4.3 IOS - Interoperability Subsystem

4.3.1 Introduction

SDPS is architected as a collection of distributed applications. They need support by distributed operating system and communications services that are part of the Communications Subsystem (CSS) and the System Management Subsystem (MSS). To these functions, the SDPS Interoperability Subsystem adds an Advertising Service. It maintains a database of information about the services and data offered by ECS and other data providers, and allows users to search through this database to locate services and data that may be of interest to them. The Advertising Service will be implemented as an SDPS-developed distributed database application on top of a commercial off-the-shelf DBMS.

The Interoperability subsystem is being developed on the incremental track; therefore, the Level 4 requirements for this subsystem are draft requirements. The incremental track utilizes user feedback in the development of software components which are integrated into the formal releases. A part of this incremental track process is the refinement of these draft requirements. Final as-built requirements will be available after the increments are complete.

4.3.2 Interoperability Subsystem Summary

4.3.2.1 Subsystem Interfaces

The Interoperability Subsystem context diagram is presented in Section 3 of 305-CD-022-002. This section briefly describes the relationships between the Interoperability Subsystem, other SDPS subsystems, and operator personnel.

- The subsystem accepts advertisements, subscriptions, and search requests from the Client, Ingest, Data Processing, and Planning subsystems.
- The subsystem receives advertisements for the data and services of the Data Management Subsystem. The subsystem also receives ECS valids mappings in response to requests to the Interoperability subsystem.
- The Subsystem also accepts advertisements from the Data Server.
- The subsystem accepts subscriptions from Planning and Data Processing subsystems, and provides the subsystem's results for the requests made.
- Advertisements and subscriptions are also received from non-ECS providers such as NOAA and the Science Computing Facilities.
- Service, provider and product advertisements are additionally provided to the Interoperability Subsystem by operator input.
- The subsystem obtains user authorizations by request to the Communications Subsystem.
- The subsystem provides MSS logging and resource management services status and fault information. MSS provides Interoperability with life-cycle commands and requests for mode and status information.

4.3.2.2 Overview of ADSRV CSCI

The Advertising Service CSCI provides the interfaces needed to support interactive browsing and searching of advertisements as required by the Client Subsystem. 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, text searching, and hyperlinked access and retrieval according to several different viewing styles (e.g., ASCII text, interactive form, or HTML document).

The attributes reflected in the advertising service are a subset of the directory-level attributes available at a Data Server. Queries for directory information, therefore, can also be sent directly to a Data Server if their scope is sufficiently narrow. For example, a user who wishes to find out what data sets are available on the network would search or browse the advertising information; more detailed directory level information such as overall parameter accuracy specification would be obtained from the directory information held by the Data Server. Both types of 'directory searching' are available on the user's desktop; the user can choose whichever approach is most convenient in the current work context.

The Advertising Service supports management of and access to the following:

- *Advertisements*—The services provided by providers are described in advertisements. client programs can search, browse, and retrieve service descriptions.
- *Subscriptions*—Users can subscribe to changes in advertisements by submitting subscription requests which define the types of advertising changes in which a user is interested.
- *Definitions of service classes*—A service class must be defined in the Advertising Service before services of that type can be advertised. The service also manages the Schema for the advertisements of each class.
- *Provider information*—The Advertising Service will maintain a list of providers. A provider may offer one or several services, however, a service can not be offered unless the provider is registered with the advertising service.

4.3.3 Requirements Table

The following table lists all IOS L4 requirements for Release A & B in numerical order together with their RbR parent requirements.

Interoperability Subsystem L4 to RbR traceability (1 of 35)

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00010	A	The ADSRV CI shall provide the capability for viewing Advertisements.	IMS-0030#B	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
			IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0030#A	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00020	A	The ADSRV CI shall support interactive information management capabilities for authorized personnel to administer advertising data.	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0260#A	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0210#B	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0260#B	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
S-IOS-00030	A	Advertising shall contain information that describes EOSDIS science data sets.	IMS-0360#B	The IMS shall maintain or provide access to an on-line Earth Science master directory of information, which may be geographically distributed, that describes whole data sets in the Earth scie nce disciplines.
			TRMM5060#A	ECS shall provide standard information management functions for browse, and order of data and products provided by TSDIS and delivered to the MSFC and GSFC DAACs (including VIRS, PR and TMI data, metadata, GV data, TRMM Science Team algorithms and documentation).
			TRMM5060#B	ECS shall provide standard information management functions for browse, and order of data and products provided by TSDIS and delivered to the MSFC and GSFC DAACs (including VIRS, PR and TMI data, metadata, GV data, TRMM Science Team algorithms and documentation).
			IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0610#A	The IMS shall provide the capability to search the data inventory which describes each granule of EOSDIS data.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0360#A	The IMS shall maintain or provide access to an on-line Earth Science master directory of information, which may be geographically distributed, that describes whole data sets in the Earth science disciplines.
			IMS-0610#B	The IMS shall provide the capability to search the data inventory which describes each granule of EOSDIS data.
S-IOS-00040	A	The ADSRV CI shall use the identification of the user on whose behalf a Service Request is issued as the basis for access control decisions.	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0230#A	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
			IMS-0210#B	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0230#B	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00050	A	Advertising accesses to data shall be subject to access controls of read, write, update and delete, singly or in combination, based on user privileges.	IMS-0210#B	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0260#B	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
			IMS-0230#B	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
			IMS-0350#B	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.
			IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0230#A	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
			IMS-0260#A	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0350#A	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.
S-IOS-00060	A	Advertising internal data base management queries shall be expressed in standard query language (SQL).	IMS-0250#A	The IMS shall provide required maintenance of the IMS data bases, to include at a minimum: a. Capability to restructure the data base b. Capability to interrupt a maintenance session and restart the session without loss of information
			IMS-0290#A	IMS internal data base management queries shall be expressed in a standard query language.
			IMS-0250#B	The IMS shall provide required maintenance of the IMS data bases, to include at a minimum: a. Capability to restructure the data base b. Capability to interrupt a maintenance session and restart the session without loss of information
			IMS-0290#B	IMS internal data base management queries shall be expressed in a standard query language.
S-IOS-00070	A	The ADSRV CI shall provide capability for displaying Advertisements for data and services provided by non-ECS systems with which ECS is interoperable.	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0380#A	The IMS shall provide the capability to exchange directory data with IP data centers, ADCs, and selected ODCs.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0030#A	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
			IMS-0030#B	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
			IMS-0380#B	The IMS shall provide the capability to exchange directory data with IP data centers, ADCs, and selected ODCs.
S-IOS-00080	A	The ADSRV CI shall provide a capability to access Advertisements for ECS and non-ECS data and services.	IMS-0030#B	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
			IMS-0380#B	The IMS shall provide the capability to exchange directory data with IP data centers, ADCs, and selected ODCs.
			EOSD5000#B	ECS shall enable the addition of other data providers, e.g. DAACs, SCFs, ADCs, ODCs, which may: - provide heterogeneous services, i.e. services in support of EOS which may be less than or different than ECS services. - be connected with varying topologies - have variable levels of reliability or operational availability.
			EOSD5000#A	ECS shall enable the addition of other data providers, e.g. DAACs, SCFs, ADCs, ODCs, which may: - provide heterogeneous services, i.e. services in support of EOS which may be less than or different than ECS services. - be connected with varying topologies - have variable levels of reliability or operational availability.
			ASTER-0740#B	ECS shall have the capability to send and ASTER GDS shall have the capability to receive repaired orbit data provided to ECS by the GSFC Flight Dynamics Facility.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0380#A	The IMS shall provide the capability to exchange directory data with IP data centers, ADCs, and selected ODCs.
			IMS-0030#A	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
S-IOS-00100	A	The ADSRV CI shall support an administration utility for performance monitoring of database query processing.	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
			IMS-0240#B	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
S-IOS-00110	A	The ADSRV CI shall support an administration utility for performance tuning.	IMS-0240#B	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
S-IOS-00120	A	The ADSRV CI shall support an administration utility for administration of access control.	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
			IMS-0210#B	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0240#B	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
S-IOS-00130	A	The ADSRV CI shall support an administration utility for on-line full backup and restoration of advertising service data.	IMS-0240#B	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
			IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
S-IOS-00140	A	The ADSRV CI shall support an administration utility for on-line incremental backup and restoration of advertising service data.	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0240#B	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
S-IOS-00150	A	Advertising shall support an administration utility for manual recovery of advertising service data from media and system failures.	IMS-0240#B	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
			IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
S-IOS-00160	A	The ADSRV CI shall support an administration utility for automatic recovery of advertising service data from system failures.	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0240#B	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
S-IOS-00170	A	The ADSRV CI shall support a data administration utility for data import.	IMS-0240#B	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
			IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
S-IOS-00180	A	The ADSRV CI shall support a data administration utility for data export.	IMS-0240#A	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0240#B	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
S-IOS-00220	A	The ADSRV CI shall maintain a log of all information read, write, update and delete activity.	IMS-0300#B	The IMS shall maintain a log of all information update activity.
			IMS-0300#A	The IMS shall maintain a log of all information update activity.
S-IOS-00230	A	The ADSRV CI shall provide the capability to add, delete, or modify individual Advertisements.	IMS-0350#B	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.
			IMS-0356#B	The IMS shall provide a mechanism to create and update directory entries on EOSDIS data sets and forward directory entries in the appropriate format to the Global Change Master Directory.
			EOSD5000#B	ECS shall enable the addition of other data providers, e.g. DAACs, SCFs, ADCs, ODCs, which may: - provide heterogeneous services, i.e. services in support of EOS which may be less than or different than ECS services. - be connected with varying topologies - have variable levels of reliability or operational availability.
			EOSD5000#A	ECS shall enable the addition of other data providers, e.g. DAACs, SCFs, ADCs, ODCs, which may: - provide heterogeneous services, i.e. services in support of EOS which may be less than or different than ECS services. - be connected with varying topologies - have variable levels of reliability or operational availability.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0350#A	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.
S-IOS-00250	A	The ADSRV CI shall support interactive information management capabilities for authorized users to renew an existing advertisement before it expires	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00260	A	The ADSRV CI shall support interactive information management capabilities for users to replace an existing advertisement with an updated version	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00330	A	The ADSRV CI shall support the interruption of any administrative or maintenance activity and its restart without loss of information.	IMS-0250#A	The IMS shall provide required maintenance of the IMS data bases, to include at a minimum: a. Capability to restructure the data base b. Capability to interrupt a maintenance session and restart the session without loss of information
			IMS-0250#B	The IMS shall provide required maintenance of the IMS data bases, to include at a minimum: a. Capability to restructure the data base b. Capability to interrupt a maintenance session and restart the session without loss of information
S-IOS-00340	A	The ADSRV CI shall perform a single keyword attribute directory search in not exceeding 2 seconds.	IMS-1780#B	The IMS shall respond to each user session operation within the time period specified in Table 7-4 with the specified rate of IMS operations.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00380	A	The ADSRV CI shall collect management data about its own operations for support of security management.	IMS-1620#B	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management
			IMS-1620#A	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
S-IOS-00390	A	Advertising data accesses shall be subject to access controls of read, write, update and delete, singly or in combination, based on data types.	IMS-0210#B	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0350#B	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.
			IMS-0230#B	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0260#B	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
			IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0260#A	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
			IMS-0350#A	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.
			IMS-0230#A	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
S-IOS-00400	A	Advertising data accesses shall be subject to access controls of read, write, update and delete, singly or in combination, based on data ownership.	IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0350#A	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0260#A	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
			IMS-0230#A	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
			IMS-0210#B	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0350#B	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.
			IMS-0260#B	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
			IMS-0230#B	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
S-IOS-00410	A	The capability to add, delete, or modify individual advertising data and service listings shall be limited to authorized users.	EOSD2400#A	ECS shall provide multiple categories of data protection based on the sensitivity levels of ECS data, as defined in NHB 2410.9.
			IMS-0230#B	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0210#B	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			EOSD2400#B	ECS shall provide multiple categories of data protection based on the sensitivity levels of ECS data, as defined in NHB 2410.9.
			IMS-0210#A	The IMS shall allow data access privileges to be configurable by user and data type for: a. Read b. Write c. Update d. Delete e. Any combination of the above
			IMS-0230#A	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
S-IOS-00480	A	The ADSRV CI shall be available 24 hours a day, 7 days a week within the constraints of the RMA requirements.	IMS-0010#A	The IMS shall be capable of providing 24 hour per day, 7 day per week access to the ECS services.
			IMS-0010#B	The IMS shall be capable of providing 24 hour per day, 7 day per week access to the ECS services.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00490	A	The ADSRV CI shall send detected hardware and software fault information to MSS.	IMS-1620#B	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management
			IMS-1760#B	The IMS shall send detected hardware faults to the SMC, to include at a minimum: a. IMS processors b. IMS network interfaces c. Storage devices
			IMS-1620#A	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
S-IOS-00510	A	The ADSRV CI shall report Accountability Management Data (such as searches, advertisement submissions, etc.) to the MSS.	IMS-1620#A	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-1620#B	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management
S-IOS-00515	A	The ADSRV CI shall collect Performance Management Data using the MSS managed object components and provide it to the MSS at configurable intervals and on demand.	IMS-1620#B	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management
			IMS-1620#A	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00516	B	The ADSRV CI shall support the MSS in collecting Accounting Management Data by supplying resource utilization data.	IMS-1620#B	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management
			IMS-1660#B	The IMS shall provide to the SMC a full and complete history of all IMS resources used by science investigators including, at a minimum: a. CPU utilization b. Amount of user storage c. Connect time d. Session histories
S-IOS-00517	B	The ADSRV CI shall provide to MSS configuration information such as expected moderation approval time, which will be used by MSS to compare plans to actuals (i.e. schedule management).	IMS-1620#B	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management
			IMS-1620#A	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00518	A	The ADSRV CI shall provide configuration management data such as software versions to MSS using managed process framework.	IMS-1620#A	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.
			IMS-1620#B	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management
S-IOS-00520	A	The ADSRV CI shall provide operations staff with the capability to generate daily ADSRV operations summary reports.	IMS-1700#B	The IMS shall provide the capability to generate reports on: a. The backlog of data distribution requests b. The backlog of processing requests c. The backlog of data acquisition requests d. Data quality assessment e. Daily IMS operations summaries f. IMS performance summaries
			IMS-1700#A	The IMS shall provide the capability to generate reports on: a. The backlog of data distribution requests b. The backlog of processing requests c. The backlog of data acquisition requests d. Data quality assessment e. Daily IMS operations summaries f. IMS performance summaries

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00530	A	The ADSRV CI shall provide operations staff with the capability to generate ADSRV performance summary reports.	IMS-1700#A	The IMS shall provide the capability to generate reports on: a. The backlog of data distribution requests b. The backlog of processing requests c. The backlog of data acquisition requests d. Data quality assessment e. Daily IMS operations summaries f. IMS performance summaries
			IMS-1700#B	The IMS shall provide the capability to generate reports on: a. The backlog of data distribution requests b. The backlog of processing requests c. The backlog of data acquisition requests d. Data quality assessment e. Daily IMS operations summaries f. IMS performance summaries
S-IOS-00590	B	The ADSRV CI shall provide Advertisements that describe Science Processing Library holdings.	IMS-0270#B	IMS shall maintain information on the science processing library holdings and provide the capability for users to search for and order science processing library software.
S-IOS-00600	A	The ADSRV CI shall provide the clients with a binding to the advertisement which can be used to issue Service Requests to the selected service or use the reference to the service in a Universal Reference	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00610	A	The ADSRV CI shall find Advertisements which match text string expressions in the Service Request	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0530#A	The IMS shall provide document text search.
			IMS-0530#B	The IMS shall provide document text search.
S-IOS-00620	A	The ADSRV CI shall support browsing Advertisements and linking to Data Dictionary definitions of terms.	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00630	A	The ADSRV CI shall provide a capability to link advertising data to data dictionary definitions of terms.	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00640	A	The ADSRV CI shall support interactive information management capabilities for users to add a Subscription to be informed of changes in the Advertisements.	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00650	A	The ADSRV CI shall support interactive information management capabilities for users to cancel a Subscription	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00660	A	The ADSRV CI shall support Subscription Update Requests.	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00670	A	The ADSRV CI shall be capable of obtaining the current Subscription Notification.	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00680	A	The ADSRV CI shall provide attributes of the identified Subscription(s) in the format specified by the output specifications, e.g., as text document(s), hyperlink document(s) or a set of data records	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00690	A	The ADSRV CI shall accept Search Requests in a format compatible with the Earth Science Query Language.	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0630#B	The IMS shall provide the capability to select metadata for retrieval by: a. Boolean operators b. Relational operators c. Attribute values d. Search strings e. Combinations thereof

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0650#B	The IMS shall query non-geographic metadata by any of the following criteria at a minimum: a. Exact word match b. Phrase match c. Character set (string) d. Wildcard construct (prefix, embedded, suffix) e. Character range f. Logical and Boolean operators g. Min/max range search h. Any combination of the above
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00700	A	The ADSRV CI shall accept Advertisement Requests as specified in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00710	A	The ADSRV CI shall accept Subscription Requests as defined in Appendix A of the current version of 304-CD-002..	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00720	A	The ADSRV CI shall accept Advertisements as defined in Appendix A of the current version of 304-CD-002 for Release A and as specified in Appendix K of the current version of 304-CD-005 for Release B.	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00760	A	The ADSRV CI shall provide Notifications in response to Subscription Events.	IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00770	A	The ADSRV CI shall be able to provide attributes of the Advertisements selected by a Search Request or an Advertisement Request as text document(s), hyperlink document(s) or a set of data records, in accordance with specifications contained in the request.	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
S-IOS-00780	A	The ADSRV CI shall contain advertisements that describe all EOSDIS science data sets available for distribution to users.	IMS-0600#B	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.
			IMS-0600#A	The IMS shall provide the capability to search a directory of information that describes whole EOSDIS, non-EOSDIS, and ADC earth science data sets.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00800	A	The ADSRV CI shall provide an application program interface for the submission of Service Requests.	IMS-1765#B	The IMS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development of the following extensions to the ECS IMS by the DAACs, ECS and other users: a. Addition of metadata fields that are unique to the data maintained at a specific DAAC b. Addition of documents for use as guide metadata for DAAC-specific data products c. Development of DAAC-specific data acquisition request utilities d. Support of data visualization utilities for DAAC-specific products e. Support of DAAC-specific data analysis utilities f. Development of DAAC-unique metadata search and access services that will operate independent of the delivered ECS IMS services g. Development of a local user interface that can bypass the delivered ECS user interface for accessing DAAC-unique metadata search and access services
			IMS-1765#A	The IMS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development of the following extensions to the ECS IMS by the DAACs, ECS and other users: a. Addition of metadata fields that are unique to the data maintained at a specific DAAC b. Addition of documents for use as guide metadata for DAAC-specific data products c. Development of DAAC-specific data acquisition request utilities d. Support of data visualization utilities for DAAC-specific products e. Support of DAAC-specific data analysis utilities f. Development of DAAC-unique metadata search and access services that will operate independent of the delivered ECS IMS services g. Development of a local user interface that can bypass the delivered ECS user interface for accessing DAAC-unique metadata search and access services

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00810	A	The ADSRV CI shall provide an application program interface for the submission of requests for administrative services.	IMS-1765#B	The IMS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development of the following extensions to the ECS IMS by the DAACs, ECS and other users: a. Addition of metadata fields that are unique to the data maintained at a specific DAAC b. Addition of documents for use as guide metadata for DAAC-specific data products c. Development of DAAC-specific data acquisition request utilities d. Support of data visualization utilities for DAAC-specific products e. Support of DAAC-specific data analysis utilities f. Development of DAAC-unique metadata search and access services that will operate independent of the delivered ECS IMS services g. Development of a local user interface that can bypass the delivered ECS user interface for accessing DAAC-unique metadata search and access services
			IMS-1765#A	The IMS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development of the following extensions to the ECS IMS by the DAACs, ECS and other users: a. Addition of metadata fields that are unique to the data maintained at a specific DAAC b. Addition of documents for use as guide metadata for DAAC-specific data products c. Development of DAAC-specific data acquisition request utilities d. Support of data visualization utilities for DAAC-specific products e. Support of DAAC-specific data analysis utilities f. Development of DAAC-unique metadata search and access services that will operate independent of the delivered ECS IMS services g. Development of a local user interface that can bypass the delivered ECS user interface for accessing DAAC-unique metadata search and access services
S-IOS-00820	A	The ADSRV shall have the capability to receive V0 Advertising Information from the DAAC(s).	V0-0370#A	The DAAC(s) shall have the capability to send and ECS shall have the capability to receive Advertising Information [implementation issue 6].
			V0-0370#B	The DAAC(s) shall have the capability to send and ECS shall have the capability to receive Advertising Information [implementation issue 6].

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00830	A	The ADSRV shall have the capability to send Advertising information to the NOAA SAAs.		
S-IOS-00840	A	The ADSRV shall have the capability to receive Advertising information from the NOAA SAAs.	IMS-0380#B	The IMS shall provide the capability to exchange directory data with IP data centers, ADCs, and selected ODCs.
			IMS-0380#A	The IMS shall provide the capability to exchange directory data with IP data centers, ADCs, and selected ODCs.
S-IOS-00850	A	The ADSRV shall have the capability to receive Advertising information from the NOAA Data Centers.	NOAA0800#B	The NOAA Data Centers shall have the capability to send and the ECS shall have the capability to receive advertising information.
S-IOS-00860	A	The ADSRV CI shall contain advertisements that include key organizations and personnel for all product-related DAACs, ADCs, and ODCs.	IMS-0320#A	Standard Product related metadata shall contain, at a minimum: a. Keywords and glossary from investigators b. Keywords, synonyms, and glossary for cross-product and cross-directory referencing c. Identifiers for locating products in the DADS archive by granule d. Documentation on algorithms, including version history, authors, written description of product, equations, and references e. Documentation on instrument(s) and spacecraft(s) including history of housekeeping and ancillary parameters, discipline characterization, calibration parameters, key individuals, and references f. Identifiers, algorithms, written descriptions, equations, authors, and references associated with static browse products and subsetted, subsampled, and summary data products g. Published papers, research results, significant results, and references by author and date h. Key organizations and personnel for all product-related DAACs, ADCs, and ODCs i. Granule-specific information as listed in Tables C-10 and C-11 in Appendix C

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			IMS-0320#B	Standard Product related metadata shall contain, at a minimum: a. Keywords and glossary from investigators b. Keywords, synonyms, and glossary for cross-product and cross-directory referencing c. Identifiers for locating products in the DADS archive by granule d. Documentation on algorithms, including version history, authors, written description of product, equations, and references e. Documentation on instrument(s) and spacecraft(s) including history of housekeeping and ancillary parameters, discipline characterization, calibration parameters, key individuals, and references f. Identifiers, algorithms, written descriptions, equations, authors, and references associated with static browse products and subsetted, subsampled, and summary data products g. Published papers, research results, significant results, and references by author and date h. Key organizations and personnel for all product-related DAACs, ADCs, and ODCs i. Granule-specific information as listed in Tables C-10 and C-11 in Appendix C
S-IOS-00870	A	The ADSRV CI shall support submission of advertisements in <TBD> format.	IMS-0360#A	The IMS shall maintain or provide access to an on-line Earth Science master directory of information, which may be geographically distributed, that describes whole data sets in the Earth science disciplines.
			IMS-0360#B	The IMS shall maintain or provide access to an on-line Earth Science master directory of information, which may be geographically distributed, that describes whole data sets in the Earth science disciplines.
S-IOS-00880	A	The ADSRV CI shall allow ECS personnel to review submitted advertisements before those advertisements are posted for general access.	IMS-0230#B	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.
			IMS-0230#A	The IMS shall restrict update of ECS directory, inventory, and guide (documentation/reference material) and other IMS data bases to authorized users based on the users access privileges.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-00940	B	The ADSRV CI shall provide its current mode to MSS on request.	IMS-1640#B	The IMS shall provide to the SMC, status to include at a minimum: a. Integration, testing, and simulation status b. Maintenance status c. Logistics status d. Training information
S-IOS-00950	B	The ADSRV CI shall provide a capability for logistics and maintenance status to be provided to the SMC.	IMS-1640#B	The IMS shall provide to the SMC, status to include at a minimum: a. Integration, testing, and simulation status b. Maintenance status c. Logistics status d. Training information
S-IOS-00960	B	The ADSRV CI shall provide a capability to display SMC directives to operator personnel.	IMS-1630#B	The IMS shall provide the capability to receive from the SMC, directives to include at a minimum: a. Directives for integration, testing, and simulation b. Maintenance directives c. Configuration management directives d. Logistics management directives e. Training management directives f. Fault management directives g. Security directives
S-IOS-60010	A	The electrical power requirements for ADSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).	SDPS0120#A	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
			SDPS0120#B	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
S-IOS-60020	A	The air conditioning requirements for the ADSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).	SDPS0120#B	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
			SDPS0120#A	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-60030	A	The grounding requirements for ADSHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).	SDPS0120#A	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
			SDPS0120#B	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
S-IOS-60040	A	The fire alarm requirements for ADSHW CI equipment shall be in accordance with)ECS Facilities Plan (DID 302/DV2).	SDPS0120#B	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
			SDPS0120#A	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
S-IOS-60050	A	The acoustical requirements for ADSHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).	SDPS0120#A	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
			SDPS0120#B	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
S-IOS-60060	A	The physical interface requirements between ADSHW CI equipment and the facility shall be in accordance with ECS Facilities Plan (DID 302/DV2).	SDPS0120#B	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
			SDPS0120#A	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
S-IOS-60070	A	The footprint size and the physical layout of ADSHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).	SDPS0120#A	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
			SDPS0120#B	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
S-IOS-60110	A	The operating system for each Unix platform in the ADSHW CI shall conform to the POSIX.2 standard.	EOSD5020#A	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			EOSD5020#B	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
S-IOS-60120	A	The ADSHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.	EOSD5020#B	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
			EOSD5020#A	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
S-IOS-60130	A	The ADSHW CI POSIX.2 compliant platform shall have the following POSIX.2 user Portability Utilities installed at a minimum: man, vi.	EOSD5020#A	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
			EOSD5020#B	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
S-IOS-60140	A	The ADSHW CI POSIX.2 compliant platform shall have the following POSIX.2 Software Development Utilities installed at a minimum: make.	EOSD5020#B	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
			EOSD5020#A	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
S-IOS-60150	A	The ADSHW CI POSIX.2 compliant platform shall have the following POSIX.2 C-Language Development Utilities installed at a minimum: lex, yacc.	EOSD5020#A	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
			EOSD5020#B	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
S-IOS-60160	A	The ADSHW CI POSIX.2 compliant platform shall have the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.	EOSD5020#B	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
			EOSD5020#A	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
S-IOS-60170	A	The ADSHW CI POSIX.2 compliant platform shall have on-line documentation or printed documentation for each installed tool.	EOSD5020#A	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
			EOSD5020#B	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
S-IOS-60180	A	The ADSHW CI POSIX.2 compliant platform shall have installed one or more development environment supporting the following languages: a. C b. FORTRAN-77	EOSD5020#B	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
			EOSD5020#A	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.

Interoperability Subsystem L4 to RbR traceability

L4 ID	Rel	L4 Text	RbR ID	RbR Text
S-IOS-60190	A	Each development environment associated with the POSIX.2 compliant platform in the ADSHW CI shall have the capability to compile and link strictly conformant POSIX-compliant source code.	EOSD5020#A	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
			EOSD5020#B	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
S-IOS-60195	A	Each development environment associated with the POSIX.2 compliant platform in the ADSHW CI shall have an interactive source level debugger for ECS supported languages.	EOSD5020#B	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
			EOSD5020#A	ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations.
S-IOS-60360	B	The ADSHW CI shall accept and process lifecycle commands from the MSS.	IMS-1620#B	The IMS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management

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