ECS - GSFC DAAC (DAS) Interface Confidence Test, ICT5

Test Objectives:

The objectives of this test are to:

a. Verify that the NCEP FNL, MRF, and ETA data sets can be transferred from the DAO/DAS Data Link Server (larry) and ingested to ECS GSFC DAAC.

b. Verify that the NCEP FNL, MRF, and ETA data sets can be transferred from the ECS GSFC DAAC to ECS LaRC DAAC.

Test Configuration:

Hardware and software configuration at each ECS site are managed and operated by M&O organization at that site. The most current configuration status will be obtained prior to start of testing and referenced in the test report.

The EXHIBIT 1 shows the test environment.

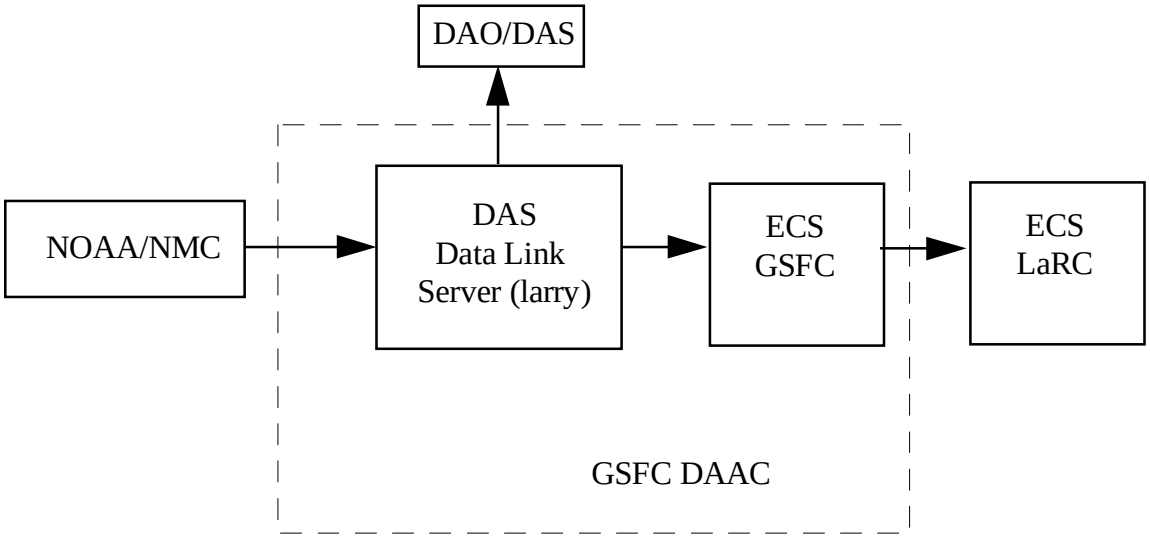

EXHIBIT 1: ECS - DAO Interface Test Environment

Participant and Support Requirements:

Participants: Maintenance and Operations (M&O) personnel at GSFC DAAC and LaRC DAAC

EBnet (Network Manager, as needed)

I&T

Communications:

Voice:

TBD

Data:

EBnet connections at GSFC DAAC, LaRC DAAC and DAO

NASA Science Internet (NSI)

IP addresses: **TBS**

Equipment and Software:

DAS Data link Server (larry)

DAAC Ingest Operator Workstation

Ingest GUI

ECS Management Subsystem Server

ECS Ingest Server

Ingest Subsystem

Test Tools:

TBD

Test Data:

Description/Characteristics	Source
Final Analysis and Forecast System, Global Analysis (FNL) - GRIB Format	NOAA/NCEP
Medium Range Forecast System, Forecast 00Z (MRF) - GRIB Format	NOAA/NCEP
ETA Analysis and Forecast System, Forecast 00Z (ETA) - GRIB Format	NOAA/NCEP

Communication:

Telephone

Test Tools:

Tools to view and compare GRIB data files.

Functional Thread Test Case

Thread ID: V2.0-ICT-05 **Modified:** 11/25/96 **Description:** ECS - GSFC DAAC Interface Confidence Test

The objectives of this test are to:
a. Verify that the NMC FNL, MRF, and ETA data sets can be transferred from the DAO/DAS Data Link Server (larry) and ingested to ECS GSFC DAAC.
b. Verify that the NMC FNL, MRF, and ETA data sets can be transferred from the ECS GSFC DAAC to ECS LaRC DAAC.

Test Case ID: V2.0-ICT-05.01 **Modified:** 1/15/97 **Description:**

Objectives:

Configuration:

Verified Requirements:
EOSD1710#A
NOAA0700#A
NOAA0710#A
NOAA0730#A
EOSD5000#B

Data Inputs:

Methods for Results Analysis:

Assumptions/Constraints:

Step ID	Test Station	Operator Actions/ Equipment Operation:	Expected Results / Evaluation Criteria:	Comments	Verified Reqs:	Last Modified:
001		DAO Op: Start FTP daemon.				8/23/96
002		DAO Op: Start FTP daemon.				8/23/96

Actions Required after Program Stop/Indicated Error:

Procedures for Reducing/Analyzing Results:

Functional Thread Test Case

Thread ID: V2.0-ICT-05 **Modified:** 11/25/96 **Description:** ECS - GSFC DAAC Interface Confidence Test

The objectives of this test are to:
a. Verify that the NMC FNL, MRF, and ETA data sets can be transferred from the DAO/DAS Data Link Server (larry) and ingested to ECS GSFC DAAC.
b. Verify that the NMC FNL, MRF, and ETA data sets can be transferred from the ECS GSFC DAAC to ECS LaRC DAAC.

Test Case ID: V2.0-ICT-05.01 **Modified:** 1/15/97 **Description:**

Objectives:

Configuration:

Verified Requirements:
EOSD1710#A
NOAA0700#A
NOAA0710#A
NOAA0730#A
EOSD5000#B

Data Inputs:

Methods for Results Analysis:

Assumptions/Constraints:

Step ID	Test Station	Operator Actions/ Equipment Operation:	Expected Results / Evaluation Criteria:	Comments	Verified Reqs:	Last Modified:
001		DAO Op: Start FTP daemon.				8/23/96
002		DAO Op: Start FTP daemon.				8/23/96

Actions Required after Program Stop/Indicated Error:

Procedures for Reducing/Analyzing Results:

Functional Thread Test Case

Thread ID: V2.0-ICT-05 **Modified:** 11/25/96 **Description:** ECS - GSFC DAAC Interface Confidence Test

The objectives of this test are to:
a. Verify that the NMC FNL, MRF, and ETA data sets can be transferred from the DAO/DAS Data Link Server (larry) and ingested to ECS GSFC DAAC.
b. Verify that the NMC FNL, MRF, and ETA data sets can be transferred from the ECS GSFC DAAC to ECS LaRC DAAC.

Test Case ID: V2.0-ICT-05.02 **Modified:** 1/15/97 **Description:** This test will verify that ECS at the GSFC DAAC can poll and ingest NCEP data. Since the DAO and NCEP are outside the ECS DCE cell, communication between ECS and non-ECS data provider is necessary. 'Polling with delivery record" will be used to verify communication between the DAO/DAS Link Server, which first receives the NOAA/NCEP data, and the ECS.
At the initiation of a DAR, the system should automatically, with operator tunable periodicity, poll the DAS Data Link Server (larry) for NCEP data availability. On detection of a Delivery Record (DR), it will validate the DR and start data transfer. A comparison of the accessed data against the test data will verify data transfer success.
Upon receiving the data in GRIB format, the data is converted into ECS standard date/time format. The data will be ingested into ECS in EOS HDF format. A comparison of the ingested data against the original test data will verify data transfer success.

Objectives:

Configuration:

Verified Requirements:
NOAA0700#A
NOAA0710#A
NOAA0720#A
NOAA0730#A

Data Inputs:

Methods for Results Analysis:

Assumptions/Constraints:

Step ID	Test Station	Operator Actions/ Equipment Operation:	Expected Results / Evaluation Criteria:	Comments	Verified Reqs:	Last Modified:
1.001	ECS, GDAAC	Login as operator.	Entry into respective environments.			
1.002	ECS	Launch script capture.				
1.003	ECS, GDAAC	Start FTP daemon.		ECS FTP daemon polls GDAAC directory at tunable frequency. GDAAC FTP daemon listens for incoming FTP requests.		
1.004	ECS	Open Ingest Monitor GUI. Select "DAO" for Data Provider and "Text View."				

Step ID	Test Station	Operator Actions/ Equipment O	Expected Results / Evaluation	Comments	Verified Reqs:	Last Modified:
1.005	ECS	Set polling frequency to 1min.	Polling begins in 1 min.			
2.001	GDAAC	Place DR and data file in designated directory. List contents of this directory.	Listing shows DR and data file. In 1min. or less, ECS automatically retrieves DR via FTP "get" for validation and proceeds with ingest of data file.			
2.002	ECS	Observe ingest of data file. Wait until ingest is complete.				
2.003	ECS	Verify receipt of data file.	Data file received. Acceptance Notification sent.			
2.004	GDAAC	Verify and validate AN.	AN received and valid.			
2.005	ECS	Convert GRIB format into HDF-EOS.	File is converted.			
2.006	ECS	Compare data file against original test data.	Data file and test data are identical.			
3.001	ECS, GDAAC	Logout.				

Actions Required after Program Stop/Indicated Error:

Procedures for Reducing/Analyzing Results:

Functional Thread Test Case

Thread ID: V2.0-ICT-05 **Modified:** 11/25/96 **Description:** ECS - GSFC DAAC Interface Confidence Test

The objectives of this test are to:
a. Verify that the NMC FNL, MRF, and ETA data sets can be transferred from the DAO/DAS Data Link Server (larry) and ingested to ECS GSFC DAAC.
b. Verify that the NMC FNL, MRF, and ETA data sets can be transferred from the ECS GSFC DAAC to ECS LaRC DAAC.

Test Case ID: V2.0-ICT-05.04 **Modified:** 2/12/97 **Description:** This test will exercise error handling of unsuccessful poll and ingest of NCEP data.

At the initiation of a DAR, the system should automatically, with operator tunable periodicity, poll the DAS Data Link Server (larry) for NCEP data availability. On detection of a Delivery Record (DR), it will validate the DR and start data transfer. Failure of data transfer will be forced in the following four ways:
a. Failure to establish TCP/IP connection.
b. Erroneous FTP command.
c. File is not found in indicated directory.
d. File is not readable due to permissions.
An automatic AN will be sent to GDAAC from ECS with the detected errors. Finally, a successful transfer will be executed to demonstrate that subsequent successful transfers are not affected by the errors. A comparison of the accessed data against the test data will verify data transfer success.
Upon receiving the data in GRIB format, the data is converted into ECS standard date/time format. The data will be ingested into ECS in EOS HDF format. A comparison of the ingested data against the original test data will verify data transfer success.

Objectives:

Configuration:

Verified Requirements:

Data Inputs:

Methods for Results Analysis:

Assumptions/Constraints:

Step ID	Test Station	Operator Actions/ Equipment Operation:	Expected Results / Evaluation Criteria:	Comments	Verified Reqs:	Last Modified:
1.001		TBS				2/12/97

Actions Required after Program Stop/Indicated Error:

Procedures for Reducing/Analyzing Results:

Functional Thread Test Case

Thread ID: V2.0-ICT-05 **Modified:** 11/25/96 **Description:** ECS - GSFC DAAC Interface Confidence Test

The objectives of this test are to:
a. Verify that the NMC FNL, MRF, and ETA data sets can be transferred from the DAO/DAS Data Link Server (larry) and ingested to ECS GSFC DAAC.
b. Verify that the NMC FNL, MRF, and ETA data sets can be transferred from the ECS GSFC DAAC to ECS LaRC DAAC.

Test Case ID: V2.0-ICT-05.05 **Modified:** 2/12/97 **Description:** At the initiation of a DAR, the system should automatically, with operator tunable periodicity, poll the DAS Data Link Server (larry) for NCEP data availability. On detection of a Delivery Record (DR), it will attempt to validate the DR. Two types of DR errors will be introduced:
a. Entire DR is invalid due to an invalid header parameter.
b. A DR with multiple file groups has one or more invalid groups. (e.g., an invalid data type.)
An
An automatic DR Discrepancy (DRD) e-mail will be sent to GDAAC from ECS with the detected errors. Finally, a successful transfer will be executed to demonstrate that subsequent successful transfers are not affected by the errors. A comparison of the accessed data against the test data will verify data transfer success.
Upon receiving the data in GRIB format, the data is converted into ECS standard date/time format. The data will be ingested into ECS in EOS HDF format. A comparison of the ingested data against the original test data will verify data transfer success.

Objectives:

Configuration:

Verified Requirements:

Data Inputs:

Methods for Results Analysis:

Assumptions/Constraints:

Step ID	Test Station	Operator Actions/ Equipment Operation:	Expected Results / Evaluation Criteria:	Comments	Verified Reqs:	Last Modified:
1.001		TBS				2/12/97

Actions Required after Program Stop/Indicated Error:

Procedures for Reducing/Analyzing Results: