7 LPs Nominal RateTest (B229.04.05)

This test verifies that the LaRC DAAC has the capability of ingesting data from the EDC at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 6 EDC Landsat 7 IAS Nominal RateTest (B229.04.06)

This test verifies that the EDC DAAC has the capability of ingesting data from Landsat7 IAS at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 7 EDC Landsat 7 IGS Nominal RateTest (B229.04.07)

This test verifies that the ECD DAAC has the capability of ingesting data from Landsat7 IGS at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 8 GSFC NMC Nominal RateTest (B229.04.08)

This test verifies that the GSFC DAAC has the capability of ingesting data from the NMC at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 9 ASF RADARSAT Nominal RateTest (B229.04.09)

This test verifies that the ASF DAAC has the capability of ingesting data from the RADARSAT at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 10 ASF RADAR-ALT Nominal RateTest (B229.04.10)

This test verifies that the ASF DAAC has the capability of ingesting data from the RADAR-ALT at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 11 ASF ERS-1/ERS-2 Nominal RateTest (B229.04.11)

This test verifies that the ASF DAAC has the capability of ingesting data from the ERS-1/ERS-2 at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 12 ASF JERS-1 Nominal RateTest (B229.04.12)

This test verifies that the ASF DAAC has the capability of ingesting data from the JERS-1 at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 13 LaRC SAGE III Nominal RateTest (B229.04.13)

This test verifies that the LaRC DAAC has the capability of ingesting data from the SAGE III at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 14 ASF RGS Nominal RateTest (B229.04.14)

This test verifies that the ASF DAAC has the capability of ingesting data from the RGS at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 15 ASF SPS Nominal RateTest (B229.04.15)

This test verifies that the ASF DAAC has the capability of ingesting data from the ASF SPS at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 16 ACRIM Nominal RateTest (B229.04.16)

This test verifies that the TBD DAAC has the capability of ingesting data from the ACRIM at the nominal rate.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of Ingest requests are submitted. Requests are for data of various size and type. The system is monitored during Ingest processing.

Output: Rate performance data is collected.

Expected Results: Performance data is examined. The performance data is analyzed to determine if ingest data is ingested at an acceptable nominal rate.

Test Case 17 Ingest GSFC TSDIS Resource Test (B229.04.17)

This test verifies the capability for Ingest interface and storage resources to adequately support ingest functions for the TSDIS interface at GSFC.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of data request are submitted. Ingest interface and storage resources are monitored.

Output: Data interface and storage performance data is collected.

Expected Results: Interface and storage data is successfully collected and recorded. The data is analyzed to determine if hardware resources adequately support TSIDS interface and storage requirements at GSFC.

Test Case 18 Ingest LaRC AM-1 Resource Test (B229.04.18)

This test verifies the capability for Ingest interface and storage resources to adequately support ingest functions for the AM-1 interface at LaRC.

Test Configuration: Hardware - workstation

Software - INGST

Input: A series of data request are submitted. Ingest interface and storage resources are monitored.

Output: Data interface and storage performance data is collected.

Expected Results: Interface and storage data is successfully collected and recorded. The data is analyzed to determine if hardware resources adequately support AM-1 interface and storage requirements at LaRC.

5.68.2.5 Sequence 5 - System Initialization

This testing will verify the System Initialization functionality when the System Initialization software is integrated with the INGST, Network services, and MLCI Build software.

Test Case 1 Concurrent execution of operational mode and test mode (B229.05.01)

This test verifies that the capability of the concurrent execution of operational mode and test mode.

Test Configuration: Hardware - Workstation, X terminal

Software - mode management application

Input: Initialize the operational mode environment in the mode management script.

Output: The message is displayed the execution of the operational mode and test mode.

Expected Results: The HP OpenView shows the successful execution of the operational and test system environment.

Test Case 2 Concurrent execution of operational mode and training mode (B229.05.02)

This test verifies that the capability of the concurrent execution of operational mode and training mode.

Test Configuration: Hardware - Workstation, X terminal

Software - mode management application

Input: Initialize the operational mode environment in the mode management script.

Output: The message is displayed the execution of the operational mode and training mode.

Expected Results: The HP OpenView shows the successful execution of the operational and training system environment.

Test Case 3 Operational mode performance statistics (B229.05.03)

This test verifies that the capability of the mode management service to monitor and provide the operational mode performance statistics.

Test Configuration: Hardware - Workstation, X terminal

Software - mode management application

Input: To request to display the performance statistics of the operational mode environment in the mode management script.

Output: The performance statistics of operational mode is displayed.

Expected Results: The HP OpenView shows the statistics.

Test Case 4 Operational mode fault detection (B229.05.04)

This test verifies that the capability of the mode management service to monitor and provide the operational mode fault detection and isolation information.

Test Configuration: Hardware - Workstation, X terminal

Software - mode management application

Input: To bring down the subsystem process.

Output: The message is displayed to indicate the fault occurs.

Expected Results: The HP OpenView shows the fault information.

Test Case 5 Operational mode management statistics (B229.05.05)

This test verifies that the capability of the mode management service to monitor and provide the test mode management statistics.

Test Configuration: Hardware - Workstation, X terminal

Software - mode management application

Input: To request to display the management statistics of the test mode environment in the mode management script.

Output: The management statistics of test mode is displayed.

Expected Results: The HP OpenView shows the statistics.

5.68.2.6 Sequence 6 - MLCI

This testing will verify the MLCI services functionality when the MLCI Build software is integrated with the INGST, System Initialization, and Network services Build software.

Test Case 1 Schedule Automatic and Operator-Assisted Distribution of Software Packages (B229.06.01)

This test verifies the ability of the Configuration Management Application Service to schedule via the EMC Planning and Scheduling Service automatic and operator-assisted distribution of software packages.

Test Configuration: Hardware - workstations

Software - MSS Configuration Management Application Service, EMC Planning and Scheduling Service

Input: The tester simulating a software delivery, attempts to schedule both automatic and operator-assisted distribution of software packages via the EMC Planning and Scheduling Service.

Output: Messages indicating that the both automatic and operator-assisted distribution of software packages are scheduled.

Expected Results: The both automatic and operator-assisted distribution of software packages are scheduled via the EMC Planning and Scheduling Service.

Test Case 2 Report License Utilization Statistics (B229.06.02)

This test verifies the ability of the Configuration Management Application Service to report license utilization statistics.

Test Configuration: Hardware - workstations

Software - MSS Configuration Management Application Service

Input: The tester via the Configuration Management Application Service attempts to generate a report of license utilization statistics.

Output: Report of license utilization statistics areOutput.

Expected Results: The tester can successfully generate the report of license utilization statistics using the Configuration Management Application Service.

Test Case 3 Add Non-Expendable and Consumable ECS Resources to System-Wide Catalog (B229.06.03)

This test will demonstrate the capability to add non-expendable and consumable ECS resources to the SMC's on-line system-wide catalog.

Test Configuration: Hardware - workstations

Software - ILS Management

Input: An operator will select to add a non-expendable and a consumable ECS resource to the SMC's on-line system-wide catalog. After the non-expendable and consumable ECS resources are entered into the SMC's on-line system-wide catalog, a report showing the catalog contents are generated by the operator.

Output: A report showing the contents of the SMC's on-line system-wide catalog will be generated.

Expected Results: The non-expendable and consumable ECS resources, that are entered by the operator, will appear on the generated report.

Test Case 4 Input, Store, Maintain, and View/Print Training Information (B229.06.04)

This test verifies the ability of the Training Management Application Service to Input, store, maintain, and view/print training information.

Test Configuration: Hardware - workstations

Software - MSS Training Management Application Service

Input: The tester, using the Training Management Application Service, attempts toInput, store, maintain, and view/print training information.

Output: Messages indicating that the training information is stored. The training information is displayed and printed.

Expected Results: The training information is displayed and printed, as it isInput by the tester.

Test Case 5 Input, Store, Maintain, and View/Print PM Information for Site Equipment (B229.06.05)

This test verifies the ability of the Maintenance Management Application Service to input, store, maintain, and view/print Preventive Maintenance (PM) information for site equipment.

Test Configuration:	Hardware - workstations
	Software - MSS Maintenance Management Application Service
Input:	The tester attempts toInput, store, maintain, and view/print PM information for a unit of site equipment.
Output:	Messages indicating theInput, storage, and update of PM information for a unit of site equipment. The PM information is viewed and printed.
Expected Results:	The PM information entered by the tester isInput, stored and updated. The PM information is viewed and printed.

Test Case 6 Schedule Maintenance Events via the MSS Planning and Scheduling Service (B229.06.06)

This test verifies the ability of the Maintenance Management Application Service to schedule maintenance events via the MSS Planning and Scheduling Service.

Test Configuration:	Hardware - workstations
	Software - MSS Maintenance Management Application Service, MSS Planning and Scheduling Service
Input:	The tester, using the Maintenance Management Application Service, schedules maintenance events via the MSS Planning and Scheduling Service.
Output:	Messages indicating that maintenance events are scheduled.
Expected Results:	The requested maintenance events will be scheduled via the MSS Planning and Scheduling Service.

Test Case 7 Record Off-Site Maintenance Information (B229.06.07)

This test verifies the ability of the Maintenance Management Application Service to record off-site maintenance information: identification of component; description of problem; and corrective action taken.

Test Configuration:	Hardware - workstations
	Software - MSS Maintenance Management Application Service

Input: The tester will record, and view/print off-site maintenance information for a unit of site equipment.

Output: Messages indicating the recording of off-site maintenance information for a unit of site equipment. The off-site maintenance information will be viewed and printed.

Expected Results: The off-site maintenance information as entered by the tester is recorded. The off-site maintenance information is viewed and printed.

5.68.2.7 Sequence 7 - ECS and Site-Specific Policies and Procedures

This testing will verify the SMC and site functions for administration of ECS and site-specific policies and procedures by utilizing the MSS Policy and Procedures Management Application Service. They also verify the site functions for administration of site-specific policies and procedures.

Test Case 1 Prepare, Store, Maintain, and Make Available for Distribution ECS Policies and Procedures (B228.07.01)

This test verifies the ability of the Policy and Procedures Management Application Service to prepare, store, maintain, and make available for distribution ECS policies and procedures at the SMC.

Test Configuration: Hardware - workstations

Software - MSS Policy and Procedures Management Application Service

Input: The tester at a simulated SMC, using the Policies and Procedures Management Application Service, attempts to prepare, store, maintain, and make available for distribution an ECS policy and procedure.

Output: Messages indicating the preparation, update, and storage of ECS policies and procedures. The display and hard copy of ECS policies and procedures.

Expected Results: The tester successfully completes the preparation, update, and storage of the ECS policy and procedure. The tester is able to produce a display and hard copy of ECS policies and procedures.

Test Case 2 Provide Bulletin Board Service with Information on ECS, Status, Events and News (B229.07.02)

This test verifies the ability of the Policy and Procedures Management Application Service to provide bulletin board service with information on ECS, status, events and news.

Test Configuration: Hardware - workstations

Software - MSS Policy and Procedures Management Application Service, CSS Bulletin Board Service

Input: The tester will attempt to provide information on ECS (status, events and news) to the CSS Bulletin Board Service. The tester, using a web browser, accesses the CSS Bulletin Board Service to view the information on ECS.

Output: Messages indicating that the information on ECS is received by the CSS Bulletin Board Service. The information on ECS is displayed on the CSS Bulletin Board Service.

Expected Results: Messages indicating that the information on ECS is received by the CSS Bulletin Board Service are logged. The information on ECS is displayed on the CSS Bulletin Board Service by the web browser.

Test Case 3 Input, Store, Maintain, and View/Print Site Specific Policies and Procedures (B229.07.03)

This test verifies the ability of the Policy and Procedures Management Application Service to Input, store, maintain, and view/print site specific policies and procedures.

Test Configuration: Hardware - workstations

Software - MSS Policy and Procedures Management Application Service

Input: The tester will attempt toInput, store, maintain, and view/print a site specific policy and procedure for a site.

Output: Messages indicating theInput, storage, and update of a site specific policy and procedure for a site. The site specific policy and procedure is viewed and printed.

Expected Results: The site specific policy and procedure entered by the tester will beInput, stored and updated. The site specific policy and procedure is viewed and printed.

5.68.2.8 Sequence 8 - Billing and Accounting

This testing will verify that the billing and accounting functions of the MSS Billing and Accounting Application Service continues to meet requirements when integrated with the MSS Report Generation function.

Test Case 1 Maintain Current Updated Individual and Summary User Account Balances (B229.08.01)

The ability of the BAAS Accounts Receivable function to maintain current updated individual and summary user account balances is tested.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will request from the accounts receivable function individual and summary user account balances.
Output:	Individual and summary user account balances is displayed to the tester.
Expected Results:	Individual and summary user account balances will accurately reflect the true balances for the user accounts.

Test Case 2 Maintain Vendor/Payee Master Files (B229.08.02)

This test verifies the ability of the BAAS Accounts Payable function to maintain vendor/payee master files.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester attempts to view the vendor/payee master file.
Output:	The vendor/payee master file is displayed.
Expected Results:	The vendor/payee master file is displayed to the tester.

Test Case 3 Maintain Payee Account Balances (B229.08.03)

This test verifies the ability of the BAAS Accounts Payable function to maintain payee account balances.

Test Configuration:	Hardware - workstations
	Software - BAAS Management
Input:	The tester will process payments to and charges from vendors/payees, and then requests to see the balances for the appropriate vendors/payees.
Output:	The balances for the appropriate vendors/payees are displayed.
Expected Results:	The balances for the appropriate vendors/payees will accurately reflect the actual balances based on the initial balances and the adjustments for the payments and charges.

Test Case 4 Perform End-of-Period Process, Accruals, and Consolidation Processes (B229.08.04)

This test verifies the ability of the BAAS General Ledger function to perform end-of-period process (trial balances), accruals, and consolidation processes under the control of authorized staff.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester, acting as a member of the authorized staff, performs end-of-period process, accruals, and consolidation processes.

Output: Messages indicating that the end-of-period process, accruals, and consolidation processes are performed.

Expected Results: The end-of-period process, accruals, and consolidation processes are performed by the BAAS General Ledger function under the control of the tester.

Test Case 5 Archive Data Needed for Comparative Analysis and Presentation of Historical Information (B229.08.05)

This test verifies the ability of the BAAS General Ledger function to archive data needed for comparative analysis and presentation of historical information.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to archive data needed for comparative analysis and presentation of historical information.

Output: Messages indicating that the data needed for comparative analysis and presentation of historical information is archived.

Expected Results: The data needed for comparative analysis and presentation of historical information is archived, and the information required to access the archive is provided.

Test Case 6 Maintain Authorized Billing Algorithms to Value Products and Services, and the Cost of Serving Users (B229.08.06)

This test verifies the ability of the BAAS Cost Accounting function to maintain authorized billing algorithms to value products and services, and the cost of serving users.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to access the billing algorithms maintained by the BAAS Cost Accounting function, as an authorized and an unauthorized user.

Output: Messages indicating access or denial of access to the billing algorithms.

Expected Results: Access to the billing algorithms is allowed for the tester as an authorized user, and denied for the tester as an unauthorized user.

Test Case 7 Receive Resource and Product Utilization Information (B229.08.07)

This test verifies the ability of the BAAS Cost Accounting function to receive resource and product utilization information from the ECS Management Database to track costs to identifiable and quantifiable sources.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will invoke the BAAS Cost Accounting function indirectly by invoking the Billing and Invoicing function of the BAAS by simulation of the end of the monthly billing cycle. This can be accomplished through manipulation of the system date. The BAAS Cost Accounting function will run to assign costs to ECS products using the resource and product utilization information from the ECS Management Database. The tester views the log.

Output: Messages indicating that resource and product utilization information from the ECS Management Database are received.

Expected Results: The log will be viewed, and will contain messages indicating that resource and product utilization information from the ECS Management Database are received. The costs should be calculated correctly based on the resource and product utilization information received.

Test Case 8 Transfer of Information to Other Applications Outside of the Billing/Accounting Application Service (B229.08.08)

This test verifies the ability of the BAAS Reporting function to allow the transfer of information to other applications outside of the Billing/Accounting Application Service.

Test Configuration: Hardware - workstations

Software - BAAS Management

Input: The tester will attempt to transfer information to other applications outside of the Billing/Accounting Application Service.

Output: The report information for the transfer are provided.

Expected Results: The information is transferred to other applications outside of the Billing/Accounting Application Service.

5.68.2.9 Sequence 9 - Report Generation Support

This testing will verify that the billing and accounting functions of the MSS Billing and Accounting Application Service continues to meet requirements when integrated with the MSS Report Generation function.

Test Case 1 Standard and Ad-Hoc Reports and Queries on the Management and Related Data Maintained in the Management Database (B229.09.01)

This test verifies the ability of the MSS Report Generation function to generate standard and ad-hoc reports and queries on all or portions of the management and related data maintained in the management database.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate standard and ad-hoc reports and queries.

Output: The generate standard and ad-hoc reports and queries are generated.

Expected Results: The generate standard and ad-hoc reports and queries are generated on all or portions of the management and related data maintained in the management database.

Test Case 2 Output Generated Reports to the User's Console, a File, or a Printer (B229.09.02)

This test verifies the ability of the MSS Report Generation function to output generated reports to the user's console, a file, or a printer.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate some reports, andOutput them to the user's console, a file, or a printer.

Output: The generated reports.

Expected Results: The generated reports areOutput to the user's console, a file, or a printer.

Test Case 3 Generate a Routine Data Production Performance Detail Report (B229.09.03)

This test verifies the ability of the MSS Report Generation function to generate a Routine Data Production Performance Detail Report itemizing scheduled vs. actual times for data collection, processing, retrieval, and delivery along with: reason for schedule variance, data quality, and user feedback.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Routine Data Production Performance Detail Report.
Output:	The Routine Data Production Performance Detail Report is generated.
Expected Results:	The Routine Data Production Performance Detail Report is generated and itemized scheduled vs. actual times for data collection, processing, retrieval, and delivery along with: reason for schedule variance, data quality, and user feedback.

Test Case 4 Generate an Interface Traffic Report (B229.09.04)

This test verifies the ability of the MSS Report Generation function to generate an Interface Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate an Interface Traffic Report.
Output:	Then Interface Traffic Report is generated.
Expected Results:	Then Interface Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 5 Generate an Ethernet Traffic Report (B229.09.05)

This test verifies the ability of the MSS Report Generation function to generate an Ethernet Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate an Ethernet Traffic Report.

Output: Then Ethernet Traffic Report is generated.

Expected Results: Then Ethernet Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 6 Generate an SNMP Traffic Report (B229.09.06)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an SNMP Traffic Report.

Output: Then SNMP Traffic Report is generated.

Expected Results: Then SNMP Traffic Report is generated and graphically plots network packet statistics in real-time for the operator selected SNMP node(s).

Test Case 7 Generate an SNMP Operations Report (B229.09.07)

This test verifies the ability of the MSS Report Generation function to generate an SNMP Operations Report graphically plotting the number of selected SNMP operations/sec requested to be performed by the SNMP agent on the selected node(s).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate an SNMP Operations Report on selected nodes.

Output: Then SNMP Operations Report is generated.

Expected Results: Then SNMP Operations Report is generated and graphically plots the number of selected SNMP operations/sec requested to be performed by the SNMP agent on the selected nodes.

Test Case 8 Generate a Site Host Resource Utilization Report (B229.09.08)

This test verifies the ability of the MSS Report Generation function to generate a Site Host Resource Utilization Report indicating minimum/average/maximum measured percent usage of host CPU and memory resources and disk reads and writes over the report interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Site Host Resource Utilization Report.

Output: The Site Host Resource Utilization Report is generated.

Expected Results: The Site Host Resource Utilization Report is generated and indicates minimum/average/maximum measured percent usage of host CPU and memory resources and disk reads and writes over the report interval.

Test Case 9 Generate a User Service Performance Report (B229.09.09)

This test verifies the ability of the MSS Report Generation function to generate a User Service Performance Report containing summary and detailed analysis of user feedback including: User information, Type of transaction, Satisfaction statistics, User recommendations, and SMC recommendations.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a User Service Performance Report.

Output: The User Service Performance Report is generated.

Expected Results: The User Service Performance Report is generated and contained summary and detailed analysis of user feedback including: User information, Type of transaction, Satisfaction statistics, User recommendations, and SMC recommendations.

Test Case 10 Generate a Data Distribution Performance Report (B229.09.10)

This test verifies the ability of the MSS Report Generation function to generate a Data Distribution Performance Report listing the time a request is received, assigned, processed, verified, and delivered and variances from nominal.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Data Distribution Performance Report.

Output: The Data Distribution Performance Report is generated.

Expected Results: The Data Distribution Performance Report is generated and lists the time a request is received, assigned, processed, verified, and delivered and variances from nominal.

Test Case 11 Generate a Fault Management Report (B229.09.11)

This test verifies the ability of the MSS Report Generation function to generate a Fault Management Report containing summary and detailed information on fault management of ground resources including: fault type and description, time of fault occurrence, effect of fault on system, status of fault resolution, and fault statistics.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Fault Management Report.
Output:	The Fault Management Report is generated.
Expected Results:	The Fault Management Report is generated and contains summary and detailed information on fault management of ground resources including: fault type and description, time of fault occurrence, effect of fault on system, status of fault resolution, and fault statistics.

Test Case 12 Generate a Trouble Status Report (B229.09.12)

This test verifies the ability of the MSS Report Generation function to generate a Trouble Status Report containing statistics on the number of trouble tickets opened, closed, and in work at a site and the average time to close a trouble ticket over the reporting period.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation
Input:	The tester selects to generate a Trouble Status Report.
Output:	The Trouble Status Report is generated.
Expected Results:	The Trouble Status Report is generated and contains statistics on the number of trouble tickets opened, closed, and in work at a site and the average time to close a trouble ticket over the reporting period.

Test Case 13 Generate a Ground Resource Availability Audit Report (B229.09.13)

This test verifies the ability of the MSS Report Generation function to generate a Ground Resource Availability Audit Report itemizing the occurrence of each resource outage, the reason for the outage, the duration, and the availability over the report interval.

Test Configuration:	Hardware - workstations
	Software - MSS Report Generation

Input: The tester selects to generate a Ground Resource Availability Audit Report.

Output: The Ground Resource Availability Audit Report is generated.

Expected Results: The Ground Resource Availability Audit Report is generated and itemizes the occurrence of each resource outage, the reason for the outage, the duration, and the availability over the report interval.

Test Case 14 Generate a Data Accountability Audit Report (B229.09.14)

This test verifies the ability of the MSS Report Generation function to generate a Data Accountability Audit Report tracing a data item's status changes/ accesses over the reporting interval.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Data Accountability Audit Report.

Output: The Data Accountability Audit Report is generated.

Expected Results: The Data Accountability Audit Report is generated and traces a data item's status changes/ accesses over the reporting interval.

Test Case 15 Generate a User Activity Audit Report (B229.09.15)

This test verifies the ability of the MSS Report Generation function to generate a User Activity Audit Report tracing a user's activity during a logon including products requested and files accessed.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a User Activity Audit Report.

Output: The User Activity Audit Report is generated.

Expected Results: The User Activity Audit Report is generated and traces a user's activity during a logon including products requested and files accessed.

Test Case 16 Generate a Security Audit Report (B229.09.16)

This test verifies the ability of the MSS Report Generation function to generate a Security Audit Report.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Security Audit Report.

Output: The Security Audit Report is generated.

Expected Results: The Security Audit Report is generated.

Test Case 17 Generate an Ingest History Report (B229.09.17)

This test verifies the ability of the MSS Report Generation function to generate an Ingest History Report containing the log of ingest events selected by start/stop time, external data provider, data type identifier, and request status.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates an Ingest History Report.

Output: Then Ingest History Report is generated.

Expected Results: Then Ingest History Report is generated and contains the log of ingest events selected by start/stop time, external data provider, data type identifier, and request status.

Test Case 18 Generate a Processing Log Report (B229.09.18)

This test verifies the ability of the MSS Report Generation function to generate a Processing Log Report containing the log of product processing events selected by start/stop time, data type identifier, and processing status.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Processing Log Report.

Output: The Processing Log Report is generated.

Expected Results: The Processing Log Report is generated and contains the log of product processing events selected by start/stop time, data type identifier, and processing status.

Test Case 19 Generate a Production and Data Processing Request Status Report (B229.09.19)

This test verifies the ability of the MSS Report Generation function to generate a Production and Data Processing Request Status Report containing the list of pending production and user-requested product data processing requests.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Production and Data Processing Request Status Report.

Output: The Production and Data Processing Request Status Report is generated.

Expected Results: The Production and Data Processing Request Status Report is generated and contains the list of pending production and user-requested product data processing requests.

Test Case 20 Generate a Planning Workload and Processing Turn-Around Report (B229.09.20)

This test verifies the ability of the MSS Report Generation function to generate a Planning Workload and Processing Turn-Around Report.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a Planning Workload and Processing Turn-Around Report.

Output: The Planning Workload and Processing Turn-Around Report generated.

Expected Results: The Planning Workload and Processing Turn-Around Report is generated.

Test Case 21 Generate a Planning Management Report (B229.09.21)

This test verifies the ability of the MSS Report Generation function to generate a Planning Management Report.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Planning Management Report.

Output: The Planning Management Report is generated.

Expected Results: The Planning Management Report is generated.

Test Case 22 Generate a Service Cost Schedule Report (B229.09.22)

This test verifies the ability of the MSS Report Generation function to generate a Service Cost Schedule Report containing resource usage cost by service offered.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a Service Cost Schedule Report.

Output: The Service Cost Schedule Report is generated.

Expected Results: The Service Cost Schedule Report is generated and contains resource usage cost by service offered.

Test Case 23 Generate a Standard Product Cost Schedule Report (B229.09.23)

This test verifies the ability of the MSS Report Generation function to generate a Standard Product Cost Schedule Report containing end to end cost accounting information by standard product.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Standard Product Cost Schedule Report.

Output: The Standard Product Cost Schedule Report is generated.

Expected Results: The Standard Product Cost Schedule Report is generated and contains end to end cost accounting information by standard product.

Test Case 24 Generate a Configuration Status Report (B229.09.24)

This test verifies the ability of the MSS Report Generation function to generate a Configuration Status Report noting the operational status of all H/W, system S/W and science S/W with a reason why an item is not currently operational .

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Configuration Status Report.

Output: The Configuration Status Report is generated.

Expected Results: The Configuration Status Report is generated and notes the operational status of all H/W, system S/W and science S/W with a reason why an item is not currently operational.

Test Case 25 Generate a Maintenance Schedule Report (B229.09.25)

This test verifies the ability of the MSS Report Generation function to generate a Maintenance Schedule Report on H/W, system S/W and science S/W indicating the type of maintenance (i.e., routine, non-routine and upgrade).

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a Maintenance Schedule Report.

Output: The Maintenance Schedule Report is generated.

Expected Results: The Maintenance Schedule Report is generated on H/W, system S/W and science S/W indicating the type of maintenance (i.e., routine, non-routine and upgrade).

Test Case 26 Generate a Training Program Report (B229.09.26)

This test verifies the ability of the MSS Report Generation function to generate a Training Program Report containing: Training programs, Training schedules, Training course contents, Training course locations, and Training attendees.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates a Training Program Report.

Output: The Training Program Report is generated.

Expected Results: The Training Program Report was generated and contained: Training programs, Training schedules, Training course contents, Training course locations, and Training attendees.

Test Case 27 Generate an Inventory Status Report (B229.09.27)

This test verifies the ability of the MSS Report Generation function to generate an Inventory Status Report containing summary and detailed status information on H/W, system S/W and science S/W and listing spares and consumables status at sites.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester generates an Inventory Status Report.

Output: Then Inventory Status Report is generated.

Expected Results: Then Inventory Status Report is generated and contains summary and detailed status information on H/W, system S/W and science S/W and listing spares and consumables status at sites.

Test Case 28 Generate a Security Compromise Report (B229.09.28)

This test verifies the ability of the MSS Report Generation function to generate a Security Compromise Report listing occurrences of login failures, unauthorized accesses, break-ins, viruses and worms indicating time, cause, impact, resolution status, and results of security compromise risk analysis.

Test Configuration: Hardware - workstations

Software - MSS Report Generation

Input: The tester selects to generate a Security Compromise Report.

Output: The Security Compromise Report is generated.

Expected Results: The Security Compromise Report is generated and lists occurrences of login failures, unauthorized accesses, break-ins, viruses and worms indicating time, cause, impact, resolution status, and results of security compromise risk analysis.

5.68.2.10 Sequence 10 - Query from summary information

This series of tests verifies that the MSS services have the capabilities to query from the summary information about faults that may affect the quality of services.

Test Case 1 Fault service queries NSI for faults data (B229.10.01)

This test verifies that the capability of the fault management application service shall have the capability to query from NSI information regarding the fault status, estimated time to repair, and fault resolution, which may affect the quality of NSI services between ECS and its users.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The FMA software, and a receiver simulator (RS), XRunner tool.

Input: The FMA opens the RS. Enter the "qry faultStatus", " qry time Repair", and "qry result" commands.

Output: The FMA receives and displays the query results.

Expected Results: The RS receives the query and replies to FMA with fault status, time to repair, and resolution.

Test Case 2 Performance service queries from NSI report for performance data (B229.10.02)

This test verifies that the capability of the MSS performance management application (PMA) service to query from NSI periodic reports of link utilization and transmission errors, reflecting or summarizing NSI performance measurements over various time intervals.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The PMA software, and a receiver simulator (RS), XRunner tool.

Input: The PMA opens the RS. Enter the "qry rpt" commands.

Output: The PMA receives and displays the report which contains the error and performance data.

Expected Results: The RS receives the query and replies to FMA with performance measurements data.

Test Case 3 Security service receives from NSI for security breaches (B229.10.03)

This test verifies that the capability of the MSS security management application (SMA) service to receive from NSI, notification of security breaches at NSI sits or within the NSI network that could potentially affect ECS sites.

Test Configuration: Hardware - Workstation, X-terminal.

Software - The SMA software, and a sender simulator (SS), XRunner tool.

Input: The SS opens the SMA. Enter the "send notice" commands.

Output: The SMA receives and displays the notification.

Expected Results: The SMA receives the notification of breaches.

5.68.2.11 Sequence 11 - Fault Management

Test Case 1 Receive notification of detected faults from EBnet (B229.11.01)

This test verifies that the capability of the fault management application service to receive notifications of detected faults from EBnet.

Test Configuration: Hardware - X-terminal.

Software - EBnet simulator.

Input: EBnet fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: The EBnet fault is received and recorded in the MSS log file. Depending on the type and severity of the fault, alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 2 Receive notification of detected faults from ASTER GDS (B229.11.02)

This test verifies that the capability of the fault management application service to receive notifications of detected faults from the ASTER GDS.

Test Configuration: Hardware - X-terminal.

Software - ASTER GDS simulator.

Input: ASTER GDS fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: The ASTER GDS fault is received and recorded in the MSS log file. Depending on the type and severity of the fault, alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 3 Receive notification of performance degradation from EBnet (B229.11.03)

This test verifies that the capability of the fault management application service to receive notifications of performance degradation from EBnet.

Test Configuration: Hardware - X-terminal.

Software - EBnet simulator.

Input: EBnet fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: The EBnet fault is received and recorded in the MSS log file. Alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.

Test Case 4 Receive notification of performance degradation from the ASTER GDS (B229.11.04)

This test verifies that the capability of the fault management application service to receive notifications of performance degradation from the ASTER GDS.

Test Configuration: Hardware - X-terminal.

Software - ASTER GDS simulator.

Input: ASTER GDS fault notification.

Output: Alarm detecting the fault, management framework visually updates the fault location, event log updated with fault notification.

Expected Results: The ASTER GDS fault is received and recorded in the MSS log file. Alarms are generated and the system configuration map in the management framework is updated indicating the location of the fault.