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**HIMSS and RSNA**  
**Integrating the Healthcare Enterprise**

**IHE/MESA**  
**Export Selector Tests**

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## 1 Export Selector Tests

### 1.1 Introduction

Read the document *IHE Tests: Transaction Sequences*. This document lists all the transactions in a series of use cases which drive tests for individual actors. Export Selector will participate in a subset of the transactions. Reading that document will allow you to understand the full set of transactions for each test. These are the 1xx series tests.

There are other tests that do not depend on message flow as defined in *IHE Tests: Transaction Sequences*. These other tests (the 4xx series tests) are used to evaluate more static features of the Export Selector, such as responses for specific keys as defined in the IHE Technical Framework.

Each test is run using the same procedure. We assume you are using an interactive terminal or terminal emulator and are logged on to the MESA test system. Change directory to `$MESA_TARGET/mesa_tests/rad/actors/expsel`. Make sure the `$MESA_TARGET` and `$MESA_STORAGE` environment variables are set properly.

#### 1.1.1 Integration Profiles and Test Procedures

This document lists a number of tests for Export Selector Systems. You may not be responsible for all of these tests.

Please refer to the Connectathon web tool to list the required tests for your system. The web address of this tool depends on the year and project manager. Please contact the appropriate project manager to obtain this information.

### 1.2 Message Attributes

### 1.3 Message Values

### 1.4 Configuration

Application	AE Title	Port Number
MESA_EXPMGR_HOST	MESA_EXPMGR	2350

Read the *Runtime Notes* section of the *Installation Guide* to determine the proper settings for the MESA runtime environment.

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## 1.5 Starting the MESA Servers

These instructions assume you are using a terminal emulator on Unix systems or an MS DOS command window under Windows NT. Each test uses a command line interface; there is no graphical user interface. Before you start the test procedure, you need to start several MESA servers. Make sure the appropriate database is running (PostgreSQL, SQL Server). To start the MESA servers:

1. Enter the Export Selector exam directory: `mesa_tests/rad/actors/expisel`
2. Execute the perl script to start the servers:

```
perl scripts/start_mesa_servers.pl [loglevel]
```

*loglevel* is an optional argument (0 is default). Log levels are:

- |   |                                 |
|---|---------------------------------|
| 0 | no logging                      |
| 1 | errors                          |
| 2 | warnings                        |
| 3 | verbose                         |
| 4 | conversational (really verbose) |

When you are finished running one or more tests, you can stop the servers:

```
perl scripts/stop_mesa_servers.pl
```

Log files are stored in `$MESA_TARGET/logs`.

For the security tests, the MESA servers are started with different scripts. These are *scripts/start\_mesa\_secure.csh* and *scripts\start\_mesa\_secure.bat*. The log levels are the same as for the standard tests. The syntax for starting the servers in secure mode is:

```
scripts/start_mesa_secure.csh <log level> Unix
```

```
set LOGLEVEL=X (1, 2, 3, 4) (Windows)
```

```
scripts\start_mesa_secure.bat
```

The MESA servers are stopped using these scripts: *scripts/stop\_mesa\_secure.csh* and *scripts\stop\_mesa\_secure.bat*.

## 1.6 Submission of Results

Test descriptions below inform the reader to “submit results to the Project Manager”. This does not mean “email”. The current submission process should be documented by the Project Manager, but will not include emailing files directly to the Project Manager.

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## 1.7 Unique Identifiers

## 1.8 Test Instructions

*Please note the test instructions change starting with the 6.7.0 release.*

Each test is independent of the others. You must collect the results of one test before starting a new test.

1. Enter the Export Selector exam directory: *mesa\_tests/rad/actors/expsel*.
2. Remember the MESA servers were started according to the directions in section 1.5.

A test engine manages the test process. This test engine is driven by a text file that describes the events for the specific test. Each test below will indicate which script is appropriate. The arguments to the script are the test number and the log level for output:

- 1 errors only
- 2 warnings
- 3 verbose
- 4 reference information (pointers into IHE Technical Framework)

An example of the syntax used to invoke the script for the 3000 test is:

```
perl scripts/expsel_tce.pl 3000 1
```

The test script will announce what events are about to happen and will request that you send specific events according to the sequence defined in *IHE Tests: Transaction Sequences*. When you have completed the sequence of events, results can be evaluated by running the evaluation script:

```
perl <test>/eval_<test>.pl <log level> <MPPS Mgr AE Title>
```

For example: `perl 131/eval_131.pl 3 AE_TITLE_FILLER`

The log level for evaluation is defined as:

- 1 errors only
- 2 warnings
- 3 context information (verbose)
- 4 reference information (pointer into IHE Technical Framework)

Starting with version 6.7.0 of the MESA software, the user can change the patient name and patient ID of the test subject prior to running the test. This allows one to rerun a test without clearing the database of the prior subject. This is done from the directory *\$MESA\_TARGET/mesa\_tests/rads/msgs*.

A perl script is used to query the user for a new patient name and other demographics; the script automatically generates the new patient identifier. The perl script can also use an existing text file to specify the new demographics. The software is shipped with text files that are designed for IHE United States. It would be a simple task to make different text files for other countries. As

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listed in each section below, invoke the perl script with no arguments for interactive questions. If you specify an argument, it is the name of a text file with the demographic values.

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## 2 Export Selector Tests

Each section below lists one Export Selector test. As mentioned above, the individual transactions involving the Export Selector under test are described in other documents.

### 2.1 Export Selector Test 3001: Simple Single Study Teaching File Export

Test case 3001 exercises the basic set of transactions needed to support the teaching file export workflow. The images sent by the Export Selection actor are deidentified by the Export Manager, who then transmits them to the Receiver.

To run this test:

```
perl scripts/expsel_tfcte.pl 3001 <log>
```

To evaluate this test:

```
perl 3001/eval_3001.pl <log>
```

### 2.2 Export Selector Test 3003: Teaching File Export with Wait for More Data Sent via DICOM

Test case 3003 exercises the option of waiting for additional data. In this use case the data being waited for is transferred via DICOM, followed by a final manifest that includes the additional data.

To run this test:

```
perl scripts/expsel_tfcte.pl 3003 <log>
```

To evaluate this test:

```
perl 3003/eval_3003.pl <log>
```

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