Enabler Validation Plan for Presence SIMPLE

Candidate Version 2.0 – 27 Jul 2010

Open Mobile Alliance

OMA-EVP-Presence_SIMPLE-V2_0-20100727-C

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1. Scope

This document details the Validation plan for the Presence 2.0 Enabler Release. The successful accomplishment of the validation activities will be required for the Enabler to be considered for Approved status.

The validation plan for the Presence 2.0 Enabler Release specifications is based on testing expectations in the Enabler Test Requirements (ETR). While the specific test activities to be performed are described in the Enabler Test Specification (ETS) the test environment is described in this plan. This test environment details infrastructure, operational and participation requirements identified for the needed testing activities.

1.1 Assumptions

None

1.2 Exclusions

None

2. References

[ERELD] "Enabler Release Document for Presence", Open Mobile Alliance™, OMA-ERELD-SIMPLE-V2_0, URL:http://www.openmobilealliance.org/

[IOPPROC] "OMA Interoperability Policy and Process", Version 1.7, Open Mobile Alliance™, OMA-IOP-Process-V1_7, URL:http://www.openmobilealliance.org/

[OMARDPRES] "Presence Requirements", Version 2.0, Open Mobile Alliance™, OMA-RD_Presence_SIMPLE-V2_0, URL:http://www.openmobilealliance.org/

2.1 Normative References

[IOPPROC] "OMA Interoperability Policy and Process", Version 1.7, Open Mobile Alliance™, OMA-ORG-IOP_Process-V1_7, URL:http://www.openmobilealliance.org/

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

[ENABLERSPEC]

[OMA-Presence-XDM] "Presence XDM Specification", Version 2.0, Open Mobile Alliance™, OMA-Presence_SIMPLE_XDM _Specification-V2_0, URL:http://www.openmobilealliance.org/

[OMA-RLS-XDM] "Resource List Server (RLS) XDM Specification", Version 2.0, Open Mobile Alliance™, OMA-Presence_SIMPLE_RLS_XDM _Specification-V2_0, URL:http://www.openmobilealliance.org/

[OMATSPRES] "Presence SIMPLE Specification", Version 2.0, Open Mobile Alliance™, OMA-TS-Presence_SIMPLE-V2_0, URL:http://www.openmobilealliance.org/

[OMAETRPRES] "Enabler Test Requirements for Presence SIMPLE", Version 2.0, Open Mobile Alliance OMA-ETR-Presence_SIMPLE-V2_0, URL:http://www.openmobilealliance.org/

[OMAPRESIOPETS] "Interoperability Enabler Test Specifications for Presence SIMPLE", Version 2.0, Open Mobile Alliance OMA-ETS-Presence_SIMPLE_INT-V2_0, URL:http://www.openmobilealliance.org/

[OMAPRSCONETS] "Conformance Enabler Test Specifications for Presence SIMPLE", Version 2.0, Open Mobile Alliance OMA-ETS-Presence_SIMPLE_CON-V2_0, URL:http://www.openmobilealliance.org/

[IOPEICSCLI] "Enabler Implementation Conformance Statement Client Implementation of OMA Presence SIMPLE", Version 2.0, Open Mobile Alliance OMA-EICS-Presence_SIMPLE-Client-V2_0, URL:http://www.openmobilealliance.org/

[IOPEICSSRV] "Enabler Implementation Conformance Statement Server Implementation of OMA Presence SIMPLE", Version 2.0, Open Mobile Alliance OMA-EICS-Presence_SIMPLE-Server-V2_0, URL:http://www.openmobilealliance.org/

2.2 Informative References

[OMADICT] "Dictionary for OMA Specifications", Version 2.7, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_7, URL:http://www.openmobilealliance.org/

[OMARDPRES] "Presence SIMPLE Requirements", Version 2.0, Open Mobile Alliance™, OMA-AD-Presence_SIMPLE-V2_0, URL:http://www.openmobilealliance.org/

[OMAADPRES] "Presence SIMPLE Architecture", Version 2.0, Open Mobile Alliance™, OMA-AD-Presence_SIMPLE-V2_0, URL:http://www.openmobilealliance.org/

3. Terminology and Conventions

3.1 Conventions

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except “Scope”, are normative, unless they are explicitly indicated to be informative.

3.2 Definitions

3.3 Abbreviations

OMA	Open Mobile Alliance
PS	Presence Server
RD	Requirements Document
RLS	Resource List Server
SIP	Session Initiation Protocol
URI	Universal Resource Identifier
XCAP	XML Configuration Access Protocol
XDMC	XML Document Management Client
XDMS	XML Document Management Server
XML	Extensible Mark-up Language
SIMPLE	SIP for Instant Messaging and Presence Leveraging Extensions

4. Enabler Validation Description

This document details the Validation plan for the Presence SIMPLE V2_0 Enabler Release. The successful accomplishment of the validation activities will be required for the Enabler to be considered for Approved status. This plan will detail the required testing environment required to implement the testing successfully.

See further details in section 5 of this document.

5. TestFest Activities

5.1 Enabler Test Guidelines

Some features in the Presence SIMPLE enabler may optionally be implemented in clients. If an implementation states in their EICS that an optional feature is supported, then the tests for the optional feature are mandatory for that implementation. All the features that are supported will be tested if possible.

5.1.1 Minimal Test Configuration

The following items are needed to adequately test the mandatory features in the Presence SIMPLE 2.0 enabler:

- A client containing Presence Source, XDMC, Watcher and Watcher Information Subscriber functionality.
- A Presence Server
- A Resource List Server
- A Presence XDMS
- A RLS XDMS
- An Aggregation Proxy
- A SIP/IP core supporting the Presence service.

The following items are needed to adequately test the optional features in the Presence SIMPLE 2.0 enabler.

- Shared XDMSs
- A Content Server
- A Presence Content XDMS
- A Watcher Agent

5.1.2 Minimal Participation Guidelines

The following elements are required at a minimum to perform most of the interoperability test cases for the Presence SIMPLE 2.0 enabler:

- Two client implementations
- One Presence Server
- One Resource List Server
- One Presence XDMS
- One RLS XDMS
- One Aggregation Proxy
- One SIP/IP supporting the Presence service.

5.1.3 Optimal TestFest Achievement Guidelines

The ETS Test Cases listed below represent a subset of all the Test Cases for the Enabler that it is thought can be executed in a test session at an OMA TestFest. This list is intended to facilitate maximum test coverage of the functionality of the enabler within a test session. It is not intended to be the only tests executed at a TestFest, and teams are encouraged to execute more tests if they are able to do in the time allowed.

The list includes:

Test Case Id
Presence-2.0-int-0100
Presence-2.0-int-0101
Presence-2.0-int-0102
Presence-2.0-int-0103
Presence-2.0-int-0104
Presence-2.0-int-0105
Presence-2.0-int-0106
Presence-2.0-int-0107
Presence-2.0-int-0108
Presence-2.0-int-0109
Presence-2.0-int-0200
Presence-2.0-int-0201
Presence-2.0-int-0202
Presence-2.0-int-0203
Presence-2.0-int-0204
Presence-2.0-int-0205
Presence-2.0-int-0206
Presence-2.0-int-0207
Presence-2.0-int-0208
Presence-2.0-int-0209
Presence-2.0-int-0210
Presence-2.0-int-0300
Presence-2.0-int-0400
Presence-2.0-int-0401
Presence-2.0-int-0402
Presence-2.0-int-0403
Presence-2.0-int-0404
Presence-2.0-int-0405

5.2 Enabler Test Requirements

5.2.1 Test Infrastructure Requirements

The testing shall be performed as end-to-end testing. Most likely the client participants will be in one place, while the participant servers will be located in member companies premises, accessible to the rest of the test fest environment. Such a “distributed” test fest environment puts effort on the Test Fest host and requires detailed documented configuration. It is also possible that server providers bring their respective servers to the test site.

The Network Elements involved in Presence SIMPLE 2.0 testing are:

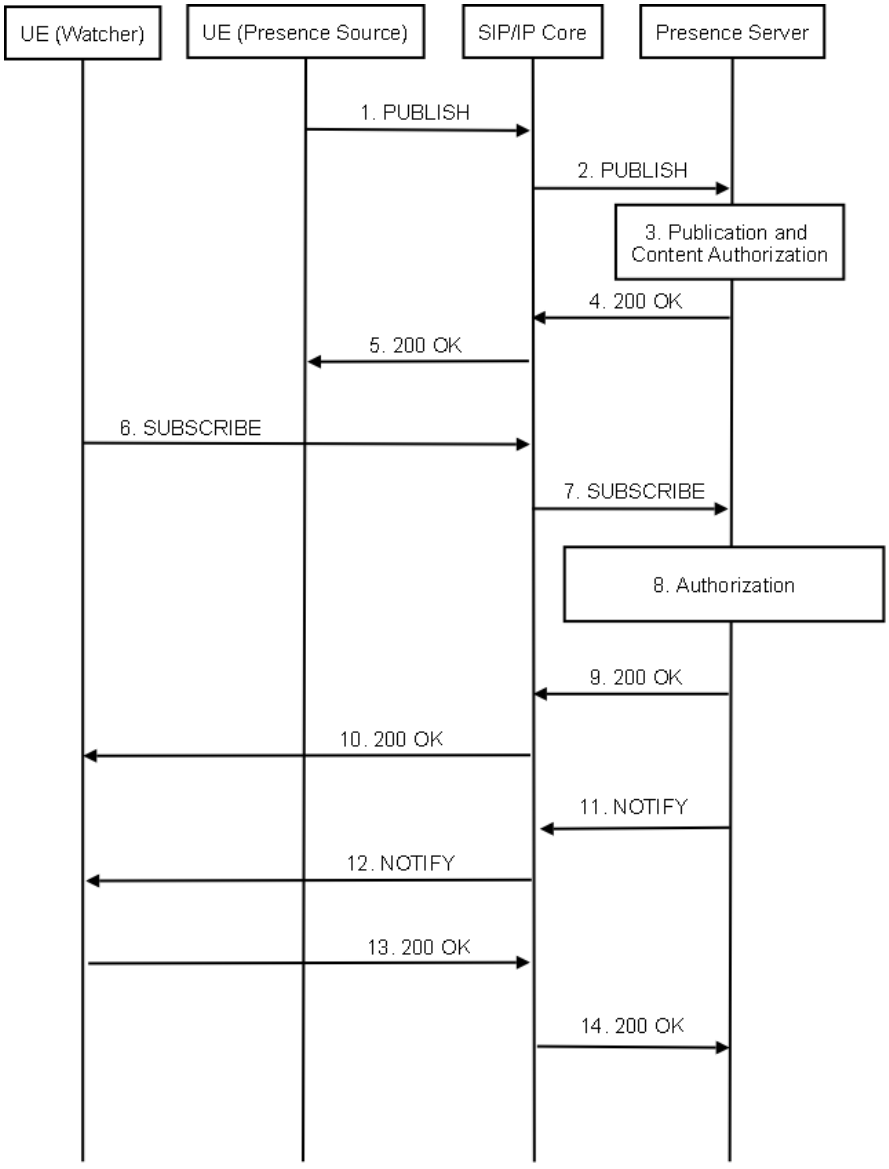
- 3G mobile network with SIP/IP Core
- Internet connection

A Network Analyzer (e.g. Wireshark) for Network Monitoring/Protocol Analyzing is also useful.

5.2.2 Enabler Execution Flow

5.2.2.1 Publication and Subscription Flow

The following diagram shows the flow for a typical successful Publication process followed by a successful Subscription process for the previously publicated Presence information. For simplicity, all the elements (UEs, SIP/IP CORE and Presence Server) reside in the same domain. It is also assumed that Publication and Content Authorization, and Presence Authorization Processes are both successful.



1. The Presence Source generates a SIP PUBLISH request, which contains a presence document. The means for the Presence Source to compose this presence document is outside the scope of this specification.
2. The SIP/IP Core network routes the request to the correct PS.
3. The PS applies Publication Authorization and Content rules, authorizes the presence publication, and checks the information the message contains. The PS then processes the Presence Information and sends a SIP 200 (OK) response back to the Presence Source.

4. The SIP/IP Core network forwards the response back to the Presence Source.

5. A Watcher wishes to watch a Presentity's Presence Information, or certain parts of the Presentity's Presence Information. To initiate a subscription, the Watcher sends a SIP SUBSCRIBE request for the Presence Event Package including an indication of the duration this subscription should last. The SIP SUBSCRIBE request may also include an indication of the Watcher's capability to handle partial notifications.

6. The SIP/IP Core network routes the SUBSCRIBE request to the correct PS.

7. The PS performs the necessary authorization checks on the originator to ensure it is allowed to watch the Presentity.

NOTE: In the case where the privacy/authorization checks fail, then a negative acknowledgement is sent to the Watcher.

8. Once all privacy conditions are met, the PS issues a SIP 200 (OK) to the SIP/IP Core.

9. The SIP/IP Core network forwards the response to the Watcher.

10. As soon as the PS sends a 200 (OK) response to accept the subscription, it sends a SIP NOTIFY request including the current full state of the Presentity's tuples that the Watcher has subscribed and been authorized to receive. The SIP NOTIFY request is sent to the SIP/IP Core. Further notifications sent by the PS may either contain the complete set of Presence Information, or only those tuples that have changed since the last notification if the Watcher has indicated the capability to process partial notifications.

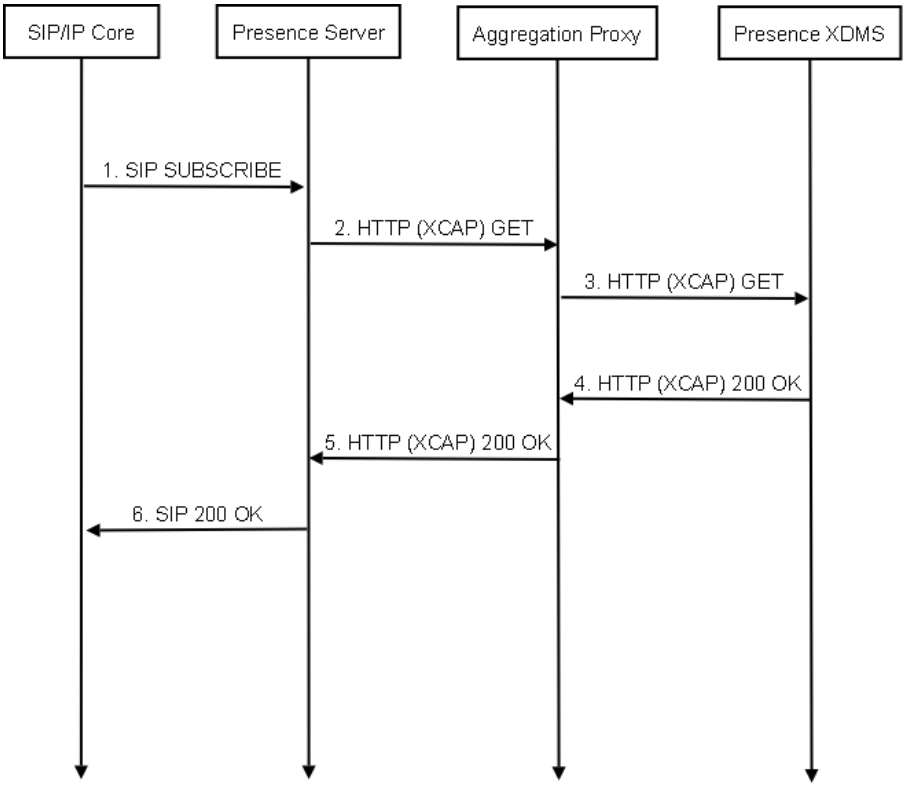
11. The SIP/IP Core network forwards the SIP NOTIFY request to the Watcher.

12. The Watcher acknowledges the receipt of the SIP NOTIFY request with a SIP 200 (OK) response sent to the SIP/IP Core network.

13. The SIP/IP Core network forwards the SIP 200 (OK) response to the PS.

5.2.2.2 Presence Authorization Flow

The following diagram shows the process for retrieval of Presence Authorization Rules Document needed to apply the Presence Authorization on a Subscription request. For simplicity, it is assumed that the evaluation of the Authorization rules is successful.

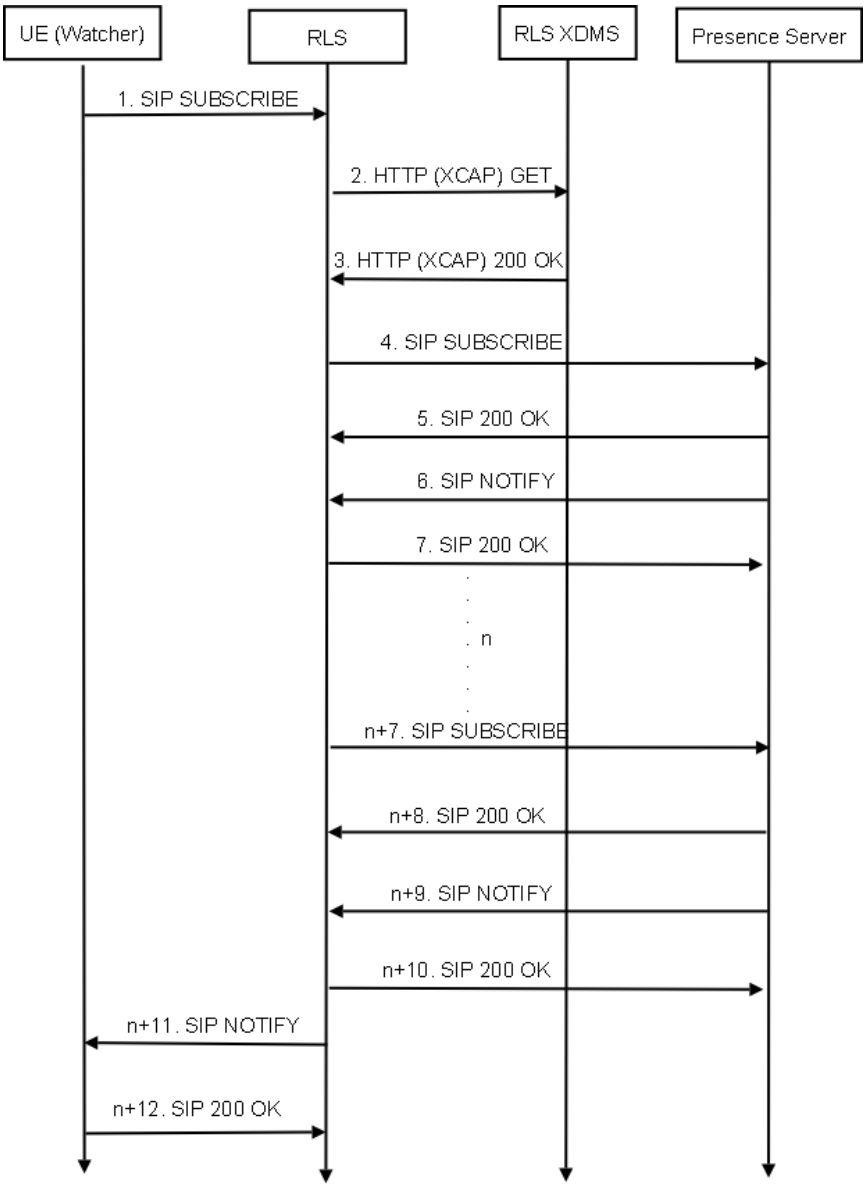


1. The Presence Server receives a SUBSCRIBE request from the SIP/IP CORE with SIP URI of sip:user@domain.com.
2. The Presence Server needs to obtail the Presence Authorization Rules for sip:user@domain.com. For this purpose the XDMC of the Presence Server sends a HTTP GET request to the Aggregation Proxy.
3. The Aggregation Proxy forwards the HTTP GET from step 2. to the Presence XDMS.
4. The Presence XDMS returns the Presence Authorization Rules document belonging to sip:user@domain.com in a HTTP 200 OK response.
5. The Aggregation Proxy forwards the HTTP 200 OK from step 4. to the Presence Server.
6. The Presence Server performs the necessary evaluation of Presence Authorization Rules using the document contained in the response from step 5. and responses to the SIP/IP Core with a SIP 200 OK.

NOTE: In the case where the privacy/authorization checks fail, then a negative acknowledgement is sent instead.

5.2.2.3 Subscription to Presence List Flow

The following diagram explains the process for a Subscription to a Presence List Stored in RL XDMS. For simplicity the message flowing through SIP/IP Core (for SIP messages) and Aggregation Proxy (for XCAP messages) has been omitted. However it's important to highlight that this message flow SHOULD take place has explained in sections 5.2.2.2 and 5.2.2.1. It is also assumed that all the elements (UE, Presence Server, RLS and RLS XDMS) reside in the same domain. Another assumption is that there are n+2 active Presence publications (which belong to the Presentities forming the Presence List named before) to which the UE (Watcher) has Authorization to subscribe.



1. The Watcher sends a SUBSCRIBE request to the RLS (via SIP/IP Core) with SIP URI of the Presence List
2. The RLS receives the SUBSCRIBE request, performs authorizations of the usage of the Presence List by the Watcher, per local policy.
3. The RLS fetches the "index" document stored in the RLS XDMS in order to resolve the Presence List into individual Presentities

4. The RLS XDMS responses to the RLS with a HTTP (XCAP) 200 OK containing the requested document.
5. The RLS generates back-end subscriptions for each Presentity belonging to the Presence List.
6. The Presence Server receives and processes each back-end subscription respondind with a SIP 200 OK and generating the corresponding notification for each subscription.
7. The RLS responds to each NOTIFY with a SIP 200 OK to the Presence Server.
8. The RLS generates a NOTIFY which aggregates all the Presence information received from the back-end subscriptions notifications. This NOTIFY is sended to the Watcher who requested the initial subscription.
9. The Watcher responses with a SIP 200 OK to the RLS.

5.2.3 Test Content Requirements

For the interoperability tests there is no particular requirement for the test content. The test content has to be adapted to the interoperability test cases.

For the conformance testing, testing code can be found in Appendix C of the Presence 2.0 Conformance ETS and are referenced from each applicable test case.

5.2.4 Test Limitations

5.2.4.1 Physical

When using mobile UE for testing, the equipment must stay in range of the network signal.

5.2.4.2 Resources

None.

5.2.5 Test Restrictions

None.

5.2.6 Test Tools

5.2.6.1 Existing Tools to be Used

For the conformance testing it should be possible to use any available test tool covering the conformance aspects and scenarios described in the Conformance ETS [OMAPRSCONETS].

It is optional but in case of problems recommended to use a network analyzer like Wireshark (formerly called Ethereal) to create traces for trouble shooting.

5.2.6.2 Test Tool Requirements

Any test tool to be used for the conformance testing of the Presence SIMPLE 2.0 enabler SHALL cover the test cases and scenarios described in the Conformance ETS [OMAPRSCONETS]

5.2.7 Resources Required

Not estimated so far, it will depend highly on the maturity of individual enabler implementations. For a good estimation in this chapter input from implementation providers is required later on.

5.3 Tests to be Performed

The following sections describe the tests related to the formal TestFest validation activities.

5.3.1 Entry Criteria for TestFest

The following tests need to be performed and passed by implementations by members wishing to participate in the TestFest. This ensures minimal requisite capability of the implementations. The tests are defined in the ETS [OMAPRESIOPETS] and any special comments are noted.

Test Case Id	Special Conditions
None	

Table 1: Listing of Tests for Entry Criteria for TestFest

5.3.2 Testing to be Performed at TestFest

The following tests need to be performed to fully cover the range of capabilities of the enabler and defined protocols. These tests are to be covered in the TestFest. The tests are defined in the ETS [OMAPRESIOPETS] and any special comments are noted.

Test Case Id	Special Conditions
Presence-2.0-int-0100	
Presence-2.0-int-0101	
Presence-2.0-int-0102	
Presence-2.0-int-0103	
Presence-2.0-int-0104	
Presence-2.0-int-0105	
Presence-2.0-int-0106	
Presence-2.0-int-0107	
Presence-2.0-int-0108	
Presence-2.0-int-0109	
Presence-2.0-int-0200	
Presence-2.0-int-0201	
Presence-2.0-int-0202	
Presence-2.0-int-0203	
Presence-2.0-int-0204	
Presence-2.0-int-0205	
Presence-2.0-int-0206	
Presence-2.0-int-0207	
Presence-2.0-int-0208	
Presence-2.0-int-0209	
Presence-2.0-int-0210	
Presence-2.0-int-0300	
Presence-2.0-int-0400	
Presence-2.0-int-0401	
Presence-2.0-int-0402	

Test Case Id	Special Conditions
Presence-2.0-int-0403	
Presence-2.0-int-0404	
Presence-2.0-int-0405	

Table 2: Listing of Tests to be Performed at TestFest

5.4 Enabler Test Reporting

5.4.1 Problem Reporting Requirements

Normal Reporting, no special reporting required.

5.4.2 Enabler Test Requirements

Normal Reporting, no special reporting required.

6. Alternative Validation Activities

So far no alternative validation activities are specified.

7. Approval Criteria

As per Section “Enabler Release Approval Criteria” in [IOPPROC].

7.1 Enabler Validation Test Cases

The following table should list the set of tests that are used for enabler validation.

Test Case Id	ETR Requirement Id	ETR Status	Notes
Presence-2.0-int-0201	SUB-007	M	
Presence-2.0-int-0204	SUB-005	M	
Presence-2.0-int-0205	SUB-005	M	
Presence-2.0-int-0206	SUB-006	M	
Presence-2.0-int-0207	SUB-006	M	
Presence-2.0-int-0208	SUB-006	M	
Presence-2.0-int-0209	SUB-006	M	
Presence-2.0-int-0400	XOP-013	M	
Presence-2.0-int-0401	XOP-013	M	
Presence-2.0-int-0402	XOP-013	M	
Presence-2.0-int-0403	XOP-013	M	
Presence-2.0-int-0404	XOP-014	M	
Presence-2.0-int-0405	XOP-014	M	

Table 3: Enabler Validation Test Cases

7.2 Non-Covered ETR Requirements

Any restrictions, limitations and/or infeasibility of testing of the ETR requirements should be stated in this section.

If new information about limitations and/or infeasibility of testing of any of the ETR requirements is discovered, this section should be updated accordingly.

ETR Requirement Id	ETR Status	Notes
None	<M> or <O>	

Table 4: Non-Covered ETR Requirements

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description

A.2 Draft/Candidate Version 2.0 History

Document Identifier	Date	Sections	Description
Draft version OMA-EVP-Presence-V2_0-20080711-D	11 Jul 2008	All	First draft version (baseline).
Draft version OMA-EVP-Presence-V2_0-20090522-D	22 May 2008	5.1.3, 5.2.6, 5.3, 7.1	CR incorporated: OMA-IOP-MEC-2009-0097
Candidate Version OMA-EVP-Presence-V2_0	27 Jul 2010	n/a	Status changed to Candidate by TP OMA-TP-2010-0301-INP_PRS_20_EVP_for_Candidate_Approval