AverStar, Inc.
A Titan Company

EOS GROUND SYSTEM INTEGRATION AND TEST (EGS I&T)

ECS – ASTER GDS INTERFACE CONFIDENCE TEST PACKAGE ICT-12 EDC (Revision A)

August 30, 2000

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EOS GROUND SYSTEM (EGS)
SCIENCE
ECS – ASTER GDS
Interface Confidence Test Package
ICT-12 EDC

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Change Record Page

Issue	Date	Pages Affected	Description
Baseline	4/27/2000	All	Original Document
Revision A	8/28/2000	12	Requirements
Revision A	8/28/2000	19	Test Step
Revision A	8/28/2000	22	Test Step
Revision A	8/28/2000	26 -31	Move to 6A
Revision A	8/28/2000	38-42	Deleted - Move to ICT 16

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List of Affected Pages

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1 Introduction

ECS version 5B functionality for interfaces between the ECS and the ASTER GDS provide the means for accessing ASTER data and other EOS data by Users in Japan or by Users in the United States. Users in the United States will access ASTER GDS databases via the EDG system and users in Japan will access the EOS databases in the United States via a similar system. Accessing EOS database from Japan is the responsibility of the ASTER team in Japan and therefore is not part of this test. New functionality for the JAVA DAR tool will also be tested.

1.1 System Interface

A diagram of the interface to be tested can be found in Section 12. This diagram illustrates a general overall data flow between ECS DAAC and ASTER GDS.

1.2 Test Objectives

This test plan verifies the following objectives to show that the functionality of the interface is fully operational:

- That additional features of the JAVA DAR TOOL (as defined in Reference 4) are functional.
- The link between ECS United States and ASTER Japan is operable.

1.3 Reference Documents

The following documents were used during the creation of the ICT package. The latest version of the document applies.

1. 505-41-18, Interface Requirements Document between the Earth Observing System Data and Information System (EOSDIS) Core System (ECS) and MITI ASTER GDS Project.
2. 505-41-34, Interface Control Document between EOSDIS Core System (ECS) and ASTER Ground Data System.
3. ECS SDPS Incremental Release Review (IRR) for 5B.
4. EOS Ground System (EGS)Science Integration and Test Plan for ECS Release 5B

2 Deliverables

These items will be provided as deliverables by the EGS I&T personnel.

Dry Runs

- Quick status report within twelve hours of completion of report via email to key DAAC, NASA, and EGS personnel.
- Interim test report within ten working days after completion of report.

Formal or Re-Test Run

- Quick status report within twelve hours of completion of report via email to key DAAC, NASA, and EGS I&T personnel.
- A test report outlining successes, failures, requirements verified / not verified, trouble tickets written, and log file excerpts (if any) will be provided within ten working days following the test execution.

3 Discrepancy Reporting

Discrepancy reporting will be done using the DAAC Remedy trouble ticketing system. Problems that cannot be resolved at the local DAAC site will be elevated to Non-Conformance Reports (NCRs) via the SMC and forwarded to the ECS development facility at Landover, MD for disposition and resolution.

4 Responsibilities

DAAC responsibilities include:

- Reviewing and commenting on test plan.
- Operations support during test execution
- System availability.
- Trouble ticket entry and report generation.

EGS I&T responsibilities include:

- Coordination with DAAC staff to ensure timely scheduling of test.
- Providing a pretest briefing for DAAC staff identifying interface to be tested, configuration changes needed for testing, and possible impact on operations.
- Providing an advance copy of test plan for DAAC staff review and approval.
- Coordination of participation of externals during test execution.
- Ensuring mode used for testing is returned to the original configuration.
- Providing Post-test briefing for DAAC staff identifying test results and lessons learned.
- Providing test results and analysis of test data / artifacts.
- Providing deliverables identified in Section 2.

5 Requirements

This section specifies the overall EGS interface requirements applicable to this interface test. The requirements can be found in the IRD between Earth Observing System Data and Information System (EOSDIS) Core System (ECS) and MITI ASTER GDS Project, Section 5. Those requirements applicable only to the DAAC are listed in the Attachment under the appropriate test case.

Requirement #	Requirement Text
ASTER-0110	ECS shall have the capability to send and ASTER GDS shall have the capability to receive DARs for the ASTER instrument. DARs shall contain the following information, at a minimum: a. Observation number b. Experimenter identification c. Experimenter address d. Investigation identification e. Scientific discipline f. Observation repetition period g. Tolerance in observation time h. User priority i. Scheduling priority and target of opportunity flag j. Descriptive text k. Location data expressed in terms of longitude and latitude as earliest start coordinates and latest stop coordinates l. Earliest start time m. Latest stop time n. Minimum coverage required o. Maximum coverage desired p. Deleted q. Deleted r. Associated product generation request and product distribution request. s. Pointing angle t. Calibration requirements u. Coordination requirements v. Data transmission requirements w. Illumination requirements (day/night) x. Specific time of observation y. Sun angle z. Direct downlink option
ASTER-0120	ASTER GDS shall have the capability to send and ECS shall have the capability to receive DAR status, when requested by ECS. [Issue 9] DAR status shall include such information as confirmation or rejection of the DAR, and notification of DAR scheduling and completion, to include at a minimum: a. Date and time b. Instrument ID c. DAR ID d. Request status e. Implementation schedule f. If rejection, then the reason for the rejection
ASTER-0130	ECS shall have the capability to send and ASTER

Requirement #	Requirement Text
	GDS shall have the capability to receive queries for the current status of ASTER DARs which were previously submitted to the ASTER GDS by ECS.
ASTER-0140	ECS shall have the capability to send and the ASTER GDS shall have the capability to receive changes to DARs for the ASTER instrument.
ASTER-0810	ECS shall have the capability to send and ASTER GDS shall have the capability to receive directory metadata related to ECS data products.
ASTER-0820	ECS shall have the capability to send and ASTER GDS shall have the capability to receive inventory search requests.
ASTER-0830	ECS shall have the capability to send and ASTER GDS shall have the capability to receive browse requests.
ASTER-0845	ASTER GDS shall have the capability to send and ECS shall have the capability to receive browse results.
ASTER-0850	ASTER GDS shall have the capability to send and ECS shall have the capability to receive inventory search requests.
ASTER-0865	ECS shall have the capability to send and ASTER GDS shall have the capability to receive inventory search results.
ASTER-0880	ECS shall have the capability to send and ASTER GDS shall have the capability to receive user authentication requests for ASTER GDS privileges of EOSDIS users.
ASTER-0895	ECS shall have the capability to send and ASTER GDS shall have the capability to receive user authentication information specifying ECS privileges for ASTER GDS users.
ASTER0900	ECS shall have the capability to send and ASTER GDS shall have the capability to receive product requests for ASTER GDS data products.
ASTER-0945	ASTER GDS shall have the capability to send and ECS shall have the capability to receive ASTER data products, in response to a request from ECS.

6 Methods for Results Analysis

Methods for result analysis associated to specific test case are located in the Attachments.

7 Prerequisites

Prerequisites associated to specific test cases are located in the Attachments

8 Assumptions

Assumptions are associated to specific test cases, which are located in the EDC DAAC attachment.

9 Staffing and Support

The EGS I&T Lead will coordinate with the DAAC to determine staffing needs and any additional support prior to test execution.

10 Data

- JDT – No data is required
- Interoperability Testing will access archives at ASTER GDS and EDC DAAC.

11 Suspension / Resumption Criteria

Testing shall be suspended upon generation of a trouble ticket for which there is no workaround or the workaround is not practical. Other system problems that prevent test continuation include, but are not limited to, custom code failures, COTS failures, bad test data, hardware failures and interference with ongoing operations.

Testing shall be resumed upon resolution of problems that caused suspension of the test, subject to DAAC approval.

12 Interface Diagram

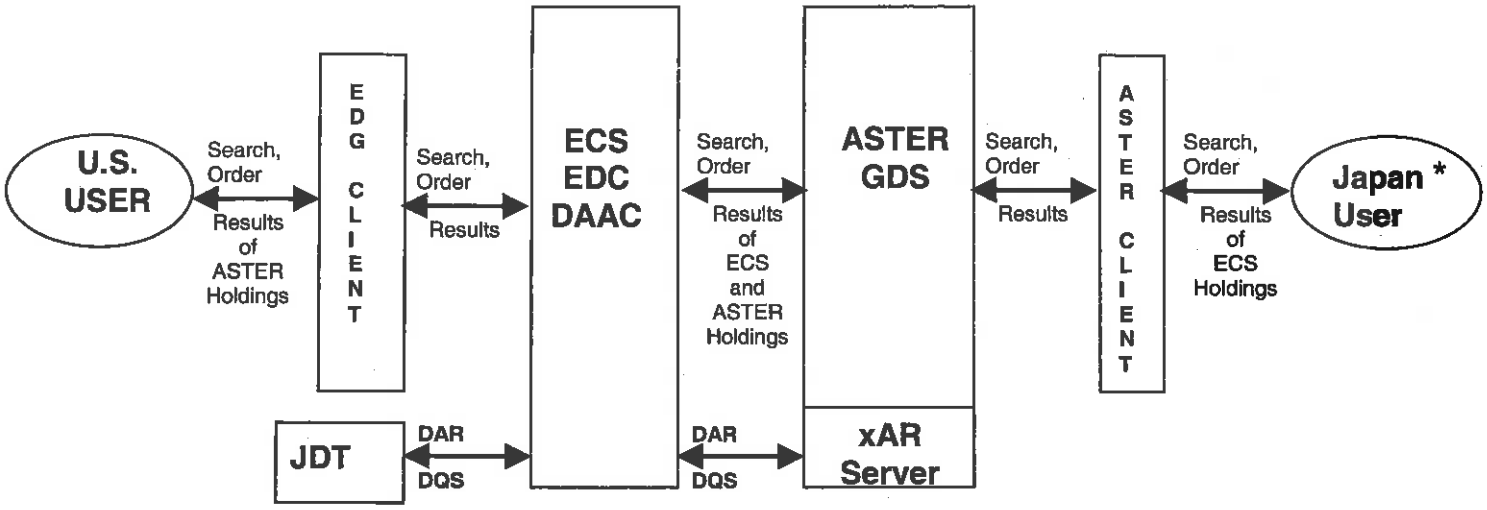

Figure 11-1 EDAAC - ASTER GDS Data Flow

*Responsibility of testing is Japan

EDC DAAC Attachment

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Package Id:
ICT-12

Modified:
06/19/2000

Description:
ICT 12 Test Package
Test Case Id:
ICT-12.1 EDC

Modified:
04/05/2000

Description:
ICT 12.1 JAVA DAR Tool enhancement and Client Requests.
The main objective of this test is to exercise the search capabilities of the Java DAR Tool. There are two types of searches, search by xAR attribute and search by xAR ID. Both searches will generate textual search results which would be shown in a graphical display using two types of viewers, the DAR Observed Scene Viewer and the DAR AOI Viewer.

Expected Test Results:
The following objectives of this test will verify the functionalility of the DAR Tool is operational:

- Verify enhancements to the JAVA DAR TOOL for submit/query status.
- Verify that the JAVA DAR TOOL has the capability to submit client requests for spatial searches against collections that usebox and oriented polygon.

Prerequisite Conditions:

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

- System should be installed and checked out.
- User should be an authorized ECS user account with DAR privileges.
- Workarounds identified.

Test Inputs:
- NONE

Methods for Analysis:
- Observe the Java DAR Tool for search results.
- Verify by inspection that the Java DAR Viewers have the expected results.
- Verify by comparsion the print out results of the Observed Scene Viewer and the AOI Viewers.

Assumptions/Constraints:
- ASTER team is available to support the test.
- DAAC test mode is available for the duration of the scheduled test.
- Test execution will not impact on-going operations of the DAAC.
- Test duration anticipated to be approximately 4 hours in a 2 day period.

Verified Requirements:
ASTER-0120
ASTER-0130
ASTER-0110
ASTER-0140

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Step ID	Station	Actions	Results	Comments	Verified Reqs.
Test Preparation Steps					
1.001	Test Setup				
1.002	ECS User	Verify servers are up and running.	All Servers are up and running.		
1.003	ECS User	Verify that operator is an ECS Registered User with a DAR account.	Operator is register by MSS Accountability as a DAR user.	Verify with User Services @ EDC that operator is a registered ECS user.	
1.004	ECS User	Bring up Netscape and launch the Java DAR Tool.	Java DAR Tool is invoked.		
Test Execution Steps					
2.001	Test Execution				

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Step ID	Station	Actions	Results	Comments	Verified Reqs.
2.002	ECS User	Create and submit several DARs selecting the following constraints: 1) AOS Spatial 2) Temporal 3)Coverage 4) Geometry 5) Priority 6) DAR ID 7) DAR Budget Request	DARs are created.		ASTER-0110
2.003	ECS User	Check for email confirmation.	An email is sent to user confirming DAR submittion.		ASTER-0120

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Step ID	Station	Actions	Results	Comments	Verified Reqs.
2.004	ECS User	From the Search by DAR Attributes icon create several searches using any of the following attributes: 1) AOS Spatial 2) Temporal 3)Coverage 4) Geometry 5) Priority	The Search Status Dialog is displayed on the screen until search is completed and several results are returned.		
2.005	ECS User	View Results of each search submitted.	Results are displayed in the Search Summary Area		
2.006	ECS User	Create a search for the Status of a product using the DAR ID if it is known.	Results are displayed in the Search Summary Area show the status of the DAR.		ASTER-0130

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Step ID	Station	Actions	Results	Comments	Verified Reqs.
2.007	ECS User	From the Spatial GUI verify that the graphical display contains background references.	The following background reference are displayed: a)Lakes b) Rivers c) Boundaries		
2.008	EGS I&T	Use the following viewers to view results: a) The DAR Observed Scenes Viewer b)The DAR AOI Viewer	All results can be viewed using the Viewers.		

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Step ID	Station	Actions	Results	Comments	Verified Reqs.
2.009	EGS I&T	Select Acquired Scenes Data icon to launch the DAR Observed Scenes Viewer and verify data.	The following attributes can be displayed using DAR Observed Scenes Viewer: a) Pan map Display b) Coordinates for bounding rectangle. c) Map Legend d) Map grid e) Map projections f) Map Overlays		
2.010	EGS I&T	Select AOI Viewer icon to launch the DAR AOI Viewer dialog and verify data.	The following attributes can be displayed using DAR AOI Viewer: a) Pan map b) Coordinates for bounding rectangle. c) Map Legend d) Map grid e) Map projections f) Map Overlays		

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Step ID	Station	Actions	Results	Comments	Verified Reqs.
2.011	EGS I&T	View parameters in the scenes textual dialog.	The following Parameters can be observeded by viewing the scenes textual dialog: 1) Scene ID 2) DAR ID 3) Maximum acceptance cloud coverage. 4) Latitude and Longitude of each scene.		
2.012	EGS I&T	Display search results textually and verify that they are consistent with the graphical display.	Graphical and textual information should be consistent.		
2.013	ECS User	Copy Results of a xAR search to a new DAR	A new DAR is created.		ASTER-0140
Test Shutdown and Analysis Steps					
3.001	ECS User	Exit the Java DAR Tool and Netscape.			

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Step ID	Station	Actions	Results	Comments	Verified Reqs.
3.002	EGS I&T	Update Requirements status.			

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Package Id:
ICT-12

Modified:
04/19/2000

Description:
ICT 12 Test Package

Test Case Id:
ICT-12.3 EDC

Modified:
04/27/2000

Description:
Accessing ASTER GDS via EDG

This test verifies that the ECS United States user can access ASTER (Japan) database and search for ASTER products using the ECS Gateway System. If products are available, an authorized user will order products, which will be delivered to EDC DAAC.

Expected Test Results:
The following objectives will be verified during the test:
- User will access the ASTER database.
- Ordered data will be sent to EDC DAAC.
- Data tape will be successful ingested into EDC DAAC database.

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Prerequisite Conditions:
User is an Authorized ECS user with privilege to order ASTER data.

Test Inputs:
- None

Methods for Analysis:
- Verify by inspection that data availability is should when a search is done.
- Data tape is sent to EDC.
- Verify by comparing order and the contents of the tape that the correct data was sent to EDC DAAC.

Assumptions/Constraints:
- DAAC test mode is available for the duration of the scheduled test.
- Test duration anticipated to be approximately 4 hours in a 2 day period.

Verified Requirements:
ASTER-0820
ASTER-0810
ASTER-0830
ASTER-0845
ASTER-0880
ASTER-0865
ASTER-0850
ASTER-0900
ASTER-0945
ASTER-0895

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Step ID	Station	Actions	Results	Comments	Verified Reqs.
Test Preparation Steps					
1.001	Operator	Verify that ASTER Personnel is available to support.	ASTER Personnel is available to support the test.	<EDG web address> will be provided at the time of test.	
1.002	Operator	Start Netscape and access the EDG web page.	Netscape is launched and the EDG web page is displayed.	<EDG web address> will be provided at the time of test.	
1.003	Operator	Via EDG register as an ASTER user.	User is registered.		ASTER-0895
Test Execution Steps					
2.001	Operator	Login as a EDC-DAAC user	User is able to login in to the EDG tool.		ASTER-0880
2.002	Operator	Click on Advanced Form.	Data Search and Order (Advanced) screen displays.	Search options will be determined at the time of test.	

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Step ID	Station	Actions	Results	Comments	Verified Reqs.
2.003	Operator	Enter search criteria. At a minimum select the Geographic Region, Data Center, and Data Sets. Start Search.	ASTER GDS is selected.	Data Center = ASTER GDS Data Set = ASTER L0	
2.004	Operator	Start Search.	User will see "Search in Progress..."	User will see Search in Progress...	ASTER-0850
2.005	Operator	The Listing screen displays with a granule listing.	EDC-DAAC user Operator accesses ASTER Database.		ASTER-0820
2.006	Operator	Select the desired granules.	Granules are selected.		
2.007	Operator	Browse data selected.	Browse screen comes up		ASTER-0830

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Step ID	Station	Actions	Results	Comments	Verified Reqs.
2.008	Operator	Verify that the browse image is as requested.	Browse image is as requested.	This step verifies ASTER GDS has the capability to send and ECS shall have the capability to receive browse results.	ASTER-0845
2.009	Operator	Select order option	Order option selected.	Option = 8mm	
2.010	Operator	Fill out the order form.	Required fields are completed.		
2.011	Operator	Review and submit the order.	Order is submitted.		ASTER-0900
2.012	Operator	Record the Order number for order tracking.	Order number is recorded.		
2.013	EDC DAAC Operator	Track product delivery status	Order status is tracked.		
Test Shutdown and Analysis Steps					

Test Procedure
Package Id: ICT-12
Test Case Id: ICT-12 EDC

Step ID	Station	Actions	Results	Comments	Verified Reqs.
3.001	EGS I&T	Communicate via phone or email with ASTER team verifying database accessibility.	ECS EOSDIS database is accessible.		ASTER-0865
3.002	EGS I&T	Review the ECS product request confirmation email for the status of the order.	Email is received with order status. Data is sent to ECS on tape		ASTER-0945
3.003	EGS I&T	Review ECS Notification for correct format and product status.	Email contains product status.		
3.004	EGS I&T	Verify that ECS DAAC receives data tape and metadata relating to data.	ECS DAAC receives tape and metadata relating to data ordered.		ASTER-0810

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September 12, 2000

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, MD 20771

Attention: Ms. Phyllis McNatt, Contract Specialist
Code 423

Reference: Contract No. NAS5-32605

Subject: Contract Deliverable

Dear Ms. McNatt:

Enclosed is one copy of the ECS-ASTER GDS Interface Confidence Test Package, ICT-12 EDC, Revision A, (deliverable 1132).

Distribution is also being made as noted below.

Should you require any additional information, please let me know.

Sincerely,

AverStar, Inc.,
a Titan Company.

Stephen A. Miller
Business Manager

Enclosure

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