



Enabler Release Definition for Firmware Update Management Object

Approved Version 1.0.2 – 16 Jun 2008

Open Mobile Alliance
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1. Scope

The scope of this document is limited to the Enabler Release Definition of Firmware Update Management Object specifications according to OMA Release process and the Enabler Release specification baseline listed in section 5.

2. References

2.1 Normative References

- [DM-RD] “OMA Device Management Requirements, Version 1.2”. Open Mobile Alliance™, OMA-RD-DM-V1_2. [URL:http://www.openmobilealliance.org](http://www.openmobilealliance.org)
- [FUMO] Firmware Update Management Object, Version 1.0, Open Mobile Alliance™, OMA-TS-DM-FUMO-V1_0, [URL:http://www.openmobilealliance.org](http://www.openmobilealliance.org)
- [FUMO-AD] **FUMO Architecture, Version 1.0, Open Mobile Alliance™, OMA-AD-FUMO-V1_0**, [URL:http://www.openmobilealliance.org](http://www.openmobilealliance.org)
- [FUMO-DDF] Firmware Update Management Object DDF, Version 1.0, Open Mobile Alliance™, **OMA-SUP-DTD_DM_FUMO_DDF-V1_0**, [URL:http://www.openmobilealliance.org](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](http://www.ietf.org/rfc/rfc2119.txt)
- [SCRRULES] “SCR Rules and Procedures”, Open Mobile Alliance™, OMA-ORG-SCR_Rules_and_Procedures, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)

2.2 Informative References

- [DLOTA] “Generic Content Download Over The Air Specification Version 1.0”, Open Mobile Alliance™, OMA-Download-OTA-v1_0. [URL:http://www.openmobilealliance.org/documents.html](http://www.openmobilealliance.org/documents.html)
- [OMA-DM] “Enabler Release Definition for OMA Device Management, Version 1.2”. Open Mobile Alliance™, OMA-ERELED-DM-V1_2. [URL:http://www.openmobilealliance.org](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” and “Introduction”, are normative, unless they are explicitly indicated to be informative.

The formal notation convention used in sections 7 and 8 to formally express the structure and internal dependencies between specifications in the Enabler Release specification baseline is detailed in [SCR RULES].

3.2 Definitions

Device Management	Management of the Device configuration and other managed objects of Devices from the point of view of the various Management Authorities. Device Management includes, but is not restricted to setting initial configuration information in Devices, subsequent updates of persistent information in Devices, retrieval of management information from Devices and processing events and alarms generated by Devices.
Enabler Release	Collection of specifications that combined together form an enabler for a service area, e.g. a download enabler, a browsing enabler, a messaging enabler, a location enabler, etc. The specifications that are forming an enabler should combined fulfil a number of related market requirements.
Minimum Functionality Description	Description of the guaranteed features and functionality that will be enabled by implementing the minimum mandatory part of the Enabler Release.

3.3 Abbreviations

DM	Device Management
DTD	Document Type Definition
ERDEF	Enabler Requirement Definition
ERELED	Enabler Release Definition
OMA	Open Mobile Alliance

4. Release Version Overview

This document outlines the Enabler Release Definition for Firmware Update Management Object V1.0 and the respective conformance requirements for clients and servers implementing or claiming compliance to it as defined by Open Mobile Alliance across the specification baseline.

OMA “Firmware Update Management Object” (FUMO) enables firmware updates by specifying the locations in the management tree where update packages could be downloaded. It also specifies commands that need to be invoked on specific nodes of the management tree to start an update activity. OMA DM [OMA-DM] work addresses the various technical aspects of this system by providing appropriate specifications for download protocols, management tree objects, and DM commands.

This scope for the OMA FUMO 1.0 enabler release is to define the management tree objects, DM commands, messages and mechanisms necessary to implement the download of firmware update packages and the update of the firmware in the devices. It builds upon the OMA DM 1.2 enabler release to address the specific requirements enumerated in the OMA DM 1.2 Requirements document [DM-RD].

4.1 Version 1.0 Functionality

The minimum mandatory functionality for the Firmware Update Management Object specifications comprises of the following features:

- Support for Device Information Exchange prior to initiating download of a firmware update package.
- Support for invoking an update package download, or an update using the update package, as necessary.
- Support for at least one download mechanisms – an OMA-DM based download mechanism or an alternative download mechanism, such as OMA Download v1.0 [DLOTA].
- Support for communicating Final Notification message, employing Generic Alerts, from DM Client to DM Server indicating success / failure of an update activity.

The tables for server and client side conformance requirements are provided in [FUMO].

5. Document Listing for FUMO V 1.0.2

This section is normative.

Doc Ref	Permanent Document Reference	Description
Requirement Document		
[DM_RD]	OMA-RD-DM-V1_2-20070209-A	Requirement Document for FUMO Enabler
Architecture Document		
[FUMO-AD]	OMA-AD-FUMO-V1_0-20070209-A	Architecture Document for FUMO Enabler
Technical Specifications		
[FUMO]	OMA-TS-DM-FUMO-V1_0-20070209-A	Technical Specification Document for FUMO Enabler
Supporting Files		
[FUMO-DDF]	OMA-SUP-DTD_DM_FUMO_DDF-V1_0_2-20080616-A	OMA FUMO Device Description File. Working file in DM_MO directory: file: dm_fumo_ddf-v1_0_1.ddf path: http://www.openmobilealliance.org/tech/omna/dm_mo

Table 1: Listing of Documents in FUMO Enabler

6. Conformance Requirements Notation Details

This section is informative

The tables in following chapters use the following notation:

- Item:** Entry in this column MUST be a valid ScrItem according to [IOPPROC].
- Feature/Application:** Entry in this column SHOULD be a short descriptive label to the **Item** in question.
- Status:** Entry in this column MUST accurately reflect the architectural status of the **Item** in question.
- M means the **Item** is mandatory for the class
 - O means the **Item** is optional for the class
 - NA means the **Item** is not applicable for the class
- Requirement:** Expression in the column MUST be a valid TerminalExpression according to [IOPPROC] and it MUST accurately reflect the architectural requirement of the **Item** in question.

7. ERDEF for FUMO - Client Requirements

This section is normative.

Item	Feature / Application	Status	Requirement
OMA-ERDEF-FUMO-C-001	DM Client, FUMO 1.0 Client	M	[FUMO:MCF]

Table 2 ERDEF for FUMO Client-side Requirements

8. ERDEF for FUMO - Server Requirements

This section is normative.

Item	Feature / Application	Status	Requirement
OMA-ERDEF-FUMO-S-001	DM Server	M	[FUMO:MSF]

Table 3 ERDEF for FUMO Server-side Requirements

Appendix A. Change History

(Informative)

A.1 Approved Version History

Reference	Date	Description
OMA-ERELED-FUMO-V1_0-A	09 Feb 2007	Approved by TP Ref TP Doc# OMA-TP-2007-0076R01- INP_ERP_FUMO_V1.0_for_Final_Approval
OMA-ERELED-FUMO-V1_0_1-D	05 Mar 2008	Updated with latest template Section 5: Document listing updated
OMA-ERELED-FUMO-V1_0-A	31 Mar 2008	Status changed to Approved by TP: OMA-TP-2008-0137-INP_FUMO_ERP_V1_0_1_For_Notification Section 5: Document listing updated
OMA-ERELED-FUMO-V1_0_2	16 Jun 2008	Section 5, Document listing updated Approved by TP: OMA-TP-2008-0253-INP_FUMO_ERP_V1_0_2_For_Notification