Enabler Validation Plan for

Software Component Management Object

Candidate Version 1.0 – 06 Apr 2010

Open Mobile Alliance

OMA-EVP-SCOMO-V1_0-20100406-C

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

Use of this document is subject to all of the terms and conditions of the Use Agreement located at http://www.openmobilealliance.org/UseAgreement.html.

Unless this document is clearly designated as an approved specification, this document is a work in process, is not an approved Open Mobile Alliance™ specification, and is subject to revision or removal without notice.

You may use this document or any part of the document for internal or educational purposes only, provided you do not modify, edit or take out of context the information in this document in any manner. Information contained in this document may be used, at your sole risk, for any purposes. You may not use this document in any other manner without the prior written permission of the Open Mobile Alliance. The Open Mobile Alliance authorizes you to copy this document, provided that you retain all copyright and other proprietary notices contained in the original materials on any copies of the materials and that you comply strictly with these terms. This copyright permission does not constitute an endorsement of the products or services. The Open Mobile Alliance assumes no responsibility for errors or omissions in this document.

Each Open Mobile Alliance member has agreed to use reasonable endeavors to inform the Open Mobile Alliance in a timely manner of Essential IPR as it becomes aware that the Essential IPR is related to the prepared or published specification. However, the members do not have an obligation to conduct IPR searches. The declared Essential IPR is publicly available to members and non-members of the Open Mobile Alliance and may be found on the "OMA IPR Declarations" list at http://www.openmobilealliance.org/ipr.html. The Open Mobile Alliance has not conducted an independent IPR review of this document and the information contained herein, and makes no representations or warranties regarding third party IPR, including without limitation patents, copyrights or trade secret rights. This document may contain inventions for which you must obtain licenses from third parties before making, using or selling the inventions. Defined terms above are set forth in the schedule to the Open Mobile Alliance Application Form.

NO REPRESENTATIONS OR WARRANTIES (WHETHER EXPRESS OR IMPLIED) ARE MADE BY THE OPEN MOBILE ALLIANCE OR ANY OPEN MOBILE ALLIANCE MEMBER OR ITS AFFILIATES REGARDING ANY OF THE IPR'S REPRESENTED ON THE "OMA IPR DECLARATIONS" LIST, INCLUDING, BUT NOT LIMITED TO THE ACCURACY, COMPLETENESS, VALIDITY OR RELEVANCE OF THE INFORMATION OR WHETHER OR NOT SUCH RIGHTS ARE ESSENTIAL OR NON-ESSENTIAL.

THE OPEN MOBILE ALLIANCE IS NOT LIABLE FOR AND HEREBY DISCLAIMS ANY DIRECT, INDIRECT, PUNITIVE, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OF DOCUMENTS AND THE INFORMATION CONTAINED IN THE DOCUMENTS.

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms set forth above.

Contents

1. SCOPE 5
1.1 ASSUMPTIONS 5
1.2 EXCLUSIONS 5
2. REFERENCES 6
2.1 NORMATIVE REFERENCES 6
2.2 INFORMATIVE REFERENCES 6
3. TERMINOLOGY AND CONVENTIONS 7
3.1 CONVENTIONS 7
3.2 DEFINITIONS 7
3.3 ABBREVIATIONS 7
4. ENABLER VALIDATION DESCRIPTION 8
5. TESTFEST ACTIVITIES 9
5.1 ENABLER TEST GUIDELINES 9
5.1.1 Minimal Test Configuration 9
5.1.2 Minimal Participation Guidelines 9
5.1.3 Optimal TestFest Achievement Guidelines 9
5.2 ENABLER TEST REQUIREMENTS 10
5.2.1 Test Infrastructure Requirements 10
5.2.2 Test Content Requirements 12
5.2.3 Test Limitations 12
5.2.4 Test Restrictions 12
5.2.5 Test Tools 12
5.2.6 Resources Required 12
5.3 TESTS TO BE PERFORMED 12
5.3.1 Entry Criteria for TestFest 12
5.3.2 Testing to be Performed at TestFest 13
5.4 ENABLER TEST REPORTING 13
5.4.1 Problem Reporting Requirements 13
5.4.2 Enabler Test Requirements 13
6. ALTERNATIVE VALIDATION ACTIVITIES 14
7. APPROVAL CRITERIA 15
7.1 ENABLER VALIDATION TEST CASES 15
7.2 NON-COVERED ETR REQUIREMENTS 16
APPENDIX A. CHANGE HISTORY (INFORMATIVE) 17
A.1 APPROVED VERSION HISTORY 17
A.2 DRAFT/CANDIDATE VERSION 1.0 HISTORY 17
APPENDIX B. <ADDITIONAL INFORMATION> 18
B.1 APP HEADERS 18
B.1.1 More Headers 18

Figures

Figure 1: Example Call Flow ..... Error! Bookmark not defined.

Tables

Table 1: Listing of Tests for Entry Criteria for TestFest 13

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

Table 2: Listing of Tests to be Performed at TestFest **13**

Table 3: Enabler Validation Test Cases **16**

Table 4: Non-Covered ETR Requirements **16**

Table 3: Example Table **18**

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

1. Scope

This document details the Validation plan for the Software Component Management Object 1.0 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 1.0 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

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

2. References

2.1 Normative References

[ENABLERSPEC] OMA-ERP-SCOMO-V1_0, Open Mobile Alliance™, URL:http://www.openmobilealliance.org/

[IOPEICS] OMA-EICS-SCOMO- Client-V1_0, Open Mobile Alliance™, URL:http://www.openmobilealliance.org/
and
OMA-EICS-SCOMO-Server-V1_0, Open Mobile Alliance™, URL:http://www.openmobilealliance.org/

[IOPETR] OMA-SCOMO-ETR-V1_0, Open Mobile Alliance™, URL:http://www.openmobilealliance.org/

[IOPETS] OMA-ETS-SCOMO-V1_0, Open Mobile Alliance™, 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

[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

[RFC2234] "Augmented BNF for Syntax Specifications: ABNF". D. Crocker, Ed., P. Overell. November 1997, URL:http://www.ietf.org/rfc/rfc2234.txt

[ERELD] "Enabler Release Document for SCOMO", Version 1.0, Open Mobile Alliance™, OMA-ERELD-SCOMO-V1_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/

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

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.

The following numbering scheme is used:

xxx-y.z-con-number where:

xxx	Name of enabler, e.g. MMS or Browsing
y.z	Version of enabler release, e.g. 1.2 or 1.2.1
’con’	Indicating this test is a conformance test case
number	Leap number for the test case

Or

xxx-y.z-int-number where:

xxx	Name of enabler, e.g. MMS or Browsing
y.z	Version of enabler release, e.g. 1.2 or 1.2.1
’int’	Indicating this test is a interoperability test case
number	Leap number for the test case

3.2 Definitions

<Node>	Path from the root to the node that is configured to the SCTS before the testing is done (e.g.. ‘./Inventory/Deployed’ or ‘./Download’). Test case is driven to this configured interior node. The <Node> can be different between different Test Cases
Test Object	The implementation under test is referred to as the Test Object. In this document, the client

3.3 Abbreviations

DDF	Device Description Framework
DL	Download
DLOTA	Download Over-The-Air
DM	Device Management
MO	Management Object
OMA	Open Mobile Alliance
SCOMO	Software Component Management Object
SCR	Static Conformance Requirement

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document. [OMA-Template-EnablerValidationPlan-20090101-I]

4. Enabler Validation Description

It is intended that Test Fests will be the primary method of validation for OMA SCOMO 1.0.

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

5. TestFest Activities

5.1 Enabler Test Guidelines

5.1.1 Minimal Test Configuration

5.1.2 Minimal Participation Guidelines

There are a minimum of 3 SET clients from different vendors and 2 SLP servers from different vendors.

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:

SCOMO-1.0-int-001
SCOMO-1.0-int-002
SCOMO-1.0-int-003
SCOMO-1.0-int-004
SCOMO-1.0-int-005
SCOMO-1.0-int-006
SCOMO-1.0-int-007
SCOMO-1.0-int-008
SCOMO-1.0-int-009
SCOMO-1.0-int-010
SCOMO-1.0-int-011
SCOMO-1.0-int-012
SCOMO-1.0-int-013
SCOMO-1.0-int-014
SCOMO-1.0-int-015

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

5.2 Enabler Test Requirements

Testing requirements for SCOMO 1.0 are specified in [IOPETR].

The testing assertions shall reflect possible high-level functionality of the mentioned areas in a normal flow.

5.2.1 Test Infrastructure Requirements

5.2.1.1 Architectural Diagram

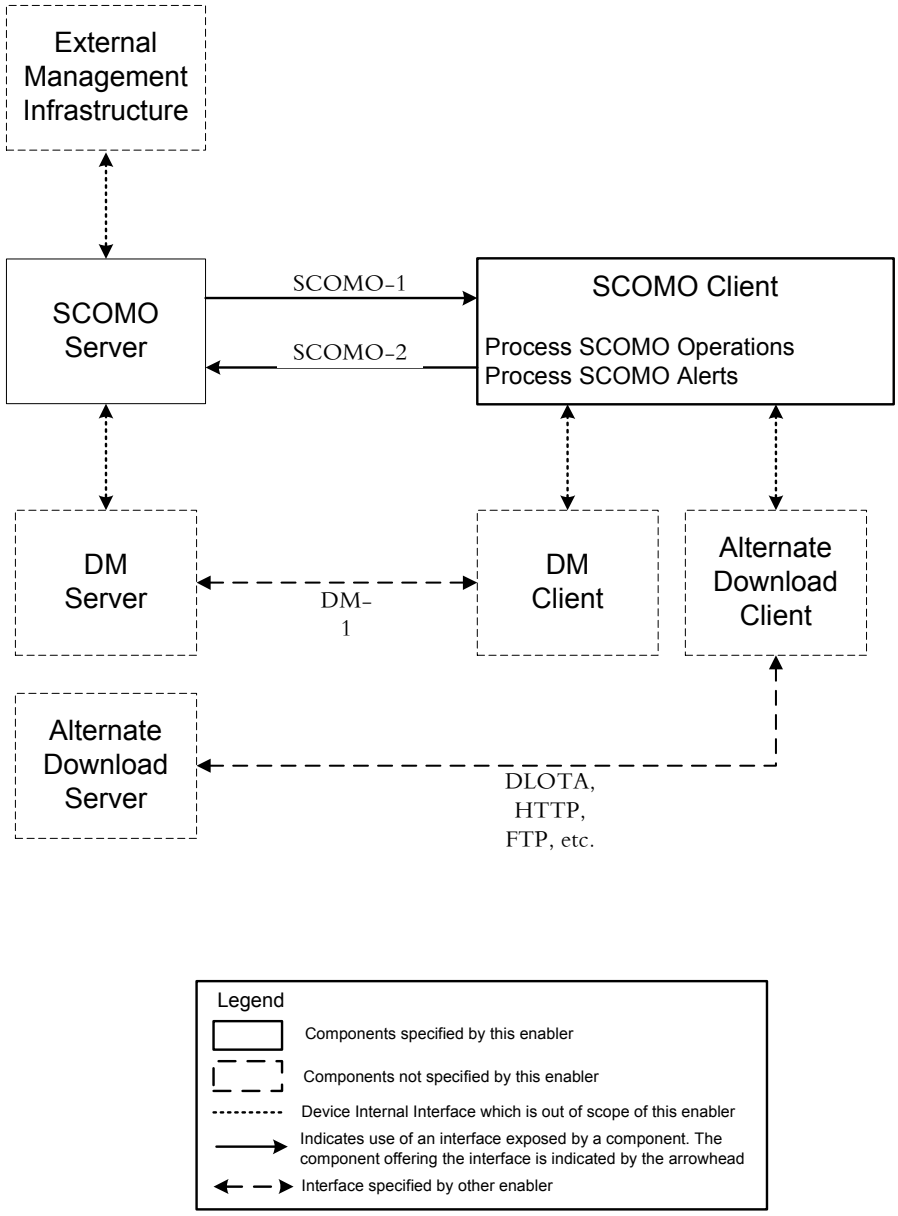

Figure 5-1 Overall Test Environment

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

5.2.1.2 OMA DM Download of a Software Component

This flow describes interactions between device and the SCOMO Server wherein the SCOMO Server delivers a software component to the device over the OMA-DM protocol.

5.2.1.2.1 Normal Flow

1. The SCOMO Server initiates a session with the device.
2. The SCOMO Server determines an appropriate Software Component for delivery.
3. The SCOMO Server using the DM server delivers the Software Component over the DM Protocol [DMPRO].
4. The device acknowledges the receipt of the Software Component delivery.

5.2.1.3 Download of a Software Component using Alternate Download Mechanisms

This flow describes the interaction between device and the SCOMO Server wherein the SCOMO Server delivers a Software Component to the device using an alternate download mechanism.

5.2.1.3.1 Normal Flow

1. The SCOMO Server initiates a session with the device.
2. The SCOMO Server determines an appropriate Software Component for delivery.
3. The SCOMO Server determines an appropriate alternate download mechanism.
4. The SCOMO Server asks the device to retrieve the Software Component using an alternate download mechanism..
5. The device retrieves the software component using the alternate download mechanism.
6. The device acknowledges the receipt of the software component delivery.

5.2.1.4 Server Interactions with SCOMO(s) on the Device

This flow describes the interaction between device and the SCOMO Server wherein the SCOMO Server invokes SCOMO functionality on the device

5.2.1.4.1 Normal Flow

1. The SCOMO Server initiates a session with the device.
2. The SCOMO Server asks the SCOMO Client on the device to perform a SCOMO Operation
3. The SCOMO Client performs the requested SCOMO Operation.
4. The SCOMO Client reports results of the requested SCOMO Operation to the SCOMO Server.

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document. [OMA-Template-EnablerValidationPlan-20090101-I]

5.2.2 Test Content Requirements

5.2.3 Test Limitations

5.2.3.1 Physical

There are no physical testing limitations. Vendors may test onsite or remotely.

5.2.3.2 Resources

There are no resource limitations.

5.2.4 Test Restrictions

5.2.5 Test Tools

No conformance test tool requirement is available.

5.2.5.1 Existing Tools to be Used

No OMA SCOMO conformance test tool exists.

5.2.5.2 Test Tool Requirements

5.2.6 Resources Required

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 [IOPETS] and any special comments are noted.

Test Case Id	Special Conditions
SCOMO-1.0-int-001	
SCOMO-1.0-int-002	
SCOMO-1.0-int-003	
SCOMO-1.0-int-006	

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document. [OMA-Template-EnablerValidationPlan-20090101-I]

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 [IOPETS] and any special comments are noted.

Test Case Id	Special Conditions
SCOMO-1.0-int-001	
SCOMO-1.0-int-002	
SCOMO-1.0-int-003	
SCOMO-1.0-int-004	
SCOMO-1.0-int-005	
SCOMO-1.0-int-006	
SCOMO-1.0-int-007	
SCOMO-1.0-int-008	
SCOMO-1.0-int-009	
SCOMO-1.0-int-010	
SCOMO-1.0-int-011	
SCOMO-1.0-int-012	
SCOMO-1.0-int-013	
SCOMO-1.0-int-014	
SCOMO-1.0-int-015	

Table 2: Listing of Tests to be Performed at TestFest

5.4 Enabler Test Reporting

5.4.1 Problem Reporting Requirements

5.4.2 Enabler Test Requirements

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document. [OMA-Template-EnablerValidationPlan-20090101-I]

6. Alternative Validation Activities

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

7. Approval Criteria

The SCOMO 1.0 Enabler can be put in the Approved state when:

- The Enabler has been tested successfully at 2 Test Fests or
- There has been at least 2 successful bi-lateral test sessions that have reported results and any issues to OMA.
- No open PRs exist.

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
SCOMO-1.0-int-001	DDF	M	
	DDF-MOI	M	
	DDF-MUST	M	
	DDF-Cond	M	
	DDF-DFType	M	
	DDF-Format	M	
	DDF-Min-Occ	M	
	DDF-Max-Occ	M	
SCOMO-1.0-int-002	Delivery	M	
	Installation	M	
SCOMO-1.0-int-003	Delivery	M	
	Installation	M	
SCOMO-1.0-int-006	Removal	M	
	Inventory	M	
	Report	M	
SCOMO-1.0-int-007	Removal	M	
	Inventory	M	
	Report	M	
SCOMO-1.0-int-012	Removal	M	
	Inventory	M	
	Report	M	
SCOMO-1.0-int-013	Removal	M	
	Inventory	M	
	Report	M	
SCOMO-1.0-int-014	Delivery	M	
SCOMO-1.0-int-015	Delivery	M	

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

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
Update	M	
DFF-Min-Acc	M	Error Flow
DDF-Inv-Ext	M	Error Flow
DDF-Inv-Acc	M	Error Flow
OMA-DM-Delivery	O	
Update	O	

Table 4: Non-Covered ETR Requirements

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

Appendix A. Change History (Informative)

A.1 Approved Version History

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

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-EVP-SCOMO-V1_0	20 Mar 2009	all	No prior version
	02 Mar 2010	5.1.3, 5.3.2, 7.1	Incorporated CR: OMA-IOP-MEC-0015R01
Candidate Version OMA-EVP-SCOMO-V1_0	06 Apr 2010	n/a	Status changed to Candidate by TP TP ref# OMA-TP-2010-0134- INP_SCOMO_10_EVP_for_Candidate_Approval

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document. [OMA-Template-EnablerValidationPlan-20090101-I]

Appendix B. <Additional Information>

B.1 App Headers

<More text>

B.1.1 More Headers

<More text>

B.1.1.1 More Headers

<More text>

	Column 1	Column 2
Row 1	Grid 1,1 data	Grid 1,2 data
Row 2	Grid 2,1 data	Grid 2,2 data

Table 5: Example Table

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.