Enabler Validation Plan for DM DCMO

Candidate Version 1.0 – 15 Sep 2009

Open Mobile Alliance

OMA-EVP-DM_DCMO-V1_0-20090915-C

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1. Scope

This document details the Validation plan for the DM DCMO 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 DM DCMO 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.

2. References

2.1 Normative References

[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

[ENABLERSPEC] "DM DCMO Technical Specification", Open Mobile Alliance™, OMA-TS-DCMO-V1_0, URL:http://www.openmobilealliance.org/

[IOPETR] "DM DCMO Enabler Test Requirements", Open Mobile Alliance™, OMA-ETR-DCMO-V1_0, URL:http://www.openmobilealliance.org/

[IOPETS] "DM DCMO Enabler Test Specification", Open Mobile Alliance™, OMA-ETS-DCMO-V1_0, URL:http://www.openmobilealliance.org/

[DCMOEICSC] "DCMO Enabler Implementation Conformance Statement for Client", Open Mobile Alliance™, OMA-EICS-DCMO_Client-V1_0, URL:http://www.openmobilealliance.org/

[DCMOEICSS] "DCMO Enabler Implementation Conformance Statement for Server", Open Mobile Alliance™, OMA-EICS-DCMO_ Server-V1_0, URL:http://www.openmobilealliance.org/

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

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

DCMO Alert	DCMO specific alerts which convey the result of DCMO Operations or report the discovery of new device capability via DM Generic Alert mechanism.
DCMO Operations	Operations (e.g. enable, disable) which may be invoked on a Device Capability MO.
Device	see [OMADICT]
Device Capability	Physical characteristics and related parameters supported by a device.
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
SCTS	SyncML Conformance Test Suite

4. Enabler Validation Description

TestFest will cover the full functionality of the DM DCMO 1.0 Enabler [DCMO-ERELD]. 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.

5. TestFest Activities

5.1 Enabler Test Guidelines

The DM DCMO 1.0 Enabler specifies the DCMO Framework and the corresponding Management Objects that can be layered on top of the OMA DM V1.2 Enabler to seamlessly add the Device Capability management function to the OMA DM based management infrastructure. With this function, the OMA DM system is able to selectively enable and disable device capabilities, such as Cameras, Bluetooth, USB, keyboard, peripheral and more.

5.1.1 Minimal Test Configuration

The following describes the minimal test configuration:

1. One DM 1.2 Server that is compliant to the DM DCMO 1.0 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 DM DCMO 1.0 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 enablement and disablement of device capabilities as well as the mechanisms to convey the result of DCMO Operations or report the discovery of new device capability. Therefore, SIM cards with data network capability are required to perform a DM DCMO 1.0 Enabler TestFest.

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
DCMO-1.0-int-001	Enable Device Capability
DCMO-1.0-int-002	Disable Device Capability
DCMO-1.0-int-003	Detect Attaching a Peripheral
DCMO-1.0-int-004	Detect Detaching a Peripheral
DCMO-1.0-int-005	Result Reporting
DCMO-1.0-int-006	Deny User Enablement

DCMO-1.0-int-007	User Notification

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

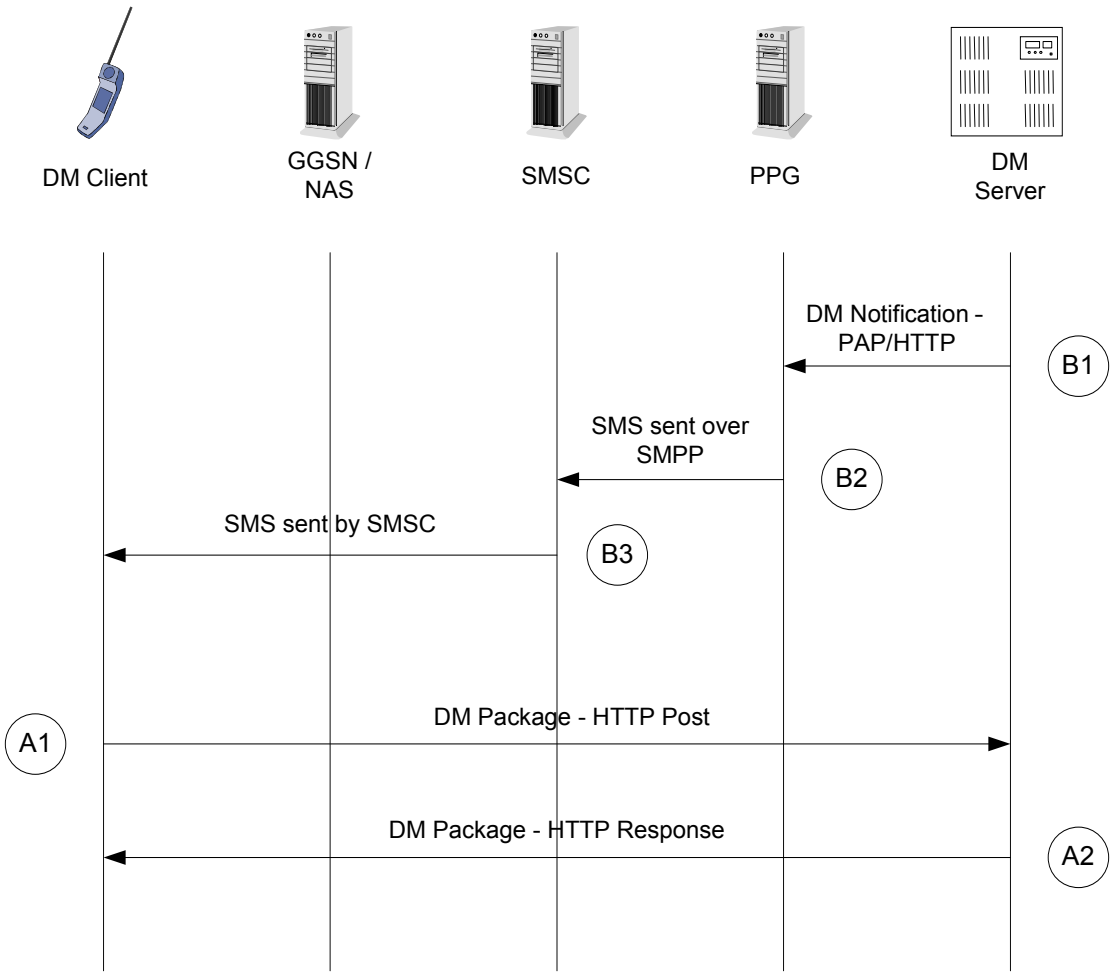

Figure 1: Example Call Flow

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:

(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

The SCTS DM tool may be used for conformance testing.

5.2.6.2 Test Tool Requirements

The SCTS DM tool shall support OMA DM 1.2 and especially Generic Alert mechanism and EXEC commands.

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.

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 DM DCMO Enabler Test Specification [IOPETS] and any special comments are noted.

Test Case Id	Special Conditions
DCMO-1.0-int-002	
DCMO-1.0-int-003	
DCMO-1.0-int-005	
DCMO-1.0-int-006	

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 DM DCMO Enabler Test Specification [IOPETS] and any special comments are noted.

Test Case Id	Special Conditions
DCMO-1.0-int-001	
DCMO-1.0-int-002	
DCMO-1.0-int-003	
DCMO-1.0-int-004	
DCMO-1.0-int-005	
DCMO-1.0-int-006	
DCMO-1.0-int-007	

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

There is no needed alternative validation activities required.

7. Approval Criteria

The decision for the approval of the DM DCMO 1.0 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
DCMO-1.0-int-001	Enable	M	
DCMO-1.0-int-002	Disable	M	
DCMO-1.0-int-003	Attach	M	
DCMO-1.0-int-004	Detach	M	
DCMO-1.0-int-005	Report	M	
DCMO-1.0-int-006	Deny User Enablement	M	

Table 3: Enabler Validation Test Cases

7.2 Non-Covered ETR Requirements

Currently, the following DDF test requirements are not explicitly covered.

ETR Requirement Id	ETR Status	Notes

Table 4: Non-Covered ETR Requirements

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
n/a	n/a	n/a

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-EVP-DM_DCMO-V1_0	24 Aug 2009	All	Initial Draft
Candidate Versions OMA-EVP-DM_DCMO-V1_0	15 Sep 2009	n/a	TP approval: OMA-TP-2009-0421-INP_DCMO_1.0_EVP_for_Candidate_approval