Enabler Test Specification for Presence RLS XDM Interoperability

Candidate Version 1.1 – 31 Mar 2008

Open Mobile Alliance

OMA-ETS-Presence_RLS_XDM_INT-V1_1-20080331-C

Contents

1. Scope

This document describes in detail available test cases for XDM V1.1 enabler (http://www.openmobilealliance.org).

The coverage of the tests includes RLS XDMS. Presence Enabler should also consider test cases included in the XDM-ETS document.

2. References

2.1 Normative References

[IOPPROC] "OMA Interoperability Policy and Process", Version 1.5, Open Mobile Alliance™, OMA-IOP-Process-V1_5, www.openmobilealliance.org

[OMA-PoC-AD] "Push to Talk over Cellular Architecture", Version 1.1, Open Mobile Alliance™, OMA-AD_PoC-V1_0, www.openmobilealliance.org

[OMA-PoC-CP] "Push to Talk over Cellular Control Plane", Version 1.1, Open Mobile Alliance™, OMA-CP_PoC-V1_0, www.openmobilealliance.org

[OMA-PoC-RD] "Push to Talk over Cellular Requirements", Version 1.1, Open Mobile Alliance™, OMA-RD_PoC-V1_0, www.openmobilealliance.org

[OMA-TS_XDM_Shared] "Shared XDM Specification ", Version 1.1, Open Mobile Alliance™, OMA-TS-XDM_Shared-V1_1, www.openmobilealliance.org

[OMA-TS-XDM_Core] "XML Document Management (XDM) Specification", Version 1.1, Open Mobile Alliance™, OMA-TS-XDM_Core-V1_1, www.openmobilealliance.org

[PoC_XDM] "PoC XDM Specification", Open Mobile Alliance_, OMA-TS-XDM_PoC-V1_0, Version 1.0, http://www.openmobilealliance.org/

[Presence_XDM] "Resource List Service (RLS) XDM Specification", Open Mobile Alliance_, OMA-TSPresence_SIMPLE_RLS_XDM-V1_1, Version 1.1, http://www.openmobilealliance.org/

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

[RLS_XDM] "Presence XML Document Management Specification", Version 1.1, Open Mobile Alliance_, OMA-TS-Presence_SIMPLE_XDM-V1_1, Version 1.0, http://www.openmobilealliance.org/

[XDM-ETS] "Enabler Test Specification for XML Document Management (Interoperability)", Open Mobile Alliance, OMA-ETS-XDM_INT-V1_0-20050902-D, http://www.openmobilealliance.org/

2.2 Informative References

[OMADICT] "Dictionary for OMA Specifications", Open Mobile Alliance™. OMA-Dictionary, 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

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.

Following test case numbering scheme is followed in the ETS for different Test Sections.

Note: In following numbering scheme “int” stands for “Interoperability Test Cases”.

Following is the definition of fields in the naming convention:

XDM-1.1	int	01	00
Specification Release (XDM Version) number.	int – interoperability	Test-category	Test Sequence Number

3.2 Definitions

UE	A client terminal with assigned User[N] used for testing.
URI List	Number of URIs grouped together and as a list conforming to the definition in [OMA-TS_XDM_Shared].
user	A person using UE.
User[N]	A subscriber assigned to UE, where N is an integer number (i.e. User1, User2, etc.)

3.3 Abbreviations

AD	Architecture Document
ETS	Enabler Test Specification
IMS	IP Multimedia Subsystem
IP	Internet Protocol
OMA	Open Mobile Alliance
PoC	Push to talk over Cellular
RD	Requirements Document
RLS	Resource List Server
SIP	Session Initiation Protocol
UE	User Equipment
URI	Universal Resource Identifier
XCAP	XML Configuration Access Protocol
XDM	XML Document Management
XDMC	XDM Client
XDMS	XDM Server
XML	Extensible Mark-up Language

3.4 Testing Policies

This section is intended to describe the testing policies used throughout the document.

It should be noted that the requirement of multi-company testing is compulsory for TestFest events and bilateral testing events.

For the UE testing, the focus is on UE1 (from Company1) and UE2 (from Company2). UE1, UE2 and the XDMS MUST be from different vendors.

UE1 is used for test case execution (storage, retrieval and modification of the XML documents in XDMS).
UE2 is used only for verification of UE1's test cases execution (storage, retrieval and modification of the XML documents in XDMS).

UE1 and UE2 are from different companies and are preloaded with the same user credentials to validate that UE1 correctly manipulated XML documents.

3.5 Testing Assumptions

For all test cases throughout the document, the following assumptions are valid unless stated otherwise. Therefore, these assumptions shall be seen as a part of the preconditions:

General:

- The UE implements XDMC and is able to communicate with an XDMS.
- The XDMC establishes a connection to and downloads the required information from the XDMS during power up or during the initial retrieval of XML documents.
- The UE is capable of indicating a successful retrieval of documents from an XDMS.
- The UE is capable of indicating an unsuccessful retrieval of documents from an XDMS.
- The UE is capable of indicating an unsuccessful authentication.

4. Introduction

The purpose of this document is to provide test cases for XDM Enabler Release V1.1.

The following items on an overall level are needed to adequately test the XDM Enabler:

- A Client that is comprised of XDMC plus Watcher and/or Presence Source logical components
- RLS XDMS and optionally, Shared XDMS..

Detailed information will be included in the specific test cases description.

The XDM Enabler tests are carried out using XCAP and SIP protocols. The transport protocols used are UDP, TCP and/or TLS.

5. Test Cases

This section lists the steps needed for the execution of the RLS XDM test cases.

5.1 Aggregation Proxy Test Cases

This section represents the test cases that will be executed by the following configurations of enablers:

- Client with XDMC
- Aggregation Proxy with a Shared XDMS
- Aggregation Proxy with an RLS XDMS

5.1.1 Authentication Test Cases

5.1.1.1 Normal Flow

5.1.1.1.1 RLS-XDM-1.1-int-0100 Authentication of XDMC in the UE

Test Case Id	RLS-XDM-1.1-int-0100
Test Object	UE with XDMC, Aggregation Proxy, RLS XDMS, optionally, Shared XDMS
Test Case Description	Verify that UE can be successfully authenticated by the Aggregation Proxy when retrieving documents over the XCAP interface. TEST CASE GOAL: Verify that when the UE initiates the communication with an XDMS, the Aggregation Proxy authenticates it.
Specification Reference	Refer to Appendix A
SCR Reference	Refer to Appendix A
Tool	Not available.
Test code	Not available.
Preconditions	• Equipment: o UE (with User1 credentials) o Aggregation Proxy o RLS XDMS, optionally, Shared XDMS • Prerequisite for this test: o XDM-1.1-int-0150 – authentication failure test case executes successfully. This is to verify that the Aggregation Proxy is challenging the requests. o Both, the UE and the Aggregation Proxy support the same type of authentication (definition of the authentication is outside of the scope of the ETS) o User1 is preconfigured in the network with valid credentials o The UE is powered off o Authentication is enabled in the Aggregation Proxy o The XDMC communicates with an XDMS when the user accesses the documents for the first time after power up o UE does not have any documents stored locally for User1 o Logging might be requred for this test case, in o rder to fully verify the successfull authentication

Test Procedure	1. UE is powered on. 2. XDMS is contacted to retrieve User1 RLS document (s).
Pass-Criteria	2. No failed authentication indication is displayed to the user. (The UE may display the retrieved XDMS documents).

5.1.1.2 Error Flow

5.1.1.2.1 RLS-XDM-1.1-int-0150 Too Many Failed Authentication Attempts by XDMC in UE

Test Case Id	RLS-XDM-1.1-int-0150
Test Object	UE with XDMC, Aggregation Proxy
Test Case Description	Verify that the Aggregation Proxy rejects too many failed authentication attempts by the UE. TEST CASE GOAL: Verify that the client will not be able to access XML documents during the initial communication attempt with an XDMS.
Specification Reference	Refer to Appendix A
SCR Reference	Refer to Appendix A
Tool	Not available.
Test code	Not available.
Preconditions	• Equipment: o UE (with User1 credentials) o Aggregation Proxy • Prerequisite for this test: o The UE is powered off o Both, the UE and the Aggregation Proxy support the same type of authentication o User1 is preconfigured in the network with wrong credentials (for the Aggregation Proxy to reject authentication requests) o Authentication is enabled in the Aggregation Proxy o The "count of allowed challenges" in the Aggregation Proxy is set to 5 or less o UE does not have any documents for User1
Test Procedure	1. UE is powered on. 2. XDMS is contacted to retrieve User1 RLS document (s).
Pass-Criteria	2. Failed authentication indication is displayed to the user.

5.2 RLS XDMS Test Cases

5.2.1 Document Management and Authorization Test Cases

5.2.1.1 Normal Flow

5.2.1.1.1 RLS-XDM-1.1-int-0200 RLS XDMS Document Creation, Retrieval and Validation

Test Case Id	RLS-XDM-1.1-int-0200

Test Object	UE with Presence XDMC, Aggregation Proxy, RLS XDMS, Shared XDMS (only required if UE stores documents in RLS XDMS that refer to Shared XDMS)
Test Case Description	Verify that the user can create and retrieve an XML document from the RLS XDMS. TEST CASE GOAL: Verify creation and retrieval of Presence Lists document. This test case if for the UEs that are able to create the Presence Lists document.
Specification Reference	Refer to Appendix A
SCR Reference	Refer to Appendix A
Tool	Not available.
Test code	Not available.
Preconditions	• Equipment: o 2 UEs (both with User1 credentials) o Aggregation Proxy o RLS XDMS o Shared XDMS (only required if UE stores documents in RLS XDMS that refer to Shared XDMS) • Prerequisite for this test: o XDM-1.1-int-0100 – executes successfully o UE1 and UE2 are powered off o No Presence Lists document is stored on UE1 and UE2. o UE1 is able to create Presence Lists document o A common set of services is supported by UE1and UE2 o UE1 and UE2 are able to set and display the services for users Presence Lists document stored in RLS XDMS
Test Procedure	1. UE1 is powered on. 2. The Presence Lists document is created with set of services for User2 using UE1. 3. UE1 is powered off. 4. UE2 is powered on. 5. The Presence Lists document is retrieved from RLS XDMS using UE2.
Pass-Criteria	2. UE1 displays the set of services for User2. The services are noted. 5. UE2 displays the set of services for User2. The services are identical to those in Step 2.

5.2.1.1.2 RLS-XDM-1.1-int-0201 RLS XDMS Document Retrieval and Validation

Test Case Id	RLS-XDM-1.1-int-0201
Test Object	UE with Presence XDMC, Aggregation Proxy, RLS XDMS, Shared XDMS (only required if documents in RLS XDMS refer to Shared XDMS)
Test Case Description	Verify that the user can retrieve an XML document from the RLS XDMS. TEST CASE GOAL: Verify retrieval of Presence Lists document.
Specification Reference	Refer to Appendix A
SCR Reference	Refer to Appendix A
Tool	Not available.

Test code	Not available.
Preconditions	• Equipment: o UE (with User1 credentials) o Aggregation Proxy o RLS XDMS o Shared XDMS (only required documents in RLS XDMS refer to Shared XDMS) • Prerequisite for this test: o XDM-1.1-int-0100 – executes successfully o UE1 is powered off o Presence Lists document is stored in RLS XDMS. The document includes the services for User2. o No local Presence Lists document is stored on UE. o o A common set of services is supported by UE o UE is able to set and display the services for users Presence Lists document stored in RLS XDMS
Test Procedure	1. UE is powered on. 2. The Presence Lists document is retrieved from RLS XDMS.
Pass-Criteria	2. UE displays the services for User2.

5.2.1.1.3 RLS-XDM-1.1-int-0202 RLS XDMS Element Creation, Retrieval and Validation

Test Case Id	RLS-XDM-1.1-int-0202
Test Object	UE with Presence XDMC, Aggregation Proxy, RLS XDMS, Shared XDMS (only required if UE stores documents in RLS XDMS that refer to Shared XDMS)
Test Case Description	Verify that the UE can create and retrieve XML elements from the RLS XDMS. TEST CASE GOAL: Add an additional rule to already existing Presence Lists document stored in the RLS XDMS. Verify that the Presence Lists document has been updated correctly in the RLS XDMS.
Specification Reference	Refer to Appendix A
SCR Reference	Refer to Appendix A
Tool	Not available.
Test code	Not available.

Preconditions	• Equipment: o 2 UEs (both with User1 credentials) o Aggregation Proxy o RLS XDMS o Shared XDMS (only required if documents in RLS XDMS refer to Shared XDMS) • Prerequisite for this test: o XDM-1.1-int-0100 – executes succesfully o UE1 and UE2 are powered off o Presence Lists document is already stored in RLS XDMS. The document includes a set of the services for users (including User2). o No local Presence Lists document is stored on UE1 and UE2. o UE1 is able to modify Presence Lists document (User1 is a primary principal of the document). o o A common set of services is supported by UE1and UE2 o UE1 and UE2 are able to set and display the services for users Presence Lists document stored in RLS XDMS
Test Procedure	1. UE1 is powered on. 2. The Presence Lists document is retrieved from RLS XDMS using UE1. 3. A new presence service is added for User3 using UE1. 4. UE1 is powered off. 5. UE2 is powered on. 6. The Presence Lists document is retrieved from RLS XDMS using UE2.
Pass-Criteria	2. UE1 displays the services for User2. 3. UE1 displays the services for User2 and User3. 6. UE2 displays the services for User2 and User3.

5.2.1.1.4 RLS-XDM-1.1-int-0203 RLS XDMS Document and Element Modification, Retrieval and Validation

Test Case Id	RLS-XDM-1.1-int-0203
Test Object	UE with Presence XDMC, Aggregation Proxy, RLS XDMS, Shared XDMS (only required if UE stores documents in RLS XDMS that refer to Shared XDMS)
Test Case Description	Verify that the UE can modify and retrieve XML elements and documents from the RLS XDMS. TEST CASE GOAL: Modify and retrieve an already existing service element in Presence Lists document stored in the RLS XDMS. Verify that the services has been updated correctly in the RLS XDMS.
Specification Reference	Refer to Appendix A
SCR Reference	Refer to Appendix A
Tool	Not available.
Test code	Not available.

Preconditions	• Equipment: o 2 UEs (both with User1 credentials) o Aggregation Proxy o Presence XDMS o Shared XDMS (only required if documents in RLS XDMS refer to Shared XDMS) • Prerequisite for this test: o XDM-1.1-int-0100 – executes succesfully o UE1 and UE2 are powered off o Presence Lists document is already stored in RLS XDMS. The document includes a presence package element for User2. o The UE1 supports addition of more than presence package. o No local Presence Lists document is stored on UE1 and UE2. o UE1 is able to modify Presence Lists document (User1 is a primary principal of the document). o o A common set of services is supported by UE1and UE2 o UE1 and UE2 are able to set and display the services for users Presence Lists document stored in RLS XDMS
Test Procedure	1. UE1 is powered on. 2. The Presence Lists document is retrieved from RLS XDMS using UE1. 3. A package is added to the service of User2 using UE1 (additional to the presence package). 4. UE1 is powered off. 5. UE2 is powered on. 6. The Presence Lists document is retrieved from RLS XDMS using UE2.
Pass-Criteria	2. UE1 displays the presence service package for User2. 3. UE1 displays two service packages for User2 (presence and an additional package added in Step 2). 6. UE2 displays two service packages for User2. The packages are identical to packages displayed in Step 3.

5.2.1.1.5 RLS-XDM-1.1-int-0204 RLS XDMS Element Deletion, Retrieval and Validation

Test Case Id	RLS-XDM-1.1-int-0204
Test Object	UE with Presence XDMC, Aggregation Proxy, RLS XDMS, Shared XDMS (only required if UE stores documents in RLS XDMS that refer to Shared XDMS)
Test Case Description	Verify that the UE can delete XML elements from the RLS XDMS. TEST CASE GOAL: Delete a service from the Presence Lists document stored in the RLS XDMS and verify that the service is removed from the RLS XDMS.
Specification Reference	Refer to Appendix A
SCR Reference	Refer to Appendix A
Tool	Not available.
Test code	Not available.

Preconditions	• Equipment: o 2 UEs (both with User1 credentials) o Aggregation Proxy o RLS XDMS o Shared XDMS (only required if documents in RLS XDMS refer to Shared XDMS) • Prerequisite for this test: o XDM-1.1-int-0100 – executes succesfully o UE1 and UE2 are powered off o Presence Lists document is already stored in RLS XDMS. The document includes a set of the services including User2 and User3. o No local Presence Lists document is stored on UE1 and UE2. o UE1 is able to modify Presence Lists document (User1 is a primary principal of the document). o A common set of services is supported by UE1and UE2 o UE1 and UE2 are able to set and display the services for users Presence Lists document stored in RLS XDMS
Test Procedure	1. UE1 is powered on. 2. The Presence Lists document is retrieved from RLS XDMS using UE1. 3. A service for User2 is deleted using UE1. 4. UE1 is powered off. 5. UE2 is powered on. 6. The Presence Lists document is retrieved from RLS XDMS using UE2.
Pass-Criteria	2. UE1 displays the services for User2 and User3. 3. UE1 displays the services for User3. 6. UE2 displays the services for User3.

5.2.1.1.6 RLS-XDM-1.1-int-0205 RLS XDMS Document Deletion, Retrieval and Validation

Test Case Id	RLS-XDM-1.1-int-0205
Test Object	UE with Presence XDMC, Aggregation Proxy, RLS XDMS, Shared XDMS (only required if UE stores documents in Presence XDMS that refer to Shared XDMS)
Test Case Description	Verify that the UE can delete an XML document from the RLS XDMS. TEST CASE GOAL: Delete the Presence Lists document stored in the RLS XDMS and verify that the document no longer exists in the RLS XDMS.
Specification Reference	Refer to Appendix A
SCR Reference	Refer to Appendix A
Tool	Not available.
Test code	Not available.

Preconditions	• Equipment: o 2 UEs (both with User1 credentials) o Aggregation Proxy o RLS XDMS o Shared XDMS (only required if documents in RLS XDMS refer to Shared XDMS) • Prerequisite for this test: o XDM-1.1-int-0100 – executes succesfully o UE1 and UE2 are powered off o Presence Lists document is already stored in RLS XDMS. It includes services for at least one Watcher. o No local Presence Lists document is stored on UE1 and UE2. o UE1 is able to remove Presence Lists document (User1 is a primary principal of the document). o A common set of services is supported by UE1 and UE2 o UE1 and UE2 are able to set and display the services for users Presence Lists document stored in RLS XDMS.
Test Procedure	1. UE1 is powered on. 2. The Presence Lists document is retrieved from RLS XDMS using UE1. 3. The retrieved Presence Lists document is deleted from UE1 using UE1. 4. UE1 is powered off. 5. UE2 is powered on. 6. The Presence Lists document is retrieved from RLS XDMS using UE2.
Pass-Criteria	2. UE1 displays the services for the user(s). 3. UE1 does not display any services for the user(s). 6. UE2 does not display any services for the user(s).

5.2.1.2 Error Flow

Not Available.

5.2.2 Data Consistency Test Cases

The data consistency scenarios for the same end user are tested in section 5.5.1 with additions in this section.

The data consistency scenarios tested with multiple users are not available in the release 1 of XDM Enabler. Only the primary principal (the creator) of the document will be able to read, write, modify, and delete his/her documents; and therefore, other users will not be able to test with primary principle's documents.

5.2.2.1 Normal Flow

Not Available.

5.2.2.2 Error Flow

Not Available.

5.2.3 Authorization Test Cases

5.2.3.1 Normal Flow

In the release 1 of XDM Enabler, only the owner of the document can be its primary principal. Currently, it is also not possible to change the primary principal. The owner authorization rules are tested in the section 5.5.1. Successful execution of these test cases represents successful authorization.

5.2.3.2 Error Flow

Not Available.

Appendix A. SCR and Specification References

Test Case Number in ETS	SCR-reference	Spec (AD,CP,UP)-reference
RLS-XDM-1.1-int-0100	XDM-XDMC-C-001:M XDM-XDMC-C-002:M XDM-XDMC-C-005:M XDM-XDMC-C-006:M XDM-XDMS-S-001:M XDM-XDMS-S-005:M XDM-AP-S-001:M XDM-AP-S-002:M XDM-AP-S-004:M XDM-AP-S-005:M XDM-AP-S-007:O	**OMA-XDM-Spec:** 5.2 6.3.1 6.4.1 6.1.1.1 6.1.1.2 6.2.1 6.3 6.3.2 6.3.3 6.4 6.4.2 6.4.3 RFC 2617
RLS-XDM-1.1-int-0150	XDM-XDMC-C-001:M XDM-XDMC-C-002:M XDM-XDMC-C-005:M XDM-XDMC-C-006:M XDM-XDMS-S-001:M XDM-XDMS-S-005:M XDM-AP-S-001:M XDM-AP-S-002:M XDM-AP-S-004:M XDM-AP-S-007:M	**OMA-XDM-Spec:** 5.2 6.3.1 6.4.1 6.1.1.1 6.1.1.2 6.2.1 6.3 6.3.2 6.3.3 6.4 6.4.2 6.4.3 RFC 2617
RLS-XDM-1.1-int-0200 RLS-XDM-1.1-int-0201 RLS-XDM-1.1-int-0202 RLS-XDM-1.1-int-0203 RLS-XDM-1.1-int-0204 RLS-XDM-1.1-int-0205	XDM-XDMC-C-001:M XDM-XDMC-C-002:M XDM-XDMC-C-005:M XDM-XDMC-C-006:M XDM-XDMS-S-001:M XDM-XDMS-S-005:M XDM-AP-S-001:M XDM-AP-S-002:M XDM-AP-S-004:M XDM-AP-S-007:M RLS_XDM-AU-S-001 RLS_XDM-AU-S-003 RLS_XDM-AU-S-007 RLS_XDM-AU-S-010	**OMA-XDM-Spec:** 5.2 6.1.1.1 6.1.1.2 6.2.1 6.3 6.3.1 6.3.2 6.4 6.4.1 6.4.2 6.4.3 **RLS_XDM:** 5.1.1 5.1.4 5.1.7

Appendix B. Change History (Informative)

B.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version –or- No previous version within OMA

B.2 Draft/Candidate Version 1.1 History

Document Identifier	Date	Sections	Description
Draft Version OMA-ETS-Presence_RLS_XDM_INT-V1_1	10 Dec 2007	all	Initial version based on OMA-ETS-RLS_XDM_INT-V1_0-20051220-A, References to PRS 1.0 specifications changed to PRS 1.1 and template updated
Candidate Version OMA-ETS-Presence_RLS_XDM_INT-V1_1	31 Mar 2008	n/a	TP approval document reference: OMA-TP-2008-0110