Enabler Validation Plan for DiagMon

Candidate Version 1.1 – 10 Jan 2012

Open Mobile Alliance

OMA-EVP-DiagMon-V1_1-20120110-C

© 2012 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.

© 2012 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 Test Case Priority Guidelines 9
   5.2 ENABLER TEST REQUIREMENTS 10
      5.2.1 Test Infrastructure Requirements 10
      5.2.2 Enabler Execution Flow 10
      5.2.3 Test Content Requirements 11
      5.2.4 Test Limitations 11
      5.2.5 Test Restrictions 11
      5.2.6 Test Tools 11
      5.2.7 Resources Required 11
   5.3 TESTS TO BE PERFORMED 11
      5.3.1 Entry Criteria for TestFest 12
      5.3.2 Testing to be Performed at TestFest 12
   5.4 ENABLER TEST REPORTING 12
      5.4.1 Problem Reporting Requirements 12
      5.4.2 Enabler Test Requirements 12
6. ALTERNATIVE VALIDATION ACTIVITIES 13
7. APPROVAL CRITERIA 14
   7.1 ENABLER VALIDATION TEST CASES 14
   7.2 NON-COVERED ETR REQUIREMENTS 14

APPENDIX A. CHANGE HISTORY (INFORMATIVE) 16
   A.1 APPROVED VERSION HISTORY 16
   A.2 DRAFT/CANDIDATE VERSION <CURRENT VERSION> HISTORY 16

Figures

Figure 1: Example Call Flow 10

Tables

Table 1: Listing of Tests for Entry Criteria for TestFest 12

Table 2: Listing of Tests to be Performed at TestFest 12

© 2012 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-20100101-I]

Table 3: Enabler Validation Test Cases **14**

Table 4: Non-Covered ETR Requirements **15**

Table 3: Example Table ..... Error! Bookmark not defined.

© 2012 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 DiagMon V1.1 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 DiagMon V1.1 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.

© 2012 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

[DIAGMON-TS] "DiagMon V1.1 Technical Specification", Open Mobile Alliance™, OMA-TS-DiagMon-V1_1, URL:http://www.openmobilealliance.org/

[IOPETR] "DiagMon V1.1 Enabler Test Requirements", Open Mobile Alliance™, OMA-ETR-DiagMon-V1_1, URL:http://www.openmobilealliance.org/

[IOPETS] "DM DiagMon Enabler Test Specification", Open Mobile Alliance™, OMA-ETS-DiagMon-V1_1, URL:http://www.openmobilealliance.org/

[IOPPROC] "OMA Interoperability Policy and Process", Version 1.8, Open Mobile Alliance™, OMA-ORG-IOP_Process-V1_8, 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

2.2 Informative References

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

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

© 2012 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.

3.2 Definitions

Device	see [OMADICT]
Management Object	A data model for information, which is a logical part of the interfaces exposed by DM components.

3.3 Abbreviations

DM	Device Management
MO	Management Objects
OMA	Open Mobile Alliance

© 2012 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.

4. Enabler Validation Description

TestFest will cover the full functionality of the DiagMon V1.1 Enabler [DIAGMON-TS]. Each participant has to make sure that the entry criteria for TestFest are satisfied. In addition, only the test cases associated with the mandatory SCR requirements need to be performed without any problem reports for enabler verification.

© 2012 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-20100101-I]

5. TestFest Activities

5.1 Enabler Test Guidelines

The DIAGMON V1.1 Enabler specifies the DiagMon Functions and the corresponding Management Objects that can be layered on top of the OMA DM V1.2 Enabler to seamlessly add the Diagnostics and Monitoring management function to the OMA DM based management infrastructure.

5.1.1 Minimal Test Configuration

The following describes the minimal test configuration:

1. One DM 1.2 Server that is compliant to the DIAGMON V1.1 Enabler. It should be capable of logging the messages between the client and server to allow for analysis of the DM protocol messages sent and received.
2. One DM 1.2 Client that is compliant to the DIAGMON V1.1 Enabler.
3. Cellular Data Network. Many of the implementations of DM 1.2 server implementation will use a cellular data network as a bearer to have a session with the DM 1.2 Client. A 2.5G network is minimally required to allow for the remote diagnostics and monitoring as well as the mechanisms to convey the result of DiagMon Operations or report the DiagMon data.

5.1.2 Minimal Participation Guidelines

A minimum of 2 different Client and 2 different Server implementations are required to provide meaningful inter-operability testing and formal approval of the enabler. For prototype testing, if there is at least 1 server and 1 client, that should suffice.

5.1.3 Optimal TestFest Achievement Test Case Priority Guidelines

This list represents the current highest priority test cases that the participants should attempt to perform at the event. In order to facilitate maximum test coverage of the functionality of the enabler over a number of TestFests, this list may be modified by the IOP WG between test events to reflect the latest priorities. Therefore 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 single test session at an OMA TestFest. 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 so in the time allowed.

The list includes:

Test Case	Title
DiagMon-1.1-int-001	MO Integrity of a DiagMon Function
DiagMon-1.1-int-002	Starting a DiagMon Function
DiagMon-1.1-int-003	Data Collection of a DiagMon Function
DiagMon-1.1-int-004	Reporting DiagMon Results via Generic Alert
DiagMon-1.1-int-005	Stopping a DiagMon Function

© 2012 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

5.2.1 Test Infrastructure Requirements

Test infrastructure will include the DM Client and the DM Server. Besides, 2.5G/3G cellular data network is required as a bearer. For the delivery of the Notification to the device, PPG (Push Proxy Gateway) and SMSC are required. In addition, depending on the agreement between the respective server and client implementations, cellular network may be replaced by Internet.

5.2.2 Enabler Execution Flow

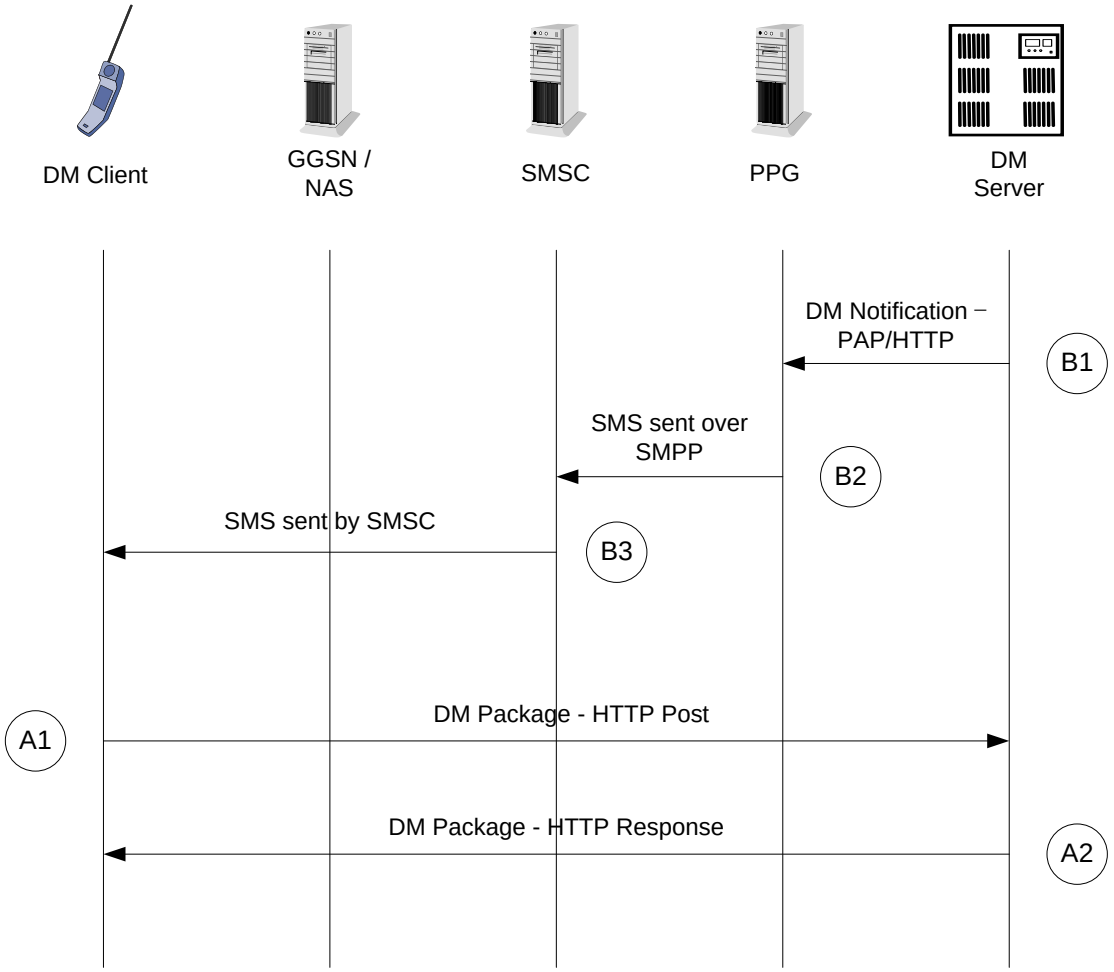

Figure 1: Example Call Flow

The call flow for client initiated session can be as follows:

(A1) The DM Client connects through the underlying bearer and network access point to the DM servers that are located on the Internet. The Servers on the Internet may be on the OMA Test Fest network or openly available on the Internet.

(A2) The DM Server will reply to the DM Client as defined in the DM protocol.

The phases A1 and A2 repeat until all the DM messages are exchanged.

The call flow for server initiated session can be as follows:

© 2012 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.

(B1) The DM Server may push information to the Client using the Push Proxy Gateway.

(B2) The information is sent from the PPG using SMPP to the SMSC.

(B3) The message is sent over SMS to the DM Client at the OMA Test Fest.

(A1) Client will reply to the server as defined in the DM protocol

(A2) Servers will reply to the client as defined in the DM protocol.

The phases A1 and A2 repeat until all the DM messages are exchanged.

5.2.3 Test Content Requirements

No test content is required.

5.2.4 Test Limitations

5.2.4.1 Physical

No physical limitations identified at the moment.

5.2.4.2 Resources

It is expected that both Client and Server implementations have dedicated human resources supporting the testing during the entire duration of a test session. No other limitations identified at this time.

5.2.5 Test Restrictions

There is no special test restrictions identified at the moment.

5.2.6 Test Tools

Test tools may be used to verify conformance before coming to the TestFest.

5.2.6.1 Existing Tools to be Used

No existing tool for DiagMon 1.1.

5.2.6.2 Test Tool Requirements

N/A.

5.2.7 Resources Required

It is expected that both Client and Server implementations have at least ONE dedicated human resource to supporting the testing during the entire duration of a test session. The resource SHOULD be familiar with the actual implementation of the enabler so that he/she can answer any pertinent questions immediately and if necessary make changes to connection setup and other implementation aspects.

5.3 Tests to be Performed

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

© 2012 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.

5.3.1 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 DiagMon V1.1 ETS [IOPETS] and any special comments are noted.

Test Case Id	Special Conditions
DiagMon-1.1-int-001	MO Integrity of a DiagMon Function

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 DiagMon V1.1 ETS [IOPETS] and any special comments are noted.

Test Case Id	Special Conditions
DiagMon-1.1-int-001	MO Integrity of a DiagMon Function
DiagMon-1.1-int-002	Starting a DiagMon Function
DiagMon-1.1-int-003	Data Collection of a DiagMon Function
DiagMon-1.1-int-004	Reporting DiagMon Results via Generic Alert
DiagMon-1.1-int-005	Stopping a DiagMon Function

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.

© 2012 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.

6. Alternative Validation Activities

There is no needed alternative validation activities required.

© 2012 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 decision for the approval of the DiagMon V1.1 Enabler SHALL be made 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
DiagMon-1.1-int-001	SU-Invoke	M	
DiagMon-1.1-int-002	SU-Invoke	M	
DiagMon-1.1-int-003	BI-Retrieve	O	
	ME-Retrieve	M	
DiagMon-1.1-int-004	SO-Retrieve	O	
DiagMon-1.1-int-005	AML-Stop	O	

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
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	
ME-Retrieve	M	

© 2012 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.

ETR Requirement Id	ETR Status	Notes

Table 4: Non-Covered ETR Requirements

© 2012 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

A.2 Draft/Candidate Version 1.1 History

Document Identifier	Date	Sections	Description
OMA-EVP-DiagMon-V1_1	31 Aug	All	Baseline as agreed in "OMA-IOP-MEC-2010-0062-INP_DiagMon_1.1_EVP_baseline"
OMA-EVP-DiagMon-V1_1	29 Nov	All	Updated based on ETS
Candidate Version OMA-EVP-DiagMon-V1_1	10 Jan 2012	n/a	Status changed to Candidate by TP TP Ref# OMA-TP-2011-0447-INP_DiagMon_v1_1_EVP_for_Candidate_Approval

© 2012 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.