SUBJECT: **ICC Interface Test Plan**

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1. INTRODUCTION

1.1 Purpose

This document sets out a plan for testing the ICC interfaces are specified in [AD1]. All requirements in [AD1] are tested by exercising this plan unless noted otherwise. The plan is designed to be executed from RAL, external access being simulated by use of the RAL visitors network.

1.2 Documents

1.2.1 Applicable Documents

| AD 1 | SPIRE ICC Interface Requirements | SPIRE-RAL-DOC-003125 | 1.0 | 6ᵗʰ August 2008 |
| AD 2 | HERSCHEL HSC-ICCs Integration Test Plan & Report | HERSCHEL-HSC-DOC-0971 | 1.0 | 3ʳᵈ August 2008 |

1.2.2 Reference Documents

RD 1	SPIRE ICC Interactions Document	SPIRE-RAL-DOC-003117	1.0	6ᵗʰ August 2008
RD 2	HERSCHEL HSC-ICC Interactions Document	HERSCHEL-HSC-DOC-1184	1.0	5ᵗʰ August 2008
RD 3	SPIRE Database Procedures	Wiki page		29ᵗʰ July 2008

1.3 Acronyms

CVS	Concurrent Versions System
FTP	File Transfer Protocol
HAIO	Herschel Archive Interoperability
HSA	Herschel Science Archive
HSC	Herschel Science Centre
HOD	Herschel Operational Database
HTTP	Hypertext Transfer Protocol
ICC	Instrument Control Centre
IOD	ICC Operational Database
MOC	Mission Operations Centre
PAL	Product Access Layer
RAL	Rutherford Appleton Laboratory
SFTP	Secure File Transfer Protocol
SSH	Secure Shell

2. INTERFACES WITH THE HSC

2.1 Database Propagation

This test is similar to the propagation test in [AD2], but viewed from the other end of the line. This test is performed on `chesterfield` as user sg55.

2.1.1 Pre-requisites:

- The HCSS is correctly installed on `chesterfield`.
- The test has been coordinated with the HSC. It cannot be performed by SPIRE alone. See [AD2].
- Set logging of herschel.versant.store.daemon.propd.Receiver to FINE.

2.1.2 Procedure

Action	Command	Requirement tested
Check that the HSC machine is reachable and that the connection is via leased line and not internet. The routing should not include janet or geant.	`ping herdb01.esac.esa.int traceroute herdb01.esac.esa.int`	PROP-010
Prepare propagation on port 2378, see [RD3] for more details.	`db_admin -prop <db-name>@chesterfield -l START herdb01.esac.esa.int <db-name> 2378`	PROP-030
Start propagation in the background.	`repld <db-name>@chesterfield 2>&1 | tee prop.log &`	PROP-40 (partial)
Wait for HSC to confirm transfer is complete, then kill the propagation process.	`kill %n` or use `ps -elf` to find the process id.	
Check the number of instances of each class. Compare this with the same output at the HSC.	`db2tty -d <db-name> | grep instances`	PROP-050
Check the log file and note the transfer speed.	look at `prop.log`	PROP-060 PROP-070

2.1.3 Notes

- PROP-020 is not easily testable and is not considered by this procedure.
- PROP-040 can fully tested by requesting the HSC to stop and restart propagation from their end.

2.2 Bulk transfer of products from HSC to ICC

This test is performed on `wakefield` as user sg55.

2.2.1 Prerequisites:

- The HCSS is correctly installed on `wakefield`.
- The Herschel archive is available and contains data.

2.2.2 Procedure

Action	Command	Requirement tested
Run the transfer script.	`~sg55/scripts/ haioRetrieve.sh`	
Check the log file and note the transfer speed.	look at `prop.log`	BULK-020 BULK-040

2.2.3 Notes

- The procedure used in this test is still a *test* procedure. This transfer has not yet been set up in an operational configuration.
- BULK-010 is satisfied by the implementation. There is no need to test it.
- BULK-030 can be satisfied by running the process as a cron job.

2.3 Herschel Archive access

2.3.1 Prerequisites

- The tester is a registered user of the HSA.
- The Herschel archive is available and contains data.

2.3.2 Procedure

Action	Command	Requirement tested
Logon to the HSA.	Use web browser	
Issue a query for some known data.		ARCH-010
Retrieve the data products that are the result of the query.		ARCH-020

2.4 Transfer of files between HSC and ICC

2.4.1 Prerequisites

- CVS is configured and the user has logged in.

2.4.2 Procedure

Action	Command	Requirement tested
Logon to the HSC web site using the hsc_icc account. This can be done from chesterfield or leicester.	`ftp herfts01.esac.esa.int`	
Get a file from the `toIccs` area.	`get <file-name>`	TFHI-010
Put a file into the `fromIccs` area.	`put <file-name>`	TFIH-010
Check something out of CVS	Example: `cvs co develop/main/herschel/access`	TFHI-020

| Check something into CVS | cvs commit | TFIH-020 |

2.4.3 Notes

- It would be useful to have a temporary CVS area for the testing of TFIH-020.

3. INTERFACES WITHIN THE ICC

3.1 Access to the IOD at RAL

3.1.1 Prerequisites

- The RAL web server is configured and running.

3.1.2 Procedure

Action	Command	Requirement tested
Check that only sg55 has write access to the operational database.	dbuser <db-name>	IOD-020
Use the QLA to access some telemetry packets via the remote interface.	qla	IOD-030 WEB-060
Check the web server log file on wakefield that the access was logged.	tail ~hcssbld/tomcat/logs/catalina.out	IOD-040

3.1.3 Notes

- IOD-10 is tested in section 3.5.

3.2 Access to data products at RAL

3.2.1 Prerequisites

- The HCSS is correctly installed on the operational machine to be used.

3.2.2 Procedure

Action	Command	Requirement tested
Logon to any operational machine as any account other then sg55.		
Try (and fail) to write to the SPG data products area.	touch <path>/spg/temp.tmp	PROD-010
Query a PAL pool locally. There should be products in the pool.	jide or hipe > st = ProductStorage ("spg") > r = st.select(Query ("1")) > print len(r)	PROD-020

3.2.3 Notes

- PROD-030 – PROD-050 are tested in section 3.5.
- If there are no errors but zero products in the pool, it likely indicates a configuration problem.

3.3 Transfer of files from RAL

This test is most easily run from wakefield, although it is only necessary to check the log on that machine.

3.3.1 Prerequisites

- The RAL web server is configured and running.
- The RAL FTP server is configured and running.

3.3.2 Procedure

Action	Command	Requirement tested
Navigate to the SPIRE web server entry page and download a file `http://wakefield.bnsc.rl.ac.uk/`	Use a web browser	TFRR-010
Logon as anonymous ftp. Check that no protected data is visible.	`ftp wakefield.bnsc.rl.ac.uk`	TFRR-020
Logon as a registered user. Check that protected data is now visible.	`ftp wakefield.bnsc.rl.ac.uk`	TFRR-020
Check that access has been logged.	`sudo tail /var/log/messages`	TFRR-020
Logon as a registered user with sftp.	`sftp wakefield.bnsc.rl.ac.uk`	TFRR-030

3.3.3 Notes

- Currently there are no files for download on the SPIRE web server. This procedure will be made more specific when there are.

3.4 Transfer of files to RAL

This test is most easily run from wakefield, although it is only necessary to check the log on that machine.

3.4.1 Prerequisites

- The RAL FTP server is configured and running.

3.4.2 Procedure

Action	Command	Requirement tested
Logon as a registered user. Upload a file.	`ftp wakefield.bnsc.rl.ac.uk`	TFTR-020
Logon as anonymous ftp. Try (and fail) to upload a file.	`ftp wakefield.bnsc.rl.ac.uk`	TFTR-020
Check that access has been logged.	`sudo tail /var/log/messages`	TFRR-020
Logon as a registered user with sftp.	`sftp wakefield.bnsc.rl.ac.uk`	TFRR-030

3.4.3 Notes

- TFTR-010 is tested in section 3.5.

3.5 External access to RAL

To execute this procedure, connect to the RAL visitor's network. Wireless access to this network is available in the SPIRE operations and meeting rooms.

3.5.1 Prerequisites

- The RAL web server is configured and running.
- The RAL FTP server is configured and running.
- Not connected to the RAL staff network.

3.5.2 Procedure

Action	Command	Requirement tested
Try (and fail) to access telemetry packets with the QLA, selecting "Local Connection".	`qla`	IOD-010
Logon to wakefield	`ssh wakefield.bnsc.rl.ac.uk`	RLOG-010 RLOG-020
Try (and fail) to logon to leicester.	`ssh leicester.bnsc.rl.ac.uk`	RLOG-040
Logon to the ftp site on wakefield and download a data product.	`ftp wakefield.bnsc.rl.ac.uk`	PROD-040

Query for a product from the PAL interface and download it. There should be products in the pool.	Start jide or hipe
	`> from herschel.ia.pal.pool.http import HttpClientPool`
	`> pool = HttpClientPool ("http://wakefield.bnsc.rl.ac.uk/hcss/pal", "spg", uname, pwd)`
	`> st = ProductStorage (pool)`
	`> r = st.select (Query("1"))`
	`> print len(r)`
	`> p = r[0].product`
		PROD-030
		WEB-060

Attempt (and fail) to re-save the product.	`> st.save (p)`	TFTR-010
Reconnect to the RAL staff network		
Check that access has been logged on wakefield and leicester, both success and failure.	`sudo tail /var/log/messages`	RLOG-030 PROD-050
Check that the PAL access has been logged on wakefield.	`tail ~hcssbld/tomcat/logs/catalina.out`	PROD-050

3.5.3 Notes

- The exact means of creating the remote PAL remote pool needs to and will change.

3.6 ICC web sites

3.6.1 Prerequisites

- The RAL web server is configured and running.

3.6.2 Procedure

Action	Command	Requirement tested
Navigate to the SPIRE web server entry page http://wakefield.bnsc.rl.ac.uk/. Note that this page should be publicly accessible.	Use a web browser	WEB-010 WEB-040 WEB-050
Navigate from here to the Wiki page http://www.herschel.be/twiki/bin/view/Spire/WebHome. This should require a user name and password. Logon as TeamCSDT (logout first if necessary).	Use a web browser	WEB-020 WEB-030 WEB-080
Attempt (and fail) to edit the page.	Use a web browser	WEB-090
Logout and log back in with an individual user account. Edit the page. This should now work. Cancel the edit.	Use a web browser	WEB-090
Now go to http://wakefield.bnsc.rl.ac.uk/hcss/. This should be a private area. Enter user name and password to access it.	Use a web browser	WEB-050

3.6.3 Notes

- WEB-060 is tested in sections 3.1 and 3.5.
- WEB-070 is not currently testable as the help desk software Kayako is not yet installed.

4. OTHER INTERFACES

4.1 Remote access to ICC@MOC

4.1.1 Procedure

Action	Command	Requirement tested
Logon to the machines SPIRE_1, SPIRE_2 and SPIRE_3 at esoc.ops.esa.int.	any ssh client	MOC-010

4.1.2 Notes

- It is currently not clear how MOC-020 can be tested, or even if it is possible at the moment.

5. REQUIREMENTS-TEST MAPPING

Requirement	Test Section	Remarks
PROP-010	2.1	
PROP-020	no	It is not clear how a backup to the leased line can be tested.
PROP-030	2.1	
PROP-040	2.1	Requires HSC coordination for full test.
PROP-050	2.1	
PROP-060	2.1	
PROP-070	2.1	
BULK-010	no	Satisfied by implementation, no need to test.
BULK-020	2.2	Satisfied by implementation, no need to test.
BULK-030	no	Can be satisfied by running as a cron job. This is fully expected to work, and therefore not a high priority test.
BULK-040	2.2	Satisfied by implementation, no need to test.
ARCH-10	2.3	
ARCH-20	2.3	
TFHI-010	2.4	
TFHI-020	2.4	
TFIH-010	2.4	
TFIH-020	2.4	
IOD-010	3.5	
IOD-020	3.1	
IOD-030	3.1	
PROD-010	3.2	
PROD-020	3.2	
PROD-030	3.5	
PROD-040	3.5	
PROD-050	3.5	
TFFR-010	3.3	
TFFR-020	3.3	
TFFR-030	3.3	
TFTR-010	3.5	
TFTR-020	3.4	
TFTR-030	3.4	
RLOG-010	3.5	
RLOG-020	3.5	
RLOG-030	3.5	
RLOG-040	3.5	
WEB-010	3.6	
WEB-020	3.6	
WEB-030	3.6	
WEB-040	3.6	
WEB-050	3.6	
WEB-060	3.1, 3.5	
WEB-070	no	Kayako is not yet installed, not currently testable.
WEB-080	3.6	
WEB-090	3.6	
MOC-010	4.1	
MOC-020	no	It is currently not clear how this can be tested, or even if it is possible at the moment.