

HERSCHEL SCIENCE CENTRE

Science Ground Segment

End to End Test
Campaign #1

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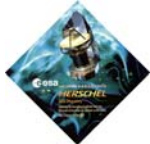
	<p>HERSCHEL</p> <p><i>SGS: End-to-End Test #1: Test Plan</i></p>	<p>Doc. No: HERSCHEL-HSC-DOC-1402</p> <p>Issue: Version 1</p> <p>Date: 29th April 2009</p> <p>Page: 2 / 7</p>
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1. Introduction

1.1 Rationale for Science Ground Segment End to End Test 1 (SGS E2E#1)

HCSS 1.0 was rolled out for the SIMS#3 campaign, which ran from April 20-24th, allowing it to be thoroughly tested in realistic operational circumstances. In able for the SGS to reach its final operational configuration for launch, a final test is planned of the entire downlink chain including all patches made since SIMS#3 ended. The aim of this test is to perform a final verification of the downlink chain, plus any elements of uplink that may be patched in the meantime, allowing a pre-launch hardware and software freeze to be declared with a stable, fully functional and thoroughly tested system.

1.2 Dates of execution of the SGS E2E #1 campaign

May 4-8th 2009

Some DP activities may extend into the weekend after the test.

2. Data Set & Hardware/System to be used

The following should be considered to be the default End-to-End Test scenarios for any new HCSS release during operations.

2.1 The Test Data to be used

The test data set for each End to End test shall be based upon SOVT-2 i.e. ODs 60 to 64.

This data set shall consist of all uplink data (PSFs, OEM, SIAM, POSs, Horizons, OBDB, STPF) used during SOVT-2 + all downlink data i.e. TM files, received from the MOC during & after SOVT-2.

2.2 Machines to be used

The end to end tests shall be run on the HSC & ICCs parallel test environments. In this case, all accounts, DBs & hardware in use shall be the test environments.

Note: This may be waived for End to End #1.



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3 Standard Data Distribution Scenario

3.1. MOC <=> HSC Nominal Data scenarios

3.1.1 Simulated TM Data retrieval from MOC

Here we test the nominal chain of data retrievals whereby we simulate the arrival from the MOC of all TM files corresponding to each OD from SOVT-2.

Generation of the DDS flag file at the end of the data reception timeframe.

3.1.2 Aux data delivery from MOC

Here we test the nominal chain of data reception from the MOC of auxiliary data whereby we simulate its arrival and make it available to the MPS, PHS, AuxProc & also to the ICC FTP TEST server.

3.1.3 TM data ingestion & TM Data Frame generation at HSC

All TM data received from the MOC shall be ingested into the Versant DB.

The Data Frame Generation for HIFI shall be started on a nightly basis at a time consistent with end of TM ingestion.

The TM ingestion shall generate the TM flag file upon

- (a) arrival of the dds flag file
- (b) having finished processing all TM and (c) waited for a period of time to cover the DF generation process.

This TM flag file shall be made available to the DP Auxproc directory and to the TM propagation process and shall also be placed on the HSC FTP TEST server.

3.1.4 Missing TM - gap checker output

Every morning e.g. at 6am, the gap checker software will be run against the Versant DB and the generated file shall be placed in the HSC FTP TEST server.

3.1.5 OOL & TCH Ingestion

Every morning e.g. at 6am, the TCHOOL software shall be run to ingest into the versant DB the TCH file from that OD and the OOL file. These shall be propagated on to the ICCs.



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3.2. HSC => ICC Nominal Data Transfer Scenarios

3.2.1. Propagation of data to the ICCs

Here we test the nominal DB propagation starting from a clean DB with initial copy being performed before the data arrives i.e. SOVT-2 start scenario.

The propagation completion email shall be sent every night after the software has

(a) emptied the propagation queue

and

(b) confirmed successful reception of the TM flag file.

3.2.2 Access to Products in the HSA (Bulk Product Transfer)

Here the ICCs shall retrieve on a daily basis all products that have been newly placed there since the last time they have made their request.

3.2.3 Access to updated Mission Planning data on the HSC FTP TEST site

All aux data in use by the MPS shall be placed on the HSC FTP site for ICC to retrieve & use (if they wish).

3.2.3 Information status of data availability on the FTP site

Here we will make available on a daily basis to the ICCs on HSC FTP TEST site the following files:

- Gap checker output file
- TM flag file
- MPS relevant aux data files

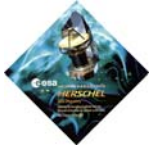
4. Uplink Scenarios

4.1. Use of the MPS & PHS software

Acceptance testing of the MPS & PHS software shall be performed while the end to end test is ongoing. POS files shall be generated using the input MPS test data. The ODs to be planned in such a case shall be ODs 65, 66 & onwards.

4.2. Use of the CUS GUI & other specific HCSS uplink software

Acceptance testing of the CUS & other specific HCSS uplink software shall be performed during the end to



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end tests

4.3 Execution of the Manual Commanding interface

The ManCmd OD61 shall be placed in the DB before arrival of TM corresponding to that OD.

5. Downlink Scenarios

5.1 Standard pipeline processing of all observations

Automatic pipeline processing of each OD shall be performed on a daily basis.

All products generated shall be placed in the HSA for retrieval by bulk product transfer.

The status/names/versions of all products shall be defined in the Wiki Page.

5.2. Quality Control Pipeline

The Quality Control Pipeline shall be run on the products generated from each OD

6. Day by day timeline of propagation

6.1 Monday May 4th

OD-60
PACS + SPIRE + HIFI

6.2 Tuesday May 5th

OD-61
HIFI

6.3 Wednesday May 6th

OD-62
SPIRE



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6.4 Thursday May 7th

OD-63
PACS

6.5 Friday May 8th

OD-64
PACS + SPIRE + HIFI