
HIMSS and RSNA
Integrating the Healthcare Enterprise

IHE/MESA Order Filler Tests

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HIMSS and RSNA	1
Integrating the Healthcare Enterprise	1
IHE/MESA Order Filler Tests	1
Revision 9.0.0	1
1 Order Filler Tests	5
1.1 Introduction	5
1.1.1 Integration Profiles and Test Procedures	5
1.2 Message Attributes	5
1.3 Message Values	5
1.4 Configuration.....	5
1.5 Starting the MESA Servers	6
1.6 Unique Identifiers.....	6
1.7 Test Instructions	7
1.8 Trouble Shooting.....	8
1.8.1 Port Conflicts	8
2 Individual Tests	9
2.1 Order Filler Test 100: MWL Queries.....	9
2.2 Order Filler Test 103: PIR Case 1: Unidentified Patient Registered at ADT and Ordered at the Order Placer	10
2.3 Order Filler Test 105: PIR Case #3: Unidentified Patient Registered at ADT but Completed at Modality Prior to Order.....	10
2.4 Order Filler Test 106: Green	11
2.5 Order Filler Test 107: Status Update.....	12
2.6 Order Filler Test 109: Exception Management	13
2.7 Order Filler Test 110: Billing and Material Option.....	13
2.8 Order Filler Test 111: Performed Work Status Update.....	14
2.9 Order Filler Test 131: Administrative and Procedure Performance Process Flow	14
2.9.1 References.....	14
2.9.2 Instructions.....	14
2.9.3 Evaluation	15
2.9.4 Miscellaneous	15
2.10 Order Filler Test 132: Order Change Flow Initiated by Order Filler	15
2.10.1	References
.....	15
2.10.2.....	Instructions
.....	15
2.10.3	Evaluation
.....	15
2.10.4.....	Miscellaneous
.....	16
2.11 Order Filler Test 133: PIR Case 2: Unidentified Patient Registered at ADT and Ordered at Department System Scheduler/Order Filler	16
2.11.1	References
.....	16

2.11.2	Instructions	16
2.11.3	Evaluation	16
2.11.4	Miscellaneous	16
2.12	Order Filler Test 151: Appointment Notification – New Bookings	17
2.12.1	References	17
2.12.2	Instructions	17
2.12.3	Evaluation	17
2.12.4	Miscellaneous	17
2.13	Order Filler Test 152: Appointment Notification – Reschedule Bookings	18
2.13.1	References	18
2.13.2	Instructions	18
2.13.3	Evaluation	18
2.13.4	Miscellaneous	18
2.14	Order Filler Test 153: Appointment Notification – Cancel Bookings	18
2.14.1	References	19
2.14.2	Instructions	19
2.14.3	Evaluation	19
2.14.4	Miscellaneous	19
2.15	Order Filler Test 1305: Charge Posting Process Flow #1	19
2.15.1	References	19
2.15.2	Instructions	19
2.15.3	Evaluation	20
2.15.4	Miscellaneous	20
2.16	Order Filler Test 1401: PWF Query Test	21
2.17	Order Filler Test 1411: PWF Mammography	21
2.18	Order Filler Test 1421: Double Claim	22

2.19	Order Filler Test 1422: Release Claim	23
3	Basic Security Tests.....	24
3.1	Order Filler Test 1240: Basic Security, Registration	25
3.2	Order Filler Test 1531: Basic Security, Administrative and Procedure Performance Process Flow.....	25
3.3	Order Filler Test 1502: Pre-reg / Order Cancel / Reorder.....	26
3.4	Order Filler Test 1503: Unidentified Patient Case #1	27
4	Cardiology Cath Workflow Order Filler Tests.....	28
4.1	Order Filler Test 20101: C1: Patient Registered at ADT and Procedure Ordered at the Order Placer.....	28
4.1.1	References.....	28
4.1.2	Instructions.....	28
4.1.3	Evaluation	28
4.1.4	Miscellaneous	28
4.2	Order Filler Test Case 20102: C1: Patient Registered at ADT and Procedure Ordered at the Order Placer w/ Diagnostic to Interventional Transition (multiple MPPS)	29
4.2.1	References.....	29
4.2.2	Instructions.....	29
4.2.3	Evaluation	29
4.2.4	Miscellaneous	29
4.3	Test Case 20106: C5: Patient NOT Registered (no Order)	29
4.3.1	References.....	30
4.3.2	Instructions.....	30
4.3.3	Evaluation	30
4.3.4	Miscellaneous	30
4.4	Order Filler Test Case 20108: C7: Change Rooms During Procedure (DSS/OF not updated)	30
4.4.1	References.....	31
4.4.2	Instructions.....	31
4.4.3	Evaluation	31
4.4.4	Miscellaneous	31
5	Cardiology Echo Workflow Order Filler Tests	32
5.1	Order Filler Test Case 20204: E4: Intermittently Connected Modality with Ad Hoc Procedure, Patient Registered, UNScheduled Procedure	32
5.1.1	References.....	32
5.1.2	Instructions.....	32
5.1.3	Evaluation	32
5.1.4	Miscellaneous	32
5.2	Order Filler Test Case 20205: E5: Intermittently Connected Modality with Ad Hoc Procedure, Patient UNRegistered, UNScheduled Procedure	33
5.2.1	References.....	33
5.2.2	Instructions.....	33
5.2.3	Evaluation	33
5.2.4	Miscellaneous	33

1 Order Filler Tests

1.1 Introduction

The Order Filler tests use a subset of the transactions listed in the document *IHE Tests: Transaction Sequences*. Each test (101, 102, ...) demonstrates different features of ADT messages, procedure orders, cancels, DICOM Modality Worklist and DICOM PPS transactions 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/ordfil*. 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 DSS/Order Filler 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

The Order Filler scripts described below use an ASCII configuration file to identify parameters such as host names and port numbers. The configuration file is named *ordfil_test.cfg* and is included in the directory named above. Edit the file and change entries (host name, port number) that pertain to your system. Your system is identified by entries that begin with TEST. Any variable that begins with MESA should refer to the MESA system and should not require a change. For example, from the MESA point of view, MESA servers run on localhost.

For IHE Basic Security tests, all messages are exchanged using TLS. MESA servers are run on the same ports but with the TLS option. The configuration file that identifies your information is *ordfil_secure.cfg*. This separate file allows you to use different port numbers for your secure and standard configurations. You may decide to use the same port numbers for both types of communication. The MESA software will only use all secure or all standard communication for a test; we do not mix communication protocols.

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). The command below is specific to the Radiology domain tests. If you are running a Cardiology domain test, replace the term “rad” with “card” in step 1 below.

To start the MESA servers:

1. Enter the Order Filler exam directory: `mesa_tests/rad/actors/ordfil`
2. Execute the appropriate script to start the servers:

`scripts/start_mesa_servers.csh [loglevel] (Unix)`

`scripts\start_mesa_servers.bat (Windows)`

In the unix environment, `loglevel` is an optional argument (0 is default). Log levels are:

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

To set the log level for Windows, set the environment variable `LOGLEVEL` to the desired value before invoking the batch file.

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

`scripts/stop_mesa_servers.csh (Unix)`

`scripts\stop_mesa_servers.bat (Windows)`

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 MESA servers are stopped using these scripts: `scripts/stop_mesa_secure.csh` and `scripts\stop_mesa_secure.bat`.

1.6 Unique Identifiers

The test scripts reset DICOM unique identifiers before they begin. This means that the current tests will send UIDs that have been sent previously (Study, Series, SOP Instance). You may need to reset your systems before a test. We will correct this with the next release.

1.7 Test Instructions

Please note the test instructions change starting with the 6.7.1 release.

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

1. Enter the Order Filler exam directory: *mesa_tests/rad/actors/ordfil* or *mesa_tests/card/actors/ordfil*.
2. Remember the MESA servers were started according to the directions in section 1.5.

Workflow tests (1xx series) use a test engine that manages the test process. This test engine is used for all 1xx series tests and is driven by a text file that describes the events for a specific test. Each test below will indicate which script is appropriate (usually the swf script for Scheduled Workflow). 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 131 test is:

```
perl scripts/ordfil_swf.pl 131 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/rad/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

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.

For all 1xx series tests, users should reset the MESA HL7 files as described above if the user tests different actors using the same MESA test configuration. An example is a system that tests as both an Order Placer and an Order Filler. The MESA tests for one actor may leave the HL7 messages in the wrong state for those same tests by the other actor. By regenerating the HL7 messages before you run the test script, you will avoid those problems.

1.8 Trouble Shooting

1.8.1 Port Conflicts

The MESA tools were written under the assumption that the tools would run on a different computer than the system under test. In the event that you run the MESA tools on the same computer that hosts your software, you will likely run into TCP port conflicts. The MESA tools start a number of servers that listen on the following ports:

2100, 2200, 2250, 2300, 2350, 4000

These are the ports that MESA assumes are used by your software, but on your system. If you need to use the same computer for both the MESA software and your software, you need to change your ports and modify the MESA configuration files to recognize those changes to your ports. If your ports are hard coded and you need to change the MESA ports instead, you will need to contact the author of the MESA tools. The procedure for changing the MESA ports is not documented.

2 Individual Tests

The set of events for a complete test scenario are defined in *IHE Tests: Transaction Sequences*. This section gives a brief overview of the features of individual tests from the Order Filler's perspective.

2.1 Order Filler Test 100: MWL Queries

This case is designed for an Order Filler to exercise Modality Worklist functions. Patients involved are KING^MARTIN and QUEEN^MARY. (see IHE TF Vol I, section 4.4.1).

The nominal patient names are KING^MARTIN and QUEEN^MARY.

To run this test:

```
perl scripts/ordfil_swf.pl 100 <log>
```

To evaluate this test:

```
perl 100/eval_100.pl <log> <MPPS Mgr AE title>
```

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs  
perl mesa_reset/100.pl ihe-us/100.var (or)  
perl mesa_reset/100.pl
```

2.2 Order Filler Test 103: PIR Case 1: Unidentified Patient Registered at ADT and Ordered at the Order Placer

Test Case 103 involves transactions for the patient Jay Silverheels and tests the Unidentified Case 1: Unidentified Patient Registered at ADT and Ordered at the Order Placer (see IHE TF Vol I, section 4.4.1).

The nominal patient name is SILVERHEELS^JAY.

To run this test:

```
perl scripts/ordfil_swf.pl 103 <log>
```

To evaluate this test:

```
perl 103/eval_103.pl <log> <MPPS Mgr AE title>
```

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs
perl mesa_reset/103.pl ihe-us/103.var (or)
perl mesa_reset/103.pl
```

2.3 Order Filler Test 105: PIR Case #3: Unidentified Patient Registered at ADT but Completed at Modality Prior to Order

Test Case 105 involves transactions for the patient Stephen Mustard and tests the Unidentified Case 3: Unidentified Patient Registered at ADT but Completed at Modality Prior to Order (see IHE TF Vol I, section 4.4.3).

Note that the Study Instance UID is generated by the Modality.

The nominal patient name is MUSTARD^STEPHEN.

To run this test:

```
perl scripts/ordfil_swf.pl 105 <log>
```

To evaluate this test:

```
perl 105/eval_105.pl <log> <MPPS Mgr AE title>
```

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs
perl mesa_reset/105.pl ihe-us/105.var (or)
perl mesa_reset/105.pl
```

2.4 Order Filler Test 106: Green

This test is different from the other tests. We evaluate the MPPS messages that you forward to the MESA Image Manager. These will consist of one set of MPPS messages (N-Create/N-Set) for the images for the grouped procedure and two sets of MPPS messages for the two GSPS objects.

The other feature of the test is that the Order Filler must properly process the MPPS messages that define the grouping or procedures and the subsequent split using the GSPS objects. There is no way for the MESA software to evaluate the Order Filler in this area. You should use the test data/test software to evaluate your own software.

2.5 Order Filler Test 107: Status Update

Test 107 covers of status update messages that are part of Filler Order Management (IHE TF Vol II, Section 4.3.4.2). For this test, the Order Filler must send one status message (in progress) when the modality begins the procedure. The modality will send an MPPS message indicating a performed procedure step is in progress.

The Order Filler sends another status message when it determines that the procedure is complete. The trigger for this second status message is left to the Order Filler. In general, this would occur when the report is completed. For testing purposes, the Order Filler will have to generate its own trigger to send the message.

The nominal patient name is ROSE^CARL.

To run this test:

```
perl scripts/ordfil_swf.pl 107 <log>
```

To evaluate this test:

```
perl 107/eval_107.pl <log> <MPPS Mgr AE title>
```

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs  
perl mesa_reset/107.pl ihe-us/107.var (or)  
perl mesa_reset/107.pl
```

2.6 Order Filler Test 109: Exception Management

Test 109 covers Administrative and Procedure Performance Process Flow: Exception Management in the Scheduled Workflow profile (see IHE TF Vol I, section 3.3.4). In order to complete this test, you must disable any messages you send to the Order Placer for Order Status Update (see IHE TF Vol II, section 4.3.4.2).

The nominal patient name is GREY^FRANK.

To run this test:

```
perl scripts/ordfil_swf.pl 109 <log>
```

To evaluate this test:

Order Filler Test 109 covers the Exception Management option of scheduled workflow. The Order Filler participates in the steps for this case and receives an MPPS discontinued message. After all steps are complete, the user of the Order Filler should answer the question below and send the response to the Project Manager:

What is the code value and code meaning for the reason the performed procedure step was discontinued? That is, why was this step discontinued?

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs
perl mesa_reset/109.pl ihe-us/109.var (or)
perl mesa_reset/109.pl
```

2.7 Order Filler Test 110: Billing and Material Option

Test 110 covers Administrative and Procedure Performance Process Flow: Billing and Material option in the Scheduled Workflow profile (see IHE TF Vol II, section 4.7). In order to complete this test, you must disable any messages you send to the Order Placer for Order Status Update (see IHE TF Vol II, section 4.3.4.2).

The nominal patient name is GOLD^LISA.

To run this test:

```
perl scripts/ordfil_swf.pl 110 <log>
```

To evaluate this test:

Order Filler Test 110 covers the Exception Management option of scheduled workflow. The Order Filler participates in the steps for this case and receives an MPPS message with billing and material information. After all steps are complete, the user of the Order Filler should answer the question found in *110/q110.txt* and send the response to the Project Manager

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs
perl mesa_reset/110.pl ihe-us/110.var (or)
perl mesa_reset/110.pl
```

2.8 Order Filler Test 111: Performed Work Status Update

Test 111 covers the Performed Work Status Update under the assumption that the Order Filler wants to receive this status from the Image Manager. Read the list of transactions that are listed in *IHE Tests: Transaction Sequences*. Run test 111 as you would other 1xx series tests.

The nominal patient name is PEACH^SARAH.

To run this test:

```
perl scripts/ordfil_swf.pl 111 <log>
```

There is no evaluation for this test. You will receive GP-PPS messages (N-Create and N-Set) from the Post Processing Manager. You should examine those messages when received and indicate to the Project Manager if they contain the information you expect.

2.9 Order Filler Test 131: Administrative and Procedure Performance Process Flow

Test 131 covers Administrative and Procedure Performance Process Flow in the Scheduled Workflow profile (see IHE TF Vol I, section 3.2.1). In order to complete this test, you must disable any messages you send to the Order Placer for Order Status Update (see IHE TF Vol II, section 4.3.4.2).

2.9.1 References

2.9.2 Instructions

The nominal patient name is BLACK^CHARLES.

To run this test, follow these steps using a DOS window or terminal emulator:

1. Set the current directory to `$MESA_TARGET/mesa_tests/rad/actors/ordfil`.
2. Make sure the MESA servers have been started as described in section 1.5 above.
3. Run the test script as follows:

```
perl scripts/ordfil_swf.pl 131 <log>
```

4. Run the evaluation script below.
-

2.9.3 Evaluation

1. Run the evaluation script

```
perl 131/eval_131.pl <log> <MPPS Mgr AE Title>
```
2. The evaluation output is found in 131/grade_131.txt. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.

2.9.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs
perl mesa_reset/131.pl ihe-us/131.var (or)
perl mesa_reset/131.pl
```

2.10 Order Filler Test 132: Order Change Flow Initiated by Order Filler

Test 132 covers order change flow initiated by the Order Filler in the Scheduled Workflow profile (see IHE TF Vol I, section 3.2.4). In order to complete this test, you must disable any messages you send to the Order Placer for Order Status Update (see IHE TF Vol II, section 4.3.4.2).

2.10.1 References

2.10.2 Instructions

The nominal patient name is WISTERIA^MATTHEW.

To run this test, follow these steps using a DOS window or terminal emulator:

1. Set the current directory to `$MESA_TARGET/mesa_tests/rad/actors/ordfil`.
2. Make sure the MESA servers have been started as described in section 1.5 above.
3. Run the test script as follows:

```
perl scripts/ordfil_swf.pl 132 <log>
```

4. Run the evaluation script below.

2.10.3 Evaluation

1. Run the evaluation script

```
perl 132/eval_132.pl <log> <MPPS Mgr AE Title>
```
 2. The evaluation output is found in 132/grade_132.txt. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.
-

2.10.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs
perl mesa_reset/132.pl ihe-us/132.var (or)
perl mesa_reset/132.pl
```

2.11 Order Filler Test 133: PIR Case 2: Unidentified Patient Registered at ADT and Ordered at Department System Scheduler/Order Filler

Test Case 133 involves transactions for the patient Ivan Indigo and tests the Unidentified Case 2: Unidentified Patient Registered at ADT and Ordered at the DSS/Order Filler (see IHE TF Vol I, section 4.4.2).

2.11.1 References

2.11.2 Instructions

The nominal patient name is INDGO^IVAN.

To run this test, follow these steps using a DOS window or terminal emulator:

1. Set the current directory to *\$MESA_TARGET/mesa_tests/rad/actors/ordfil*.
2. Make sure the MESA servers have been started as described in section 1.5 above.
3. Run the test script as follows:

```
perl scripts/ordfil_swf.pl 133 <log>
```

4. Run the evaluation script below.

2.11.3 Evaluation

1. Run the evaluation script

```
perl 133/eval_133.pl <log> <MPPS Mgr AE Title>
```

2. The evaluation output is found in *133/grade_133.txt*. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.

2.11.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs
perl mesa_reset/133.pl ihe-us/133.var (or)
perl mesa_reset/133.pl
```

To run this test:

```
perl scripts/ordfil_swf.pl 133 <log>
```

To evaluate this test:

```
perl 133/eval_133.pl <log> <MPPS Mgr AE title>
```

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs  
perl mesa_reset/133.pl ihe-us/133.var (or)  
perl mesa_reset/133.pl
```

2.12 Order Filler Test 151: Appointment Notification – New Bookings

Test case 151 involves transactions for patient Joe Periwinkle and tests new appointment bookings notification from Order Filler to Order Placer (see IHE TF Supplements, section 4.48.4.1)

2.12.1 References

2.12.2 Instructions

The nominal patient name is PERIWINKLE^JOE.

To run this test, follow these steps using a DOS window or terminal emulator:

1. Set the current directory to *\$MESA_TARGET/mesa_tests/rad/actors/ordfil*.
2. Make sure the MESA servers have been started as described in section 1.5 above.
3. Run the test script as follows:

```
perl scripts/ordfil_swf.pl 151 <log>
```

4. Run the evaluation script below.

2.12.3 Evaluation

1. Run the evaluation script

```
perl 151/eval_151.pl <log> <MPPS Mgr AE Title>
```

2. The evaluation output is found in 151/grade_151.txt. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.

2.12.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs
```

```
perl mesa_reset/151.pl ihe-us/151.var (or)
perl mesa_reset/151.pl
```

2.13 Order Filler Test 152: Appointment Notification – Reschedule Bookings

Test case 152 involves transactions for patient Joe Periwinkle and tests rescheduled appointment bookings notification from Order Filler to Order Placer (see IHE TF Supplements, section 4.48.4.1)

2.13.1 References

2.13.2 Instructions

The nominal patient name is PERIWINKLE^JOE.

To run this test, follow these steps using a DOS window or terminal emulator:

1. Set the current directory to *\$MESA_TARGET/ mesa_tests/rad/actors/ordfil*.
2. Make sure the MESA servers have been started as described in section 1.5 above.
3. Run the test script as follows:

```
perl scripts/ordfil_swf.pl 152 <log>
```

4. Run the evaluation script below.

2.13.3 Evaluation

3. Run the evaluation script

```
perl 152/eval_152.pl <log> <MPPS Mgr AE Title>
```

4. The evaluation output is found in *152/grade_152.txt*. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.

2.13.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/ mesa_tests/rad/msgs
perl mesa_reset/152.pl ihe-us/152.var (or)
perl mesa_reset/152.pl
```

2.14 Order Filler Test 153: Appointment Notification – Cancel Bookings

Test case 153 involves transactions for patient Joe Periwinkle and tests rescheduled appointment bookings notification from Order Filler to Order Placer (see IHE TF Supplements, section 4.48.4.1)

2.14.1 References

2.14.2 Instructions

The nominal patient name is PERIWINKLE^JOE.

To run this test, follow these steps using a DOS window or terminal emulator:

1. Set the current directory to *\$MESA_TARGET/ mesa_tests/rad/actors/ordfil*.
2. Make sure the MESA servers have been started as described in section 1.5 above.
3. Run the test script as follows:

```
perl scripts/ordfil_swf.pl 153 <log>
```

4. Run the evaluation script below.

2.14.3 Evaluation

1. Run the evaluation script

```
perl 153/eval_153.pl <log> <MPPS Mgr AE Title>
```

2. The evaluation output is found in *153/grade_153.txt*. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.

2.14.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/ mesa_tests/rad/msgs
perl mesa_reset/153.pl ihe-us/153.var (or)
perl mesa_reset/153.pl
```

2.15 Order Filler Test 1305: Charge Posting Process Flow #1

Test Case 1305 involves all of the actors and transactions for a fully integrated Charge Processing Process Flow. See IHE TF Vol I, section 11.3.

2.15.1 References

2.15.2 Instructions

The nominal patient name is PERIWINKLE^JOE.

To run this test, follow these steps using a DOS window or terminal emulator:

1. Set the current directory to *\$MESA_TARGET/ mesa_tests/rad/actors/ordfil*.
-

2. Make sure the MESA servers have been started as described in section 1.5 above.
3. Run the test script as follows:

```
perl scripts/ordfil_chg.pl 1305 <log>
```
4. Run the evaluation script below.

2.15.3 Evaluation

Answer the questions for test 1305 in the file charge_questions.txt. Use that file as the template, rename that file to DSS_OF_1305.txt and submit your responses as the evaluation.

2.15.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs
perl mesa_reset/1305.pl ihe-us/1305.var (or)
perl mesa_reset/1305.pl
```

2.16 Order Filler Test 1401: PWF Query Test

Order 2-3 procedures and perform them. Send GPWL queries to PPM and ask to retrieve all required attributes. Check for those attributes. Send other queries to test for query keys.

2.17 Order Filler Test 1411: PWF Mammography

Test 1411 is a test of the steps for Post Processing Workflow in a Mammography scenario. As an Order Filler, you will be asked to schedule a procedure step for a Mammography case. Once the images and MPPS objects for that procedure step are completed, you will be asked to schedule a post processing step and to participate in the post processing workflow.

1. Run the test script:

```
perl 1411/1411_ordfil_active.pl
```

2. Follow the test instructions

3. Run the evaluation script:

```
perl 1411/eval_1411.pl
```

The evaluation script should yield 0 errors.

2.18 Order Filler Test 1421: Double Claim

This sequence of messages tests the response of the Post Processing Manager to consecutive claims of a single workitem. This is to simulate a situation where two Image Creators are querying for the same set of workitems. This test first uses the 142x script to do the scheduled workflow to schedule a CT 3D reconstruction post processing workitem. The 1421 script will then attempt to claim this workitem twice. Your system should accept the first claim and reject the second claim.

1. Run the active manager test script:

```
perl 142x/142x_ordfil.pl
```

2. Follow the test instructions

3. Run the active manager test script:

```
perl 1421/1421_ordfil_active.pl
```

4. Follow the test instructions

5. Run the evaluation script:

```
perl 1421/eval_1421.pl
```

The evaluation script should yield 0 errors.

2.19 Order Filler Test 1422: Release Claim

This sequence of messages tests the response of the Post Processing Manager to a request to release a claim. That is, a MESA Image Creator will claim a workitem from the PPM worklist, then release the workitem without completing it, and then query a second time to determine if the workitem is again available.

This test relies on the use of Test 1421 to set up a workitem in progress. Please run Test 1421 immediately prior to running this test.

1. Run the test script:

```
perl 1422/1422_ordfil_active.pl
```

2. Follow the test instructions

3. Run the evaluation script:

```
perl 1422/eval_1422.pl
```

The evaluation script should yield 0 errors.

3 Basic Security Tests

This section describes tests that are specific to the IHE Basic Security integration profile. If you have the MESA servers running for the “standard” tests, you should stop those servers now. You will need to start the MESA secure servers with a different script.

3.1 Order Filler Test 1240: Basic Security, Registration

Test case 1240 exercises ADT registration messages (ADT^A04) in the context of Basic Security. No audit messages are included in this test.

The nominal patient name is BOSTON^BOB.

Notes:

Before starting this test, make sure you have stopped the MESA servers for the standard mode tests and started the MESA servers for the secure mode tests.

To run this test:

```
perl scripts/ordfil_secure.pl 1240 <log>
```

To evaluate this test:

```
perl 1240/eval_1240.pl <log>
```

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/mesa_tests/rad/msgs
perl mesa_reset/1240.pl ihe-us/1240.var (or)
perl mesa_reset/1240.pl
```

3.2 Order Filler Test 1531: Basic Security, Administrative and Procedure Performance Process Flow

Test case 1531 uses the same transactions as defined for test 131: Administrative and Procedure Performance Process Flow.

The nominal patient name is BLACK^CHARLES.

Notes:

Before starting this test, make sure you have stopped the MESA servers for the standard mode tests and started the MESA servers for the secure mode tests.

To run this test (the reference to 131 below is intentional):

```
perl scripts/ordfil_secure.pl 131 <log>
```

To evaluate this test (1531, not 131):

```
perl 1531/eval_1531.pl <log> <MPPS SCU AE Title>
```

To change patient name, patient ID prior to the test (131 is intentional):

```
cd $MESA_TARGET/mesa_tests/rad/msgs
perl mesa_reset/131.pl ihe-us/131.var (or)
perl mesa_reset/131.pl
```

3.3 Order Filler Test 1502: Pre-reg / Order Cancel / Reorder

Test 1502 is not used in Y5.

Order Filler Test 1502 uses the same sequence of events as test 102 with some added DICOM C-Find requests. The Order Filler is expected to communicate with other systems using TLS negotiation and to send appropriate audit messages to the MESA syslog server.

The table below lists the Audit Messages that should be generated by your Order Filler. Please refer to the document *IHE Tests: Transaction Sequences* for the full context of these messages. You might trigger other messages to the Audit Record Repository based on your interaction with your Order Filler.

Identifier	Description	Source	Destination
1502.012	Patient-Record: Accessed	Ord Fil	Audit Record Rep
1502.014	Procedure-Record: Created	Ord Fil	Audit Record Rep
1502.020	Modality Worklist Provided	Ord Fil	Audit Record Rep
1502.030	Patient-Record: Accessed	Ord Fil	Audit Record Rep
1502.032	Procedure-Record: Created	Ord Fil	Audit Record Rep
1502.034	Modality Worklist Provided	Ord Fil	Audit Record Rep
1502.036	Procedure-Record: Modified	Ord Fil	Audit Record Rep
1502.038	Modality Worklist Provided	Ord Fil	Audit Record Rep
1502.040	Patient-Record: Accessed	Ord Fil	Audit Record Rep
1502.042	Patient-Record: Modified	Ord Fil	Audit Record Rep
1502.044	Patient-Record: Accessed	Ord Fil	Audit Record Rep
1502.046	Procedure-Record: Created	Ord Fil	Audit Record Rep
1502.048	Modality Worklist Provided	Ord Fil	Audit Record Rep

1. Start the secure MESA servers as instructed in section 1.5.
 2. Run the test script:

```
perl 1502/1502_ordfil.pl
```
 3. This script will send messages to your system and prompt you along the way. You are expected to send audit messages in response to certain events (such as DICOM C-Find requests for MWL queries).
 4. Run the evaluation script:

```
perl 1502/eval_1502.pl <AE Title MPPS Mgr>
```
 5. Send the test result (*1502/grade_1502.txt*) to the Project Manager.
 6. Grab all of the files (tar/zip) in *\$MESA_TARGET/logs/syslog* and send these to the Project Manager.
-

3.4 Order Filler Test 1503: Unidentified Patient Case #1

Test 1503 is not used in Y5.

Order Filler Test 1503 uses the same sequence of events as test 103. The Order Filler is expected to communicate with other systems using TLS negotiation and to send appropriate audit messages to the MESA syslog server.

The table below lists the Audit Messages that should be generated by your Order Filler. Please refer to the document *IHE Tests: Transaction Sequences* for the full context of these messages. You might trigger other messages to the Audit Record Repository based on your interaction with your Order Filler.

Identifier	Description	Source	Destination
1503.012	Patient-Record: Accessed	Ord Fil	Audit Record Rep
1503.014	Procedure-Record: Created	Ord Fil	Audit Record Rep
1503.016	DicomQuery	Ord Fil	Audit Record Rep
1503.026	Patient-Record: Accessed	Ord Fil	Audit Record Rep
1503.028	Patient-Record: Modified	Ord Fil	Audit Record Rep

1. Start the secure MESA servers as instructed in section 1.5.
 2. Run the test script:

```
perl 1503/1503_ordfil.pl
```
 3. This script will send messages to your system and prompt you along the way. You are expected to send audit messages in response to certain events (such as DICOM C-Find requests for MWL queries).
 4. Run the evaluation script:

```
perl 1503/eval_1503.pl <AE Title MPPS Mgr>
```
 5. Send the test result (*1503/grade_1503.txt*) to the Project Manager.
 6. Grab all of the files (tar/zip) in *\$MESA_TARGET/logs/syslog* and send these to the Project Manager.
-

4 Cardiology Cath Workflow Order Filler Tests

The Cardiology Use Cases defined in Volume 1 are very complex and the Order Filler tends to “direct all traffic” in these Use Cases. As a result, the Cardiology Order Filler test cases are significantly longer and more complex than most of the other MESA tests. You will need to run the tests all the way to completion before the evaluation scripts can be run.

Note that the Cardiology tests are in a different directory than the Radiology tests. Please read the test instructions below literally for directory names.

4.1 Order Filler Test 20101: C1: Patient Registered at ADT and Procedure Ordered at the Order Placer

Test 20101 covers C1: Patient Registered at ADT and Procedure Ordered at the Order Placer profile (see CARD TF-1: 3.1). In order to complete this test, you must disable any messages you send to the Order Placer for Order Status Update (see RAD TF-2: 4.3.4.2).

4.1.1 References

4.1.2 Instructions

The nominal patient name is FE^CHARLES.

To run this test, follow these steps using a DOS window or terminal emulator:

1. Set the current directory to `$MESA_TARGET/ mesa_tests/card/actors/ordfil`.
2. Make sure the MESA servers have been started as described in section 1.5 above.
3. Run the test script as follows:

```
perl scripts/ordfil_cath.pl 20101 <log>
```

4. Run the evaluation script below.

4.1.3 Evaluation

1. Run the evaluation script

```
perl 20101/eval_20101.pl <log> <MPPS Mgr AE Title>
```

2. The evaluation output is found in `20101/grade_20101.txt`. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.

4.1.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/ mesa_tests/card/messages
perl mesa_reset/20101.pl ihe-us/20101.var (or)
perl mesa_reset/20101.pl
```

4.2 Order Filler Test Case 20102: C1: Patient Registered at ADT and Procedure Ordered at the Order Placer w/ Diagnostic to Interventional Transition (multiple MPPS)

Test 20102 covers C1: Patient Registered at ADT and Procedure Ordered at the Order Placer profile (see CARD TF-1: 3.1). In order to complete this test, you must disable any messages you send to the Order Placer for Order Status Update (see RAD TF-2: 4.3.4.2).

4.2.1 References

4.2.2 Instructions

The nominal patient name is FO^ Charlotte.

To run this test, follow these steps using a DOS window or terminal emulator:

1. Set the current directory to `$MESA_TARGET/ mesa_tests/card/actors/ordfil`.
2. Make sure the MESA servers have been started as described in section 1.5 above.
3. Run the test script as follows:

```
perl scripts/ordfil_cath.pl 20102 <log>
```

4. Run the evaluation script below.

4.2.3 Evaluation

1. Run the evaluation script

```
perl 20102/eval_20102.pl <log> <MPPS Mgr AE Title>
```

2. The evaluation output is found in `20102/grade_20102.txt`. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.

4.2.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/ mesa_tests/card/msgs
perl mesa_reset/20102.pl ihe-us/20102.var (or)
perl mesa_reset/20102.pl
```

4.3 Test Case 20106: C5: Patient NOT Registered (no Order)

Test 20106 covers C5: Patient Registered NOT at ADT and Procedure not Ordered (see CARD TF-1: 3.5). In order to complete this test, you must disable any messages you send to the Order Placer for Order Status Update (see RAD TF-2: 4.3.4.2).

The unknown patient, registered at the ADT, is SMITH^JOHN with a temporary DSS/OF local patient ID of 201069.

The updated patient in this case is PARSONS^ANDREW with a patient ID of 201061.

Test the case where the modality responds to a single SPS with a single MPPS.

4.3.1 References

4.3.2 Instructions

To run this test, follow these steps using a DOS window or terminal emulator:

1. Set the current directory to `$MESA_TARGET/ mesa_tests/card/actors/ordfil`.
2. Make sure the MESA servers have been started as described in section 1.5 above.
3. Run the test script as follows:

```
perl scripts/ordfil_cath.pl 20106 <log>
```

4. Run the evaluation script below.

4.3.3 Evaluation

1. Run the evaluation script

```
perl 20106/eval_20106.pl <log> <MPPS Mgr AE Title>
```

2. The evaluation output is found in `20106/grade_20106.txt`. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.

4.3.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/ mesa_tests/card/msgs
```

```
perl mesa_reset/20106.pl ihe-us/20106.var (or)
```

```
perl mesa_reset/20106.pl
```

4.4 Order Filler Test Case 20108: C7: Change Rooms During Procedure (DSS/OF not updated)

Test 20108 covers C7: Change rooms during Procedure (see CARD TF-1: 3.4.7).

In this case, the room is changed because the procedure changes from Diagnostic to Interventional. In this case the MPPS Complete or In Progress, however, is not sent from the modalities in Room 1 and the procedure is just continued in Room 2. The schedule is NOT updated at the DSS/OF to change from a Diagnostic Procedure to an Interventional. This will result in an APPEND case to the same Requested Procedure.

4.4.1 References

4.4.2 Instructions

The nominal patient name is PERRY^JAMES.

1. To run this test, follow these steps using a DOS window or terminal emulator:
2. Set the current directory to *\$MESA_TARGET/ mesa_tests/card/actors/ordfil*.
3. Make sure the MESA servers have been started as described in section 1.5 above.
4. Run the test script as follows:

```
perl scripts/ordfil_cath.pl 20108 <log>
```

5. Run the evaluation script below.

4.4.3 Evaluation

1. Run the evaluation script

```
perl 20108/eval_20108.pl <log> <MPPS Mgr AE Title>
```

2. The evaluation output is found in 20108/grade_20108.txt. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.

4.4.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/ mesa_tests/card/msgs
```

```
perl mesa_reset/20108.pl ihe-us/20108.var (or)
```

```
perl mesa_reset/20108.pl
```

5 Cardiology Echo Workflow Order Filler Tests

The Cardiology Use Cases defined in Volume 1 are very complex and the Order Filler tends to “direct all traffic” in these Use Cases. As a result, the Cardiology Order Filler test cases are significantly longer and more complex than most of the other MESA tests. You will need to run the tests all the way to completion before the evaluation scripts can be run.

5.1 Order Filler Test Case 20204: E4: Intermittently Connected Modality with Ad Hoc Procedure, Patient Registered, UNScheduled Procedure

Test 20204 covers E4: Intermittently Connected Modality case (see CARD TF-1: 4.3.4).

5.1.1 References

5.1.2 Instructions

The nominal patient name is STROMBERG^HANS.

1. To run this test, follow these steps using a DOS window or terminal emulator:
2. Set the current directory to *\$MESA_TARGET/ mesa_tests/card/actors/ordfil*.
3. Make sure the MESA servers have been started as described in section 1.5 above.
4. Run the test script as follows:

```
perl scripts/ordfil_echo.pl 20204 <log>
```

5. Run the evaluation script below.

5.1.3 Evaluation

1. Run the evaluation script

```
perl 20204/eval_20204.pl <log> <MPPS Mgr AE Title>
```

2. The evaluation output is found in 20204/grade_20204.txt. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.

5.1.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/ mesa_tests/card/msgs
perl mesa_reset/20204.pl ihe-us/20204.var (or)
perl mesa_reset/20204.pl
```

5.2 Order Filler Test Case 20205: E5: Intermittently Connected Modality with Ad Hoc Procedure, Patient UNRegistered, UNScheduled Procedure

Test 20205 covers E5: Intermittently Connected Modality with Ad Hoc Procedure, Patient Unregistered, Unscheduled Procedure case (see CARD TF-1: 4.3.5).

5.2.1 References

5.2.2 Instructions

The nominal patient name is FISCHER^PETER.

1. To run this test, follow these steps using a DOS window or terminal emulator:
2. Set the current directory to *\$MESA_TARGET/ mesa_tests/card/actors/ordfil*.
3. Make sure the MESA servers have been started as described in section 1.5 above.
4. Run the test script as follows:

```
perl scripts/ordfil_echo.pl 20205 <log>
```

5. Run the evaluation script below.

5.2.3 Evaluation

1. Run the evaluation script

```
perl 20205/eval_20205.pl <log> <MPPS Mgr AE Title>
```

2. The evaluation output is found in 20205/grade_20205.txt. The final result should indicate 0 errors. Submit the result run at log level 4 to the Project Manager.

5.2.4 Miscellaneous

To change patient name, patient ID prior to the test:

```
cd $MESA_TARGET/ mesa_tests/card/msgs  
perl mesa_reset/20205.pl ihe-us/20205.var (or)  
perl mesa_reset/20205.pl
```