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EOSDIS Core System Project

Release B Science Data Processing Segment Release and Development Plan for the ECS Project

October 1995

Hughes Information Technology Corporation
Upper Marlboro, Maryland

Release B Science Data Processing Segment Release and Development Plan for the ECS Project

October 1995

Prepared Under Contract NAS5-60000
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APPROVED BY

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Preface

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

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Abstract

The Release and Development Plan satisfies the requirements for Contract Data Requirements List (CDRL) Items 048, DID 307/DV2 (Segment Release Plan) and 058, DID329/DV2 (Segment Development Plan), as specified in the Statement of Work, as a deliverable under the Earth Observing System Data and Information System (EOSDIS) Core System (ECS) Contract NAS5-60000.

This document describes the plan for development of the Configuration Items (CIs) and components of the Science Data Processing Segment (SDPS) of the ECS. The ECS is deployed as a series of releases, each providing additional functionality, in support of scheduled key EOSDIS element deployment, and performance enhancements, as planned technologies mature. Each release contains a subset of the functionality specified in ECS Functional and Performance Requirements Specification (F&PRS), with the final ECS release containing all of functionality specified for the program. This version of the SDPS Development/Release Plan includes details of the initial SDPS development plans for Release B of the ECS. Subsequent versions are planned for release at the IDRs for Releases C and D.

Keywords: SD's, development, release, schedule, configuration, item, component, software lines of code, detailed, design, code, unit, test, integration

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1. Introduction

1.1 Identification

This document is submitted as required by Contract Data Requirements List (CDRL) Items 048, DID 307/DV2 and 058, DID329/DV2, as specified in the Statement of Work, as a deliverable under the Earth Observing System Data and Information System (EOSDIS) Core System (ECS) Contract NAS5-60000.

1.2 Scope

This document describes the plan for development of the Configuration Items (CIs) and components of the Science Data Processing Segment (SDPS) of the Earth Observing System (EOS) Data Information System (EOSDIS) Core System (ECS). The ECS is deployed as a series of releases, each providing additional functionality, in support of scheduled key EOSDIS element deployment, and performance enhancements, as planned technologies mature. Each release contains a subset of the functionality specified in ECS Functional and Performance Requirements Specification (F&PRS), with the final ECS release containing all of functionality specified for the program. This version of the SDPS Release/Development Plan includes details of the initial SDPS development plans for Interim Release 1 (Ir1), Release A, and Release B of the ECS. Subsequent versions are planned for release at the Incremental Design Reviews (IDRs) for Releases C and D.

This document reflects the August 23, 1995 Technical Baseline maintained by the contractor configuration control board in accordance with ECS Technical Direction No. 11, dated December 6, 1994.

1.3 Purpose

This plan orchestrates the procedures defined in the ECS Software Development Plan, CDRL # 049, DID 308, into release-specific, development plans and schedules to provide guidance in preparation of the detailed planning necessary to ensure a graceful transformation from the design and prototyping activities into tangible end items ready for system integration and test. It identifies the CIs and their components; defines the resources required for component development; details the schedule for development, by release, and provides the mapping of components, to be integrated into the builds planned for deployment by release at the ECS segment level. Specific details of the component development, coding standards, integration and test, and related items can be found in the supporting documentation listed in Section 2.2, Applicable Documents.

1.4 Status and Schedule

This submittal of DID 307/DV2 and DID 329/DV2 meets the milestone specified in the CDRL of NASA Contract NAS5-60000.

1.5 Organization

This document is organized into nine sections and one Appendix, in addition to this introductory material:

Section 1 Introduction, contains the identification, scope, purpose and objectives, status and schedule, and document organization.

Section 2 Related Documentation, contains a list of documents which influence or embellish the material contained in the SDPS Release and Development Plan.

Section 3 Development and Release Process, contains a description of the SDPS development and release process employed by this plan.

Section 4 Component Identification, contains a consolidated list of all SDPS Configuration Items (CIs) and subordinate components, how they are developed, and when they will be implemented.

Section 5 Ir1 Development Plans, contains the initial plans and schedules for SDPS Ir1 design, development and integration, the mapping of the Computer Software Configuration Items (CSCIs) into SDPS Integration and Test Builds and Threads, and site unique SDPS equipment components.

Section 6 Release A Development Plans, contains the initial plans and schedules for SDPS Release A design, development and integration, the mapping of the Computer Software Configuration Items (CSCIs) into SDPS Integration and Test Builds and Threads, and site unique SDPS equipment components.

Section 7 Release B Development Plans, contains the plans and schedules for SDPS Release B design, development and integration, the mapping of the Computer Software Configuration Items (CSCIs) into SDPS Integration and Test Builds and Threads, and site unique SDPS equipment components.

Sections 8 and 9 will contain the plans and schedules for SDPS Releases C and D and will be added for the respective Release C and D Incremental Design Review (IDR) updates to this document.

Abbreviations and Acronyms, contains a list and definition of abbreviations and acronyms used throughout this document.

2. Related Documentation

2.1 Parent Documents

The parent documents are the documents from which this Release B SDPS Development and Release Plans' scope and content are derived.

107-CD-001-XXX	Level 1 Master Schedule for the ECS Project
308-CD-001-004	Software Development Plan for the ECS Project
423-41-01	Goddard Space Flight Center, EOSDIS Core System (ECS) Statement of Work
423-41-03	Goddard Space Flight Center, EOSDIS Core System (ECS) Contract Data Requirements List

2.2 Applicable Documents

The following documents are referenced within this Plan, or are directly applicable, or contain policies or other directive matters that are binding upon the content of this document.

194-201-SE1-001	System Engineering Plan for the ECS Project
304-CD-002-002	Science and Data Processing Segment (SDPS) Requirements Specification for the ECS Project, Final
305-CD-020-001	Overview of Release B SDPS/CSMS System Design Specification for the ECS Project
319-CD-002-002	SDPS Integration and Test Plan for Ir1 for the ECS Project
319-CD-005-002	SDPS Integration and Test Plan for Release A for the ECS Project
319-CD-006-001 / 402-CD-003-001	Release B System and Segment Integration and Test Plan for the ECS Project
222-TP-003-006	Release Plan Content Description for the ECS Project
423-16-02	Goddard Space Flight Center, PGS Toolkit Requirements Specification for the ECS Project
423-41-02	Goddard Space Flight Center, Functional and Performance Requirements Specification [F&PRS] for the Earth Observing System Data and Information System (EOSDIS) Core System

2.3 Information Documents

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

194-WP-904-002	Multi-Track Development for the ECS Project
160-TP-002-001	Version 1 Data Migration Plan [for the ECS Project]
441-TP-001-001	Implementation Plan for the Release A Client [for the ECS Project]

3. Development and Release Process

This section establishes the six-step process for the development of SDPS components, integration of these components into functional threads, and integration of the functional threads into release-specific builds which are tested at the segment level. The builds are then handed off to the system test organization for integration at the ECS system-level for each release. For improved efficiency, system and segment-level testing organizations have been combined in release B. Refer to the Release B System/Segments Integration and Test Plan for further information about system-level testing and its relationships to segment level testing.

This six-step process includes: 1) Identification and characterization of all SDPS end-items by subsystem, CI, and component; 2) Preparation of release-specific development schedules which map the components to development tasks and their segment-level integration and test threads; 3) Detailed design; 4) Code and unit test; 5) The integration & test process, which integrates components into functional threads, which compose the segment-level builds and, 6) Identification of the deliverable products and their integrated components.

Step 3 and 4, the detailed design and code and unit test processes are described in further detail in the System Engineering Plan (194-201-SE1-001). Step 5, the Integration & Test process is defined for Releases Ir1 and A in the SDPS Integration and Test Plan, Volumes 1 and 2. For Release B, this process is defined in the combined System/Segments Integration and Test Plan document.

3.1 Component Identification

The purpose of component identification is to list all components necessary to build the SDPS, and to characterize them so that development plans and schedules may be developed. The resulting components list from the seven SDPS subsystems are mapped into release-specific build/thread-oriented entities. These entities provide a logical, functional implementation and integration schedule for the SDPS.

Component Identification begins once the SDPS preliminary design begins to stabilize. The Configuration Items (CIs), identified at SDR/RIR, are broken down into components, and the requirements for those components are evaluated, as trade studies are performed to determine the developmental nature of each. Components are characterized as “Off-the-Shelf” (OTS), custom-developed software/hardware, or a combination of the two.

For each component, estimates for software development efforts, OTS integration and configuration efforts, support equipment requirements, such as software development workstations, and procurement lead times are established.

3.2 Schedule Preparation

Key to the success of the SDPS development is the ability to establish schedules which facilitate component development free from delays caused by resource dependencies. Such delays can be caused by lack of personnel resources, computer hardware or software resources, and most critical, the dependency of one component to support the development of another.

This document contains preliminary development schedules for Release B of the SDPS. The document will be updated in conjunction with the Incremental Design Review (IDRs) for Releases C and D.

These schedules establish the underlying sequencing, dependencies, and relative time frames for the development activities to support the segment build/thread activities. They begin as the detailed designs stabilize and provide the migration path whereby prototypes and incrementally developed components are incorporated into the formal development and test processes. These schedules provide the basis for detailed planning, at the work package level, which monitor the development activities through the Performance Measurement System (PMS) to ensure a smooth transition into the integration and test phase of the program.

3.3 Detailed Design

During the Detailed Design phase, a detailed "code-to" design is performed based on the preliminary design approved at PDR/IDR. Inspections are conducted to validate the implementation of level 4 requirements.

During this phase, detailed technical information is gathered regarding potential Commercial-Off-the-Shelf (COTS) products for COTS selection and procurement processes. Detailed design will be performed on how COTS software and heritage software interfaces with the rest of the release software. At the conclusion of the Detailed Design phase, a CDR will be held.

3.4 Code and Unit Test

During software coding, Computer Software Units (CSUs) will be coded, debugged, and a clean compilation produced. The Software Development Files (SDFs) corresponding to these CSUs are updated. A SDF provides readily available access to significant aspects of the developing software and gives management a clear view of software progress and status.

The CSUs will be peer inspected and reviewed by the lead engineer. As each CSU's coding is completed, the CSU must be tested to ensure that it's allocated requirements are satisfied. The software developer will conduct a unit test to verify the functionality of the unit. A Test Readiness Review (TRR) is conducted when unit tests for a number of CSUs are completed. When the TRR is successful, these CSUs are turned over to the Configuration Management Organization.

3.5 Integration and Test

As components pass the unit test phase they are submitted to the segment-level integration and test (I&T) organization. In Release B, this is a subset of the system integration and test (I&T) organization. I&T will integrate these components in the ECS Engineering Development Facility (EDF) in Upper Marlboro, Maryland, where the build/thread activities are performed. The components will be used to support functional thread development and test, leading to the integration of threads into release-specific builds. Complete details of the SDPS integration and test program through Release A may be found in the SDPS Integration and Test Plan, Volumes 1 and 2. For Release B, details may be found in the combined System/Segments Integration and Test Plan document.

3.6 Product Delivery

The final part of the SDPS release and development plan provides traceability of the development effort from the delivered builds to components. Each release of the ECS contains increasingly more functionality, and in later releases, technology enhancements are planned.

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4. Component Identification

4.1 SDPS Components

The SDPS consists of seven subsystems. Each subsystem consists of one or more Computer Software (CS) or Hardware (HW) Configuration Items (CIs), composed of a logical grouping of software or hardware components. These components consist of COTS hardware, and custom-developed and OTS software. OTS software may include COTS and/or reuse components. Reuse includes ECS component reuse, reuse of heritage code from other programs, freeware or shareware. Many of the software components are developed by combining OTS and custom-developed software, sometimes referred to as "wrappers" or "glue code", to integrate and encapsulate the OTS software. Collectively, the CIs provide the functionality identified in the SDPS Requirements Specification, Document number 304-CD-003-001. In addition, some functionality requires the integration of components from several subsystems, including some outside of SDPS. The SDPS subsystems and their CIs are listed below:

Client Subsystem (CLS)

- Desktop CSCI (DESKT)
- Workbench CSCI (WKBCH)

Interoperability Subsystem (IOS)

- Advertising Service CSCI (ADSRV)
- Advertising Service HWCI (ADSHW)

Data Management Subsystem (DMS)

- Local Information Manager CSCI (LIMGR)
- Distributed Information Manager CSCI (DIMGR)
- Data Dictionary CSCI (DDICT)
- Version 0 Interoperability Gateway CSCI (GTWAY)
- Data Management HWCI (DMGHW)

Data Server Subsystem (DSS)

- Science Data Server CSCI (SDSRV)
- Document Data Server CSCI (DDSRV)
- Storage Management Software CSCI (STMGT)
- Data Distribution Service CSCI (DDIST)
- Access and Control Management HWCI (ACMHW)
- Working Storage HWCI (WKSHW)

Data Repository HWCI (DPRHW)

Distribution and Ingest Peripheral Management HWCI (DIPHW)

Ingest Subsystem (INS)

Ingest Services CSCI (INGST)

Ingest Client HWCI (ICLHW)

Planning Subsystem (PLS)

Production Planning CSCI (PLANG)

Planning HWCI (PLNHW)

Data Processing Subsystem (DPS)

Processing CSCI (PRONG)

Science Data Processing (SDP) Toolkit CSCI (SDPTK)

Algorithm Integration and Test CSCI (AITTL)

Science Processing HWCI (SPRHW)

Algorithm Integration and Test HWCI (AITHW)

Algorithm Quality Assurance (QA) HWCI (AQAHW)

The following tables identify the components used to develop the SDPS. Table 4-1 contains the PDR/IDR baseline Developed Source Lines of Code (SLOC) estimate for each CI by Release. These estimates are reviewed and reestimated as necessary throughout the program as the SDPS design matures.

Table 4-1. SDPS CSCI SLOC Estimate by Release (1 of 2)

CSCI	Ir1	A	B
Desktop (DESKT)	0	2200	3200
Workbench (WKBCH)	0	6000	38000
Advertising Service (ADSRV)	0	10700	2000
Local Information Manager (LIMGR)	0	0	12000
Distributed Information Manager (DIMGR)	0	0	8700
Data Dictionary (DDICT)	0	0	7700
V0 Interoperability Gateway (GTWAY)	0	12000	2000
Science Data Server (SDSRV)	0	34180	44700
Document Data Server (DDSRV)	0	4000	4000

Table 4-1. SDPS CSCI SLOC Estimate by Release (2 of 2)

CSCI	Ir1	A	B
Storage Mgmt (STMGT)	3000	11400	2500
Data Distribution (DDIST)	0	6500	8000
Ingest (INGST)	3000	19050	9000
Production Planning (PLANG)	0	18000	13400
Processing (PRONG)	10000	20410	19900
Algorithm I&T (AITTL)	5500	6350	4900
SDP Toolkit (SDPTK)	36000	0	0
TOTALS:	**49500**	**150790**	**180000**

Tables 4-2 contain the software components identified for each CSCI. Table 4-2 characterizes each Computer Software Component (CSC) by Subsystem, CSCI, Source (developed and/or OTS), Release, SLOC, Development Track, and Toolkit (TK) or IMS Increment (INC) for incrementally developed components. CSCs designated as Developed (DEV) Source Lines of Code include Third Generation Languages (C++, C, and FORTRAN), Fourth Generation Languages (Graphical User Interface Generators, SQL and Scripts), and reuse. Reuse lines of code are not included in the totals to prevent double counting; therefore, a developed CSC that includes only reuse would have zero (0) SLOCs listed in the table. Descriptions of each component can be found in the SDPS Design Specification, 305-CD-003-001.

Several components are developed on both an incremental and formal track (see System Engineering Plan for the ECS Project (194-201-SE1-001)). For each CSC that is developed on the incremental track, the increment (INC) or toolkit (TK) number is given. Increments are comprised of Prototype Workshops (PWs) and Evaluation Packages (EPs). Increment 1 includes PW1 and EP6. Increment 2 includes PW2 and EP7. Increment 3 includes PW3 and EP8. Each increment builds on the next. Refinements from previous increments are incorporated into the next increment.

COTS/OTS selections are not required for PDR/IDR (only make-vs.-buy decisions are due at this time). Product selections that have been made are discussed in the SDPS Design Specification, 305-CD-003-001.

Table 4-2. SDPS Computer Software Components (1 of 5)

Sub.	CSCI	CSC	Source	SLOC	Track	INC/TK	Rel
CLS	DESKT	Desktop Manager	DEV	3200	I	INC1	A,B
CLS	WKBCH	Release-A Client	OTS	0	F	N/A	A
CLS	WKBCH	Hypertext Viewer	OTS	0	I	INC1	A
CLS	WKBCH	Earth Science Search Tool	OTS/DEV	13000	I	INC1	B
CLS	WKBCH	Product Request Tool	DEV	7500	I	INC2	B
CLS	WKBCH	Document Search Tool	OTS	0	I	INC1	B
CLS	WKBCH	Advertising Client Tool	DEV	5000	I	INC1	A
CLS	WKBCH	User Registration Tool	DEV	2000	I	INC1	A
CLS	WKBCH	User Preferences Tool	DEV	1500	I	INC1	B
CLS	WKBCH	Data Acquisition Tool	DEV	5000	I	INC3	B
CLS	WKBCH	E-mailer Tool	DEV	750	I	INC2	B
CLS	WKBCH	Logger/Reviewer Tool	DEV	3000	I	INC2	B
CLS	WKBCH	Data Dictionary Tool	DEV	1500	I	INC1	B
CLS	WKBCH	Comment/Survey Tool	OTS/DEV	750	I	INC2	B
CLS	WKBCH	Visualization Tool	OTS	0	I	INC1	A,B
CLS	WKBCH	News reader Tool	OTS	0	I	INC1	B
CLS	WKBCH	Hypertext Authoring Tool	OTS	0	I	INC1	B
CLS	WKBCH	V0 IMS Client	OTS/DEV	0	F	N/A	A
IOS	ADSRV	AdvDBMSApplServer	DEV	11600	I	INC1, 2	A,B,C
IOS	ADSRV	AdvDBMSServer	OTS	0	I	INC1	A
IOS	ADSRV	AdvTextServer	OTS	0	I	INC1, 2	A
IOS	ADSRV	AdvNavigatingServer	OTS	0	I	INC1, 2	A
DMS	LIMGR	LIM server	DEV	9000	I	INC 1, 2	B
DMS	LIMGR	LIM DBMS	OTS	0	I	INC 1, 2	B
DMS	DIMGR	DIM Server	DEV	8700	I	INC3	B
DMS	DIMGR	DIM DBMS	OTS	0	I	INC3	B
DMS	DDICT	Data Dictionary Server	DEV	7700	I	INC1, 2	B
DMS	DDICT	Data Dictionary DBMS	OTS	0	I	INC1	B
DMS	GTWAY	Gateway Server	DEV	5250	I	INC 1, 2	A
DMS	GTWAY	V0 IMS server	OTS	0	F	N/A	A
DMS	GTWAY	Gateway DBMS	OTS	0	I	INC 1	A
DSS	SDSRV	Administration/Operation	DEV	4500	F	N/A	A,B
DSS	SDSRV	CERES	DEV	1500	F	N/A	A,B
DSS	SDSRV	Client	DEV/OTS	3500	F	N/A	A,B
DSS	SDSRV	Configuration/Startup	DEV	1500	F	N/A	A,B
DSS	SDSRV	Metadata	DEV	2000	F	N/A	A,B

Table 4-2. SDPS Computer Software Components (2 of 5)

Sub.	CSCI	CSC	Source	SLOC	Track	INC/TK	Rel
DSS	SDSRV	CSDT	DEV/OTS	11500	F	N/A	A,B
DSS	SDSRV	DB Wrappers	DEV/OTS	2100	F	N/A	A,B
DSS	SDSRV	Descriptors	DEV	5500	F	N/A	A,B
DSS	SDSRV	General ESDT	DEV	2200	F	N/A	A,B
DSS	SDSRV	Global	DEV/OTS	1500	F	N/A	A,B
DSS	SDSRV	GUI	DEV/OTS	4500	F	N/A	A,B
DSS	SDSRV	LIS	DEV	1500	F	N/A	A,B
DSS	SDSRV	Non-Product Science ESDTs	DEV	5000	F	N/A	A,B
DSS	SDSRV	Non-Science ESDTs	DEV	3500	F	N/A	A,B
DSS	SDSRV	PR	DEV	1500	F	N/A	A,B
DSS	SDSRV	Server	DEV/OTS	9575	F	N/A	A,B
DSS	SDSRV	Subscriptions	DEV/OTS	3500	F	N/A	A,B
DSS	SDSRV	TMI	DEV	1500	F	N/A	A,B
DSS	SDSRV	VIRS	DEV	1500	F	N/A	A,B
DSS	SDSRV	New ESDTs (combination of new CSCs)	DEV	11000	F	N/A	B
DSS	DDSRV	DDSRV	DEV	500	F	N/A	A
DSS	DDSRV	DDSRV Server	DEV	2500	F	N/A	A,B
DSS	DDSRV	DDSRV Client	DEV/OTS	2000	F	N/A	A
DSS	DDSRV	DDSRV ESDT	DEV/OTS	2000	F	N/A	A,B
DSS	DDSRV	DDSRV CSDT	DEV/OTS	1000	F	N/A	A,B
DSS	DDSRV	DDSRV Search Engine	OTS	0	F	N/A	A
DSS	STMGT	Service Clients	DEV/OTS	2600	F	N/A	A,B
DSS	STMGT	Resource Management	DEV	5900	F	N/A	A,B
DSS	STMGT	Data Storage	DEV/OTS	2700	F	N/A	A,B
DSS	STMGT	Peripherals	DEV	1700	F	N/A	A,B
DSS	STMGT	File	DEV	600	F	N/A	A
DSS	DDIST	Distribution Products	DEV	2500	F	N/A	A,B
DSS	DDIST	Distribution Request Management	DEV	1000	F	N/A	A,B
DSS	DDIST	Costing	DEV	4000	F	N/A	B
DSS	DDIST	Distribution Client Interface	DEV	500	F	N/A	A,B
INS	INGST	Ingest Session Manager	DEV	3400	F	N/A	IR1,A
INS	INGST	CERES	REUSE	0	F	N/A	A
INS	INGST	Client	REUSE	0	F	N/A	A
INS	INGST	Configuration/Startup	REUSE	0	F	N/A	A
INS	INGST	Metadata	REUSE	0	F	N/A	A

Table 4-2. SDPS Computer Software Components (3 of 5)

Sub.	CSCI	CSC	Source	SLOC	Track	INC/TK	Rel
INS	INGST	CSDT	REUSE	0	F	N/A	A
INS	INGST	DB Wrappers	REUSE	0	F	N/A	A
INS	INGST	Descriptors	REUSE	0	F	N/A	A
INS	INGST	General ESDT	REUSE	0	F	N/A	A
INS	INGST	Global	REUSE	0	F	N/A	A
INS	INGST	GUI	REUSE	0	F	N/A	A
INS	INGST	LIS	REUSE	0	F	N/A	A
INS	INGST	Non-Product Science ESDTs	REUSE	0	F	N/A	A
INS	INGST	Non-Science ESDTs	REUSE	0	F	N/A	A
INS	INGST	Server	REUSE	0	F	N/A	A
INS	INGST	Subscriptions	REUSE	0	F	N/A	A
INS	INGST	Service Clients	REUSE	0	F	N/A	A
INS	INGST	Resource Management	REUSE	0	F	N/A	A
INS	INGST	Data Storage	REUSE	0	F	N/A	A
INS	INGST	File	REUSE	0	FA	N/A	A
INS	INGST	Distribution Products	REUSE	0	N/A	N/A	A
	INGST	Distribution Client Interface	REUSE	0	N/A	N/A	A
INS	INGST	Distribution Request Management	REUSE	0	N/A	N/A	A
INS	INGST	Polling Ingest Client Interface	DEV	1500	F	N/A	IR1,A, B
INS	INGST	Ingest Data Transfer	DEV	2500	F	N/A	A
INS	INGST	Ingest Request Processing	DEV	2900	F	N/A	A,B
INS	INGST	Ingest Data Preprocessing	DEV	14650	F	N/A	A,B
INS	INGST	Operator Ingest Interfaces	DEV	3800	F	N/A	A
INS	INGST	User Network Ingest Interface	DEV	2000	F	N/A	A
INS	INGST	Ingest DBMS	OTS	0	F	N/A	A
INS	INGST	Ingest Administration Data	DEV	2400	F	N/A	A
INS	INGST	Viewing Tools	REUSE	N/A	F	N/A	A
PLS	PLANG	On-demand Manager	DEV	4000	F	N/A	A,B
PLS	PLANG	Subscription Editor	DEV	2500	F	N/A	A,B
PLS	PLANG	Production Request Editor	DEV	9500	F	N/A	A,B
PLS	PLANG	Subscription Manager	DEV	3200	F	N/A	A,B
PLS	PLANG	Planning Workbench	DEV	16500	F	N/A	A,B
PLS	PLANG	PDPS DBMS	OTS/DEV	2700	F	N/A	A,B
PLS	PLANG	Planning Object Library	OTS	0	F	N/A	A,B
DPS	PRONG	COTS	OTS	0	F	N/A	A

Table 4-2. SDPS Computer Software Components (4 of 5)

Sub.	CSCI	CSC	Source	SLOC	Track	INC/TK	Rel
DPS	PRONG	COTS Management	DEV	800	F	N/A	A,B
DPS	PRONG	Data Management	DEV	1000	F	N/A	A,B
DPS	PRONG	PGE Execution Management	DEV	1000	F	N/A	A,B
DPS	PRONG	Data Pre-Processing	DEV	6300	F	N/A	A,B
DPS	PRONG	Resource Management	OTS/DEV	4200	F	N/A	A,B,C
DPS	PRONG	QA Monitor Interface	OTS/DEV	7400	F	N/A	A,B,C
DPS	AITTL	Code Analysis Tools	COTS	0	F	N/A	A
DPS	AITTL	Binary File Comparison Env	COTS	0	F	N/A	A
DPS	AITTL	PGE Processing GUI	DEV	1000	F	N/A	A
DPS	AITTL	SDP Toolkit related Tools	DEV	200	F	N/A	A
DPS	AITTL	Documentation Viewing Tools	OTS	0	F	N/A	IR1,A
DPS	AITTL	Standards Checkers	OTS/DEV	800	F	N/A	IR1,A
DPS	AITTL	Data Visualization Tools	OTS/DEV	1800	F	N/A	A
DPS	AITTL	ECS HDF Visualization Tools	DEV	0	F	N/A	A
DPS	AITTL	HDF File Comparison Utility	OTS/DEV	300	F	N/A	IR1
DPS	AITTL	Profiling Tools	OTS	0	F	N/A	IR1
DPS	AITTL	Update Data Server GUI	DEV	2000	F	N/A	A
DPS	AITTL	Update PGE Database GUI	DEV	2000	F	N/A	A
DPS	AITTL	Report Generation Tools	OTS	0	F	N/A	IR1
DPS	AITTL	Product Metadata Display Tool	DEV	1800	F	N/A	A, B
DPS	AITTL	Science SoftWare Archive Package Processing GUI	DEV	1000	F	N/A	B
DPS	SDPTK	Process Control Tools	DEV	5020	I	TK3,4,5	IR1,A
DPS	SDPTK	File I/O Tools	DEV	3600	I	TK3,4	IR1,A
DPS	SDPTK	Coordinate System Conversion Tools	DEV	7590	I	TK3,4	IR1,A
DPS	SDPTK	Celestial Body Position Tools	OTS/DEV	2400	I	TK3,4,5	IR1,A
DPS	SDPTK	Constant and Unit Conversion Tools	OTS/DEV	200	I	TK4	IR1,A
DPS	SDPTK	Geo-Coordinate Transformation Tools	OTS/DEV	500	I	TK4	IR1,A
DPS	SDPTK	Ancillary Data Access Tools	OTS/DEV	3510	I	TK3,4,5	IR1,A
DPS	SDPTK	Memory Management Tools	DEV	870	I	TK3	IR1,A
DPS	SDPTK	Time and Date Conversions	DEV	2320	I	TK3	IR1,A
DPS	SDPTK	Spacecraft Ephemeris and Attitude Access Tools	OTS/DEV	550	I	TK3	IR1,A
DPS	SDPTK	Metadata Access Tools	DEV	2500	I	TK5	IR1,A
DPS	SDPTK	Math Tools (IMSL)	OTS	0	I	TK3	IR1,A

Table 4-2. SDPS Computer Software Components (5 of 5)

Sub.	CSCI	CSC	Source	SLOC	Track	INC/TK	Rel
DPS	SDPTK	Graphics Library	OTS	0	I	TK5	IR1,A
DPS	SDPTK	HDF-EOS	DEV	3000	I	IR1	IR1,A

5. Ir1 Development Plans

5.1 Ir1 Development Overview

The objectives of Interim Release 1 (Ir1) are to provide ECS components to support TRMM Interface Testing as well as TRMM and EOS-AM-1 Algorithm Integration and Test. These components provide a testbed for the TRMM ground system testing and integration of science software into the DAACs. The TRMM Interface Test components and the Algorithm Integration and Test components form essentially two independent systems in that they do not interact in the Ir1 time frame.

TRMM interface testing includes testing ECS/TSDIS and ECS/SDPF interfaces for TRMM data and DAO/ECS (GSFC) and NESDIS/ECS (GSFC) interfaces for NOAA (DAO/NESDIS) data. TRMM components are provided by the SDPS Ingest Subsystem. Hardware and software components provide capabilities for ECS to exchange messages and transfer data with TSDIS, SDPF, DAO, and NESDIS in support of TRMM interface testing. Message validation and limited data checking is supported. Temporary storage of messages and data is provided to validate the TRMM interfaces.

Algorithm Integration and Test includes support to integrate Version 1 science software for EOS instruments on the TRMM platform (CERES and LIS) and Beta Version science software for EOS-AM1 instruments into the DAAC configuration. SDPS components to support Algorithm Integration and Test are provided by the Data Processing Subsystem. Data Processing hardware and software components provide the capabilities to validate that the science software operates in the DAAC environment including standards checking, integration with the SDP Toolkit, and execution on the DAAC processing resources.

Components for Ir1 are developed on both an incremental and a modified formal track (see System Engineering Plan for the ECS Project (194-201-SE1-001)). Incremental components include the SDP Toolkit and Process Management software. All other components are considered formal track with the exception that Ir1 has no formal CDR. An informal design review is envisioned for Ir1 components after PDR.

SDP Toolkit software has been developed on an incremental track, releasing incremental SCF versions to the science software developers and incorporating feedback in subsequent releases. The SCF version of the SDP Toolkit is enhanced to integrate with other SDPS DAAC components while keeping the interfaces to the science software consistent. The DAAC and SCF version are verified during Ir1 I&T to ensure consistent results in the SCF and DAAC environment.

Process management of science software execution for Algorithm I&T can be performed manually at Ir1. Limited process queuing and execution software from the Data Processing Subsystem is supplied to help facilitate testing. This software provides a basis for refining future releases of the Data Processing Subsystem components. Support for initial manual Algorithm I&T procedures is intended to remain consistent over future releases. The initial Ir1 plans were presented in an earlier

version of the SDPS Release and Development Plan (307-CD-002-002/329-CD-002-002). For current Ir1 information, refer to the documents listed in Section 2. This page intentionally left blank.

6. Release A Development Plans

6.1 Release A Development Overview

The objectives of Release A are to provide ECS components to support the TRMM mission; Version 0 Data Migration; EOS-AM-1 and Landsat-7 Interface Testing; and EOS-AM-1 Algorithm Integration and Test.

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

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

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

Algorithm Integration and Test includes support to integrate Version 1 science software for EOS-AM-1 instruments into the DAAC. SDPS components to support Algorithm Integration and Test are provided by the Data Processing and Ingest Subsystems. Ingest hardware and software components provide the capabilities to support the interface for Algorithm Package delivery. Data Processing hardware and software components provide the capabilities to validate the science software operates in the DAAC environment including standards checking, integration with the SDP Toolkit, and execution on the DAAC processing resources.

Components for Release A are developed on both an incremental and the formal track (see System Engineering Plan for the ECS Project (194-201-SE1-001)). Incremental components include the Client, Interoperability, and Data Management Subsystem software as discussed below. In addition, a decision has been made to incorporate V0 System IMS components in Release A. The V0 System IMS components will be enhanced to integrate with ECS components. The V0 System IMS components will be replaced in Release B by ECS components as necessary. Integration of the V0 components with ECS components will be presented in the Implementation Plan for V0/V1 Integration White Paper. All other components are developed on the formal track.

Client, Interoperability, and Data Management Subsystem software has been developed on an incremental development track. Development of these SDPS components is performed in increments and released in Evaluation Packages (EP). Each EP is released to a selected set of evaluators to provide feedback into the development process. A formal evaluation is conducted and results are fed back into the requirements, design and implementation process for the next

increment. Increment 1 provides components for EP6 including refinements to Increment 0 components released in EP4. Increment 1 also includes prototype components of the Data Server Subsystem to provided functionality required for the evaluation of Client, Interoperability, and Data Management Subsystems.

The initial Release A plans were presented in an earlier version of the SDPS Release and Development plan (307-CD-002-002/329-CD-002-002). For current Release A information, refer to the documents listed in Section 2.

7. Release B Development Plans

7.1 Release B Development Overview

The objectives of Release B are to provide ECS components to support the AM-1, Landsat-7, SAGE III, ALT RADAR, ACRIMSAT, ADEOS II, ERS, JERS, RADARSAT and DAO missions. SDPS mission support includes ingest of L0 data; ingest of ancillary data for product generation; product generation, archive, and distribution; and product data management, search, and access capabilities.

The following functions are some of the new major functions in Release B.

- Two way Interoperability with NOAA; added interoperability with CIESIN/SEDAC; Increased access capability to GCMD and GCDIS.
- More robust multi-DAAC planning and scheduling, including support for inter-DAAC resource conflict resolution via access to common planning data; support to Targets of Opportunity (TOOs).
- Greatly increased (by at least an order of magnitude) data processing and required data product storage, especially for AM-1 mission support.
- Replacement of V0 client capability with Version 1 ECS client.
- Increased capability to translate data to HDF and other standard formats.
- Automated data accounting and handling of Data Availability Notices (DANs) from EDOS and from the ASTER GDS.
- Enhanced Local Information Manager (LIM) capabilities and implementation of Distributed Information Manager (DIM) capabilities.
- More complex data searches, including multiple dataset coincident search capability. Enhanced processing on demand versus simple storage and retrieval from archive.
- Robotic control of file servers; enhanced attached storage capability; APIs for scientists to gain access to data storage and retrieval services. Enhanced metadata capabilities - expandable metadata attributes and geographic metadata search, including World Reference System parameter.

Some of the other capabilities are generation handling and tracking of DARs for ASTER, Interoperability with ASTER IMS, and price estimation and accounting information interfacing with the Client.

Other ECS functions will include: conditional product generation activation based upon metadata analysis, data size reduction before distribution to the client via subsetting and subsampling, subscriptions for distribution and processing, support of multiple/different FSMS and On-Demand

production. Application programming interfaces (APIs) will be supported for update, query, and data base administration utilities. Storage system resource management, tracking of specific data granules, and automated authentication for data distribution will be enhanced.

SDPS is responsible for providing the software to support the end-to-end system processing and distribution of data. This includes the capability to ingest data, write it to a staging area, validate the data, perform pre-processing (if required), perform reformatting or data conversion (if required), process the data and archive the data. Advertising, of data written to the archive, using LIM and DIM is supported in the release B. A methodology for user/clients to generate queries, distribution requests, and perform searches as well as the ability to provide interim status updates to users/clients for pending user/client requests is required.

Components for Release B are developed on both an incremental and the formal track (see System Engineering Plan for the ECS Project (194-201-SE1-001)). Incremental components include the Client, Interoperability, and Data Management Subsystem software as discussed below. Integration of the V0 components with ECS components will be presented in the Version 1 Data Migration Plan (160-TP-002-001). All other components are developed on the formal track.

Client, Interoperability, and Data Management Subsystem software has been developed on an incremental development track. Development of these SDPS components is performed in increments and released in Evaluation Packages (EP). Each EP is released to a selected set of evaluators to provide feedback into the development process. A formal evaluation is conducted and results are fed back into the requirements, design and implementation process for the next increment.

7.2 Release B Development Schedule

Table 7-1 provides the development schedule for Release B. Included in the schedule are SDPS milestone dates: IDR, Rel B CDR, ETR, and start and stop dates for development activities: Detailed Design (DD), Code and Unit Test (CUT), and Integration and Test Threads and Builds. Section 7.3 presents the mapping of SDPS Release B components to the SDPS I&T threads and builds. Refer to the Intermediate Logic Network Diagram (108-CD-001-XXX) for monthly updates to the following schedule.

Table 7-1. Release B Development Schedule (1 of 3)

Activity/ Milestone	Early Start	Early Finish	Late Start	Late Finish
RELEASE B - IDR	31Oct95	03Nov95	31Oct95	03Nov95
SDPS Release B Detailed Design				
CRITICAL DES OF REL B EXT INTERFACES - E 7YU7	06Nov95	26Jan96	29Jan96	15Apr96
SCIENCE DATA PRE-PROCESSING DET DESIGN	07Dec95	17Jan96	08Mar96	15Apr96
STORAGE MANAGEMENT SOFTWARE DET DESIGN	07Dec95	18Jan96	07Mar96	15Apr96
SCIENCE DATA SERVER - DOCUMENT DATA SERVER	07Dec95	25Jan96	29Feb96	15Apr96
SCIENCE DATA SERVER - ADMINISTRATION EXT	07Dec95	26Jan96	28Feb96	15Apr96
CRITICAL DES OF REL B EXT INTERFACES - ECS	06Nov95	26Jan96	29Jan96	15Apr96
SCIENCE DATA PRE-PROCESSING DET DESIGN	07Dec95	17Jan96	08Mar96	15Apr96
STORAGE MANAGEMENT SOFTWARE DET DESIGN	07Dec95	18Jan96	07Mar96	15Apr96
SCIENCE DATA SERVER - DOCUMENT DATA SERVER DET DESIGN	07Dec95	25Jan96	29Feb96	15Apr96
SCIENCE DATA SERVER - ADMINISTRATION EXT	07Dec95	26Jan96	28Feb96	15Apr96
ALGORITHM I&T DET DESIGN	07Dec95	30Jan96	26Feb96	15Apr96
PROCESSING OPS DET DESIGN	07Dec95	01Feb96	22Feb96	15Apr96
PROCESSING QUEUE DET DESIGN	07Dec95	02Feb96	21Feb96	15Apr96
DATA DISTRIBUTION SERVICES DET DESIGN	07Dec95	09Feb96	13Feb96	15Apr96
INGEST SERVICES DET DESIGN	07Dec95	13Feb96	09Feb96	15Apr96
PRODUCTION PLANNING DET DESIGN	07Dec95	13Feb96	09Feb96	15Apr96
SCIENCE DATA SERVER - REL B NON-ECS PRODUCT ESDT'S DET DESIGN	07Dec95	13Feb96	09Feb96	15Apr96
SCIENCE DATA SERVER - CORE EXTENSIONS DET DESIGN	07Dec95	15Feb96	07Feb96	15Apr96
SCIENCE DATA SERVER - REL A ESDT SERVICE EXTENTIONS DET DESIGN	07Dec95	16Feb96	06Feb96	15Apr96
SCIENCE DATA SERVER - REL B ECS PRODUCT ESDT'S DET DESIGN	07Dec95	20Feb96	05Feb96	15Apr96
RELEASE B - CDR	16Apr96	19Apr96	16Apr96	19Apr96
SDPS Release B Code and Unit Test				
SCIENCE DATA PRE-PROCESSING C&UT	22Apr96	02Aug96	17Oct96	03Feb97
STORAGE MANAGEMENT SOFTWARE C&UT	22Apr96	06Aug96	22Aug96	10Dec96
SCIENCE DATA SERVER - DOCUMENT DATA SERVER C&UT	22Apr96	28Aug96	06Sep96	17Jan97
SCIENCE DATA SERVER - ADMINISTRATION EXTENTIONS C&UT	22Apr96	30Aug96	31Jul96	12Dec96
ALGORITHM I&T C&UT	22Apr96	10Sep96	03Oct96	27Feb97
PROCESSING OPS C&UT	22Apr96	16Sep96	09Jul96	04Dec96

Table 7-1. Release B Development Schedule (2 of 3)

Activity/ Milestone	Early Start	Early Finish	Late Start	Late Finish
PROCESSING QUEUE C&UT	22Apr96	23Sep96	27Aug96	03Feb97
DATA DISTRIBUTION SERVICES C&UT	22Apr96	09Oct96	02Jul96	23Dec96
PRODUCTION PLANNING C&UT	22Apr96	17Oct96	06Jun96	04Dec96
INGEST SERVICES C&UT	22Apr96	18Oct96	11Jun96	10Dec96
SCIENCE DATA SERVER - REL B NON-ECS PRODUCT ESDT'S C&UT	22Apr96	18Oct96	09Jul96	08Jan97
SCIENCE DATA SERVER - CORE EXTENSIONS C&UT	22Apr96	25Oct96	06Jun96	12Dec96
SCIENCE DATA SERVER - REL A ESDT SERVICE EXTENTIONS C&UT	22Apr96	30Oct96	26Jun96	08Jan97
SCIENCE DATA SERVER - REL B ECS PRODUCT ESDT'S C&UT	22Apr96	01Nov96	24Jun96	08Jan97
SDPS Release B Integration and Test				
ON DEMAND PROCESSING THREAD	18Oct96	22Nov96	04Feb97	11Mar97
SPATIAL POLYGON SEARCH THREAD	22Feb96	27Mar96	14Feb97	21Mar97
ENHANCED PARAMETER SEARCH THREAD	22Feb96	27Mar96	14Feb97	21Mar97
DISTRIBUTED CLIENT THREAD	22Mar96	25Apr96	13Dec96	21Jan97
ENHANCED DATA VISUALIZATION TOOLS THREAD	22Mar96	25Apr96	13Dec96	21Jan97
SELF REGISTRATION THREAD	22Mar96	25Apr96	13Dec96	21Jan97
DESKTOP THREAD	22Mar96	02May96	14Jan97	26Feb97
DISTRIBUTED SEARCH REQUEST THREAD	22Mar96	02May96	07Feb97	21Mar97
SYS I&T: SEARCH SERVICES BUILD	03May96	16May96	24Mar97	04Apr97
ANCILLARY PREPROCESSING THREAD	05Aug96	09Sep96	04Feb97	11Mar97
ENHANCED ELECTRONIC INGEST THREAD	22Apr96	24May96	11Dec96	16Jan97
ENHANCED GUIDE/POPULATION THREAD	29Aug96	03Oct96	21Jan97	25Feb97
DATA SERVER MANIPULATION THREAD	03Sep96	07Oct96	21Jan97	25Feb97
ENHANCED PRODUCTION MANAGEMENT THREAD	17Sep96	22Oct96	05Dec96	10Jan97
PREDICTIVE DATA STAGING THREAD	17Sep96	22Oct96	21Jan97	25Feb97
DISTRIBUTED INFORMATION MANAGER SERVICE THREAD	10Oct96	15Nov96	09Jan97	13Feb97
ENHANCED ADVERTISING SERVICE THREAD	10Oct96	15Nov96	09Jan97	13Feb97
ENHANCED DATA DICTIONARY THREAD	10Oct96	15Nov96	09Jan97	13Feb97
LOCAL INFORMATION MANAGER SERVICE THREAD	10Oct96	15Nov96	09Jan97	13Feb97
ENHANCED PRODUCTION PLANNING THREAD	18Oct96	22Nov96	05Dec96	10Jan97
BASIC INGEST MONITORING AND CONTROL THREAD	21Oct96	25Nov96	11Dec96	16Jan97
ENHANCED MEDIA INGEST THREAD	21Oct96	25Nov96	11Dec96	16Jan97
ENHANCED SESSION HANDLING THREAD	28Oct96	03Dec96	13Dec96	21Jan97
ENHANCED DATA SERVER MGMT/ADMIN THREAD	28Oct96	03Dec96	21Jan97	25Feb97
SYS I&T: PRODUCT GENERATION BUILD	25Nov96	06Jan97	12Mar97	18Apr97
ENHANCED DATA SERVICES THREAD	04Nov96	10Dec96	09Jan97	13Feb97

Table 7-1. Release B Development Schedule (3 of 3)

Activity/ Milestone	Early Start	Early Finish	Late Start	Late Finish
DIR INFO SERVICE THREAD	12Nov96	25Nov96	11Feb97	25Feb97
PLANNING BUILD	25Nov96	08Jan97	13Jan97	25Feb97
ENHANCED CLIENT BUILD	04Dec96	09Jan97	22Jan97	26Feb97
SYS I&T: DATA SERVER MGMT BUILD	04Dec96	14Jan97	26Feb97	04Apr97
RELEASE B -ETR	18Dec96	18Dec96	03Mar97	03Mar97
SYS I&T: INGEST SERVICES BUILD	03Jan97	24Jan97	25Feb97	17Mar97
SYS I&T: DATA ACCESS SERVICES BUILD	03Jan97	31Jan97	10Mar97	04Apr97
SYS I&T: PRODUCT SUPPORT BUILD	09Jan97	19Feb97	26Feb97	04Apr97
SYS I&T: CLIENT SERVICES BUILD	10Jan97	12Feb97	27Feb97	31Mar97

7.3 Release B Components Mapping to Threads and Builds

Table 7-2 maps SDPS components to SDPS Release B I&T threads and builds. Threads provide the initial integration of components necessary to support one or more SDPS functions. Builds integrate threads or other builds and retests the combined functionality until the entire release is integrated. Release B integrates builds tested during Release A, Ir1, and EP6 with components developed for Release B to provide full Release B verification. For a description of the threads and builds listed below, refer to the SDPS I&T Plan, Volume 3, Release B.

Table 7-2. SDPS Release B CSCI Mapping to I&T Threads and Builds (1 of 2)

Build	Predecessor Thread/Build	CSCI
Ingest Services Build	Enhanced Media Ingest Thread	INGST
Ingest Services Build	Basic Ingest Monitoring & Control Thread	INGST
Ingest Services Build	Enhanced Electronic Ingest Thread	INGST
Ingest Services Build	Preprocessing Thread	INGST
Data Server Management Build	Enhanced Guide/Population Thread	DDSRV, SDSRV
Data Server Management Build	Enhanced Data Server Mgt/Admin Thread	SDSRV, STMGT,DDSRV
Data Server Management Build	Data Server Manipulation Thread	SDSRV,STMGT,DDSRV
Enhanced Client Build	Enhanced Sessions Handling Thread	WKBCH
Enhanced Client Build	Self Registration Thread	DESKT, WKBCH

Table 7-2. SDPS Release B CSCI Mapping to I&T Threads and Builds (2 of 2)

Build	Predecessor Thread/Build	CSCI
Enhanced Client Build	Distributed Client Thread	DESKT, WKBCH
Client Services Build	Enhanced Data Visualization Tools Thread	DESKT, WKBCH
Client Services Build	Desktop Thread	DESKT
Client Services Build	Enhanced Client Build	DESKT, WKBCH
Search Services Build	Enhanced Parameter Search Thread	LIMGR, DIMGR
Search Services Build	Spatial Polygon Search Thread	LIMGR, DIMGR
Search Services Build	Distributed Search Request Thread	DIMGR
Data Access ServicesBuild	Enhanced Data Services Thread	ADSRV, STMGT
Data Access ServicesBuild	Enhanced Advertising Services Thread	ADSRV
Data Access ServicesBuild	Local Information Manager Service Thread	LIMGR
Data Access ServicesBuild	Distribution Information Manager Services Thread	DIMGR
Data Access ServicesBuild	Enhanced Data Dictionary Thread	DDICT
Data Access ServicesBuild	Interoperability Thread	ADSRV
Planning Build	Enhanced Product Plan Thread	PLANG
Planning Build	Enhanced Production Mgt Thread	PLANG
Product Support Build	Predictive Data Staging Thread	PRONG, PLANG
Product Support Build	Planning Build	PLANG
Product Generation Build	Ancillary Preprocessing Thread	PRONG
Product Generation Build	On-Demand Processing Request Thread	PRONG, PLANG

7.4 Release B Hardware Components Mapping to unique Sites

Table 7-3 contains the hardware components identified for release B for each site. All hardware components identified in Table 7-3 are COTS. For more detailed DAAC specific information refer to the Release B DAAC Design Specifications [305-CD-(030-038)-001]. For 305 CDRL and overview information, refer to Rel B SDPS/CSMS Design Specification Overview for the ECS Project (350-CD-020-001).

Table 7-3. Site Unique SDPS Equipment Components Present at Release B (1 of 3)

HWCI Name/Subsystem	Component Class	Description	Sites
ADSHW / Interoperability	n/a	Software is supported by Data Management H/W for release A at GSFC. Holds true for operations as well.	SMC, GSFC, LaRC, EDC, NSIDC, JPL, ASF, ORNL, MSFC
DMGHW / Data Management	DBMS Server W/S (medium)	LIM server. Workstation class DBMS server systems with host attached disk. Supports Advertising, Data Dictionary, DIM, Gateway, and LIM.	SMC, GSFC, LaRC, EDC, NSIDC, JPL, ASF, ORNL, MSFC
DMGHW / Data Management	OPS W/S (small)	OPS support for DBA and LIM server administration	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, ORNL, MSFC
DMGHW / Data Management	OPS W/S (small)	OPS support for data specialists and user support	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, ORNL, MSFC
ICLHW / Ingest	Server Host W/S (medium)	L0 Ingest Client hosts. Hosts are adapted to ECOM I/F (FDDI or ATM TBR) and ESN. Host attached disk. SCSI I/Fs to RAID working storage.	GSFC, LaRC, EDC, JPL, ASF, ORNL, MSFC
ICLHW / Ingest	RAID Disk (host attached)	Host adapted RAID disk arrays. RAID 3 / 5. SCSI / SCSI II adapted & cross strapped to Ingest Client hosts.	GSFC, LaRC, EDC, JPL, ASF, ORNL, MSFC
ICLHW / Ingest	Archive Robotics	Host adapted drives. Small single tower archive robotics for L0 safe storage.	GSFC, LaRC, MSFC
ICLHW / Ingest	Linear Magnetic Drives (Archive)	Host adapted drives with cross-strapped SCSI / SCSI II I/F to Ingest Client hosts.	GSFC, LaRC, MSFC
ICLHW / Ingest	X-Terminal	OPS support for Data Ingest Technician(s).	GSFC, LaRC, EDC, JPL, ASF, ORNL, MSFC
ACMHW / Data Server	Server Host W/S (medium)	Access / Process Coordination single CPU server hosts with host attached disk.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, ORNL, MSFC
ACMHW / Data Server	OPS W/S (small)	OPS support for Data Repository Management and DBA/server administration.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, ORNL, MSFC
DIPHW / Data Server	Server Host W/S (medium)	Distribution/Ingest Server host with SCSI host adapted peripherals for ingest and distribution. SCSI RAID I/F.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC

Table 7-3. Site Unique SDPS Equipment Components Present at Release B (2 of 3)

HWCI Name/Subsystem	Component Class	Description	Sites
DIPHW / Data Server	RAID Disk (host attached)	RAID storage for electronic distribution & "NFS" access. Temporary staging for media-based ingest and distribution.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
DIPHW / Data Server	8mm Tape Stacker (with Drives)	Distribution / Ingest peripheral.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
DIPHW / Data Server	4mm Tape Stacker (with Drives)	Distribution / Ingest peripheral.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
DIPHW / Data Server	6250 Tape Drive	Distribution / Ingest peripheral.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
DIPHW / Data Server	3490 Tape Drive	Distribution / Ingest peripheral.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
DIPHW / Data Server	CD-ROM Jukebox (with Drives)	Distribution / Ingest peripheral.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
DIPHW / Data Server	Laser Printer (network)	Print servers, network adapted to support general operations at the site.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
DIPHW / Data Server	OPS W/S (small)	OPS support for Data Distribution/Ingest Technician & Mail Clerk.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
WKSHW / Data Server	RAID Disk (host attached)	Host adapted RAID disk arrays. RAID 3 / 5. SCSI / SCSI II adapted & cross strapped to File Server hosts in Data Repository. Working Store plus FSMS host disk.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
DRPHW / Data Server	SMP DBMS Server W/S (medium)	DBMS repository server. SMP workstation class DBMS server systems (as DBMS applications COTS permits) with minimal W/S disk and SCSI I/F to RAID disk for DBMS.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
DRPHW / Data Server	RAID Disk (host attached)	RAID storage for DBMS repository.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC

Table 7-3. Site Unique SDPS Equipment Components Present at Release B (3 of 3)

HWCI Name/Subsystem	Component Class	Description	Sites
DRPHW / Data Server	SMP Server W/S (medium)	Tape repository File Server (FSMS host). SMP workstation class server systems with minimal system disk and SCSI I/F to RAID disk for Working Storage. Cross-strapped SCSI / SCSI II I/Fs to Archive Drives.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
DRPHW / Data Server	Archive Robotics	Host adapted drives. Small single tower archive robotics for science & production dataset storage.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
DRPHW / Data Server	Linear Magnetic Drives (Archive)	Host adapted drives with cross-strapped SCSI / SCSI II I/F to File Server Hosts.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, MSFC
SPRHW / Processing	SMP Science Processor	Large SMP class science processor with SCSI / SCSI II I/F to RAID Working Storage. Minimal local system disk. OPS console with each.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, ORNL, MSFC
SPRHW / Processing	RAID Disk (host attached)	RAID working storage for science production, interim & temporary files.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, ORNL, MSFC
SPRHW / Processing	OPS W/S (small)	Production queuing host W/S. OPS support for production management. 802.3 I/F to science processors.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, ORNL, MSFC
AITHW / Processing	OPS W/S (small)	OPS support for Science Software I&T.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, ORNL, MSFC
AQAHW / Processing	n/a	n/a	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, ORNL, MSFC
PLNHW / Planning	DBMS Server W/S (small)	Planning Database Server host.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, ORNL, MSFC
PLNHW / Planning	OPS W/S (small)	OPS support for Production Planner.	SMC, GSFC, LaRC, EDC, NSIDC,JPL, ASF, ORNL, MSFC

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Abbreviations and Acronyms

ACMHW	Access and Control Management HWCI
ACRIMSAT	Active Cavity Radiometer Irradiance Monitor Satellite
ADEOS	Advanced Earth Observing System (Japan)
ADSHW	Advertising Service HWCI
ADSRV	Advertising Service CSCI
AIT	Algorithm Integration Team
AITHW	Algorithm Integration and Test HWCI
AITTL	Algorithm Integration and Test CSCI
API	Application Programming Interface
AQAHW	Algorithm Quality Assurance (QA) HWCI
ATM	Asynchronous Transfer Mode
CCR	commitment, concurrency, and recovery (protocol) configuration change request
CDRL	Contract Data Requirements List
CDR	Critical Design Review
CERES	Clouds and Earth's Radiant Energy System
CI	Configuration Item
CIESIN	Consortium for International Earth Science Information Network
CLS	Client Subsystem
COLOR	Ocean Color - see EOS-COLOR
COTS	Commercial-Off-the-Shelf
CS	Computer Software
CSC	Computer Software Component
CSCI	Computer Software Configuration Item
CSU	Computer Software Unit
CUT	Code and Unit Test
DAAC	Distributed Active Archive Center
DAN	Data Availability Notice
DAR	Data Acquisition Request

DBMS	Database Management System
DCN	Document Change Notice
DD	Detailed Design
DDICT	Data Dictionary CSCI
DDIST	Data Distribution Service CSCI
DDSRV	Document Data Server CSCI
DESKT	Desktop CSCI
DID	Data Item Description
DIMGR	Distributed Information Manager CSCI
DIPHW	Distribution and Ingest Peripheral Management HWCI
DMGHW	Data Management HWCI
DMS	Data Management Subsystem
DPREP	Science Data Preprocessing CSCI
DPRHW	Data Repository HWCI
DPS	Data Processing Subsystem
DSS	Data Server Subsystem
DV	data visualization development
ECS	EOSDIS Core System
EDF	ECS Development Facility
EOS	Earth Observing System
EOS-AM-1	EOS Morning Crossing (Descending) Mission
EOSDIS	Earth Observing System Data Information System
EP	Evaluation Package
ETR	Element Test Review
F&PRS	Functional and Performance Requirements Specification
GDAO	Goddard Space Flight Center Data Assimilation Office
GTWAY	Version 0 Interoperability Gateway CSCI
HW	Hardware
HWCI	Hardware Configuration Item
I&T	Integration and Test
ICLHW	Ingest Client HWCI

IDRs	Incremental Design Review
INC	Increment
Ingest	Subsystem
INGST	Ingest Services CSCI
IOS	Interoperability Subsystem
Ir1	Interim Release -1
Landsat	Land Remote-Sensing Satellite
LIMGR	Local Information Manager CSCI
LIS	Lighting Imaging Sensor
NESDIS	National Environmental Satellite Data and Information Service
NOAA	National Oceanic and Atmospheric Administration
OTS	Off-the-Shelf
PDR	Preliminary Design Review
PLANG	Production Planning CSCI
PLNHW	Planning HWCI
PLS	Planning Subsystem
PMS	Performance Measurement System
PRONG	Processing CSCI
PW	Prototype Workshop
SAGE	Stratospheric Aerosols and Gas Experiment
SCF	Science Computing Facility
SDF	Software Development File
SDP	Science Data Processing
SDPF	Sensor Data Processing Facility (GSFC)
SDPTK	Science Data Processing (SDP) Toolkit CSCI
SDSRV	Science Data Server CSCI
SPRHW	Science Processing HWCI
STMGT	Storage Management Software CSCI
TK	Toolkit
TRR	Test Readiness Review
TSDIS	TRMM Science Data and Information System

WKBCH	Workbench
WKBCH	Workbench CSCI
WKSHW	Working Storage HWCI