Enabler Release Definition for OMA Device Management

Candidate Version 2.0 – 22 Jan 2015

Open Mobile Alliance

OMA-ERELD-DM-V2_0-20150122-C

Contents

Figures

No table of figures entries found.

Tables

1. Scope

The scope of this document is limited to the Enabler Release Definition of OMA Device Management v2.0 according to OMA Release process and the Enabler Release specification baseline listed in section 5.

2. References

2.1 Normative References

[DevInfoDDF] "OMA Device Management Device Information Management Object DDF, Version 1.2". Open Mobile Alliance™. OMA-SUP-MO_DM_DevInfo-V1_2
URL:http://www.openmobilealliance.org/

[DMAcctDDF] "OMA Device Management Account Management Object DDF, Version 1.2 ", Open Mobile Alliance™, OMA-SUP-MO_DM_DMAcc-V1_2,
URL:http://www.openmobilealliance.org/

[DMAD] "OMA Device Management Architecture, Version 2.0 ", Open Mobile Alliance™, OMA-AD-DM-V2_0,
URL:http://www.openmobilealliance.org/

[DMDelegDDF] "OMA Device Management Delegation Access Control Management Object DDF, Version 1.0", Open Mobile Alliance™, OMA-SUP-MO_DM_Delegation-V1_0,
URL:http://www.openmobilealliance.org/

[DMRD] "OMA Device Management Requirements, Version 2.0 ", Open Mobile Alliance™, OMA-RD-DM-V2_0,
URL:http://www.openmobilealliance.org/

[DMSessDDF] "OMA Device Management Session Information Management Object DDF, Version 1.0", Open Mobile Alliance™, OMA-SUP-MO_DM_SessionInfo-V1_0,
URL:http://www.openmobilealliance.org/

[DMTS] "OMA Device Management Technical Specification, Version 2.0 ", Open Mobile Alliance™, OMA-TS-DM-V2_0,
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

[SCRRULES] "SCR Rules and Procedures", Open Mobile Alliance™, OMA-ORG-SCR_Rules_and_Procedures,
URL:http://www.openmobilealliance.org/

2.2 Informative References

[OMADICT] "Dictionary for OMA Specifications", Version 2.9, Open Mobile Alliance™,
OMA-ORG-Dictionary-V2_9,
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” and “Introduction”, are normative, unless they are explicitly indicated to be informative.

The formal notation convention used in sections 8 and 9 to formally express the structure and internal dependencies between specifications in the Enabler Release specification baseline is detailed in [SCRRULES].

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 fulfill 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
ERELD	Enabler Release Definition
OMA	Open Mobile Alliance
RD	Requirements Document
SCR	Static Conformance Requirements

4. Release Version Overview

Device Management refers to the management of Device configuration and other managed objects of Devices from the point of view of the 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, execute primitives on Devices, and processing events and alarms generated by Devices.

Device Management allows network operators, service providers or corporate information management departments to carry out the procedures of configuring devices on behalf of the end user (customer).

4.1 Version 1.2

Device management is the generic term used for technology that allows third parties to carry out the difficult procedures of configuring devices on behalf of the end user (customer). Third parties would typically be operators, service providers or corporate information management departments.

Through device management, an external party can remotely set parameters, conduct troubleshooting servicing of terminals, install or upgrade software. In broad terms, device management consists of three parts:

- Protocol and mechanism: The protocol used between a management server and a device
- Data model: The data made available for remote manipulation, for example browser and mail settings
- Policy: The policy decides who can manipulate a particular parameter, or update a particular object in the device

The specifications in the Device Management enabler Version 1.2 address the first part of device management above, the protocol and mechanism. More particularly, this enabler release addresses the management of devices by specifying a protocol and management mechanism that may be exposed by an OMA DM client and targeted by an OMA DM server.

The architecture of the Device Management enabler anticipates the needs of the market actors to differentiate their products through vendor-specific extensions while providing a core parameter set that can be relied upon in all terminals exposing this standardized interface.

The design of the architecture follows the OMA architecture principle [ARCH-PRINC] of Network Technology Independence by separating the bearer-neutral requirements from bearer-specific bindings. The described architecture also anticipates additional bearer and proxy types, as any are identified, without requiring a respecification of previously released documents. This preserves vendor and customer investment while supporting the scaling required by future innovations.

There are three parts to the object schema that provide break-points between more general and more specific parameters:

- A top level management object which is bearer-neutral;
- A set of bearer-specific parameters;
- Sub-tree(s) for exposing vendor-specific parameters.

By composing the management objects in this way, it becomes possible for a device management authority to:

- Target generic requirements that span all implementations;
- Focus on bearer-specific idiosyncrasies of a given networking environment;
- Activate terminal-specific behaviour by adjusting vendor-specific parameters.

In a wireless environment, the crucial element for device management protocol is the need to efficiently and effectively address the characteristics of devices including low bandwidth and high latency and to provide for support of these management operations remotely, over-the-air.

4.2 Version 1.3

OMA DM Version 1.3 reused the architecture from OMA DM Version 1.2. It does introduce new notification, transport protocols and a new DM Server to DM Server interface for delegation.

4.3 Version 2.0

OMA DM Version 2.0 reuses the Management Objects which is designed for DM Version 1.3 or earlier DM Protocols.OMA DM Version 2.0 introduces new Client-Server DM protocol.

OMA DM Version 2.0 also introduces new user interaction method on Device Management using Web Browser Component.

5. Document Listing for Device Management 2.0

This section is normative.

Doc Ref	Permanent Document Reference	Description
Requirement Document		
[DMRD]	OMA-RD-DM-V2_0-20131210-C	Requirement Document for DM 2.0 Enabler
Architecture Document		
[DMAD]	OMA-AD-DM-V2_0-20131210-C	Architecture Document for DM 2.0 Enabler
Technical Specifications		
[DMTS]	OMA-TS-DM_Protocol-V2_0-20150122-C	Technical Specification Document for DM 2.0 Enabler
Supporting Files		
[DevInfoDDF]	OMA-SUP-MO_DM_DevInfo-V1_2-20131210-C	OMA DM Device Information Device Description File. Working file in DM_MO directory: http://www.openmobilealliance.org/tech/omna/dm_mo/dm_devinfo-v1_2.ddf
[DMAcctDDF]	OMA-SUP-MO-DM-DMAcc-V1_2-20131210-C	OMA DM Account Device Description File. Working file in DM_MO directory: http://www.openmobilealliance.org/tech/omna/dm_mo/dm_dmacct-v1_2.ddf
[DMDelegDDF]	OMA-SUP-MO-DM-Delegation-V1_0-20131210-C	OMA DM Delegation Access Control Device Description File. Working file in DM_MO directory: http://www.openmobilealliance.org/tech/omna/dm_mo/dm_delegation-v1_2.ddf
[DMSessDDF]	OMA-SUP-MO-DM-SessionInfo-V1_0-20131210-C	OMA DM Session Information Device Description File. Working file in DM_MO directory: http://www.openmobilealliance.org/tech/omna/dm_mo/dm_sessioninfo-v1_2.ddf

Table 1: Listing of Documents in DM V2.0 Enabler

6. OMNA Considerations

The OMNA portal needs to add and maintain the following MO into OMNA Device Management (DM) Management Object (MO) Registry:

MO Identifier	Description	Owner	Version	MO DDF	MO Spec
urn:oma:mo:oma-dm-dmacc:1.2	DDF Document for DM Account MO	OMA	V1.2	dm_dmacc-v1_2.ddf	OMA-TS-DM_Protocol-V2_0
urn:oma:mo:oma-dm-devinfo:1.2	DDF Document for Device Info MO	OMA	V1.2	dm_devinfo-v1_2.ddf	OMA-TS-DM_Protocol-V2_0
urn:oma:mo:oma-dm-dacmo:1.0	DDF Document for Delegation Access Control MO	OMA	V1.0	dm_delegation-v1_0.ddf	OMA-TS-DM_Protocol-V2_0
urn:oma:mo:oma-sessioninfomo:1.0	DDF Document for Session Info MO	OMA	V1.0	dm_sessioninfo-v1_0.ddf	OMA-TS-DM_Protocol-V2_0

The following MIME need to be registered in IANA:

Content Type
application/vnd.oma.dm.initiation+json
application/vnd.oma.dm.request+json
application/vnd.oma.dm.response+json
application/dmmo+json

7. 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 [SCRRULES].

Feature/Application: Entry in this column SHOULD be a short descriptive label to the **Item** in question.

Requirement: Expression in the column MUST be a valid TerminalExpression according to [SCRRULES] and it MUST accurately reflect the architectural requirement of the **Item** in question.

8. ERDEF for DM 2.0 - Client Requirements

This section is normative.

Item	Feature / Application	Requirement
OMA-ERDEF-DM-C-001-M	DM 2.0 Client	[DMTS]

Table 2: ERDEF for DM 2.0 Client-side Requirements

9. ERDEF for DM 2.0 - Server Requirements

This section is normative.

Item	Feature / Application	Requirement
OMA-ERDEF-DM-S-001-M	DM 2.0 Server	[DMTS]

Table 3: ERDEF for DM 2.0 Server-side Requirements

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 2.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-ERELD-DM-V2_0	26 Oct 2011	All	First baseline as per agreed OMA-DM-DMNG-2011-0062-INP_ERELD_Baseline
	14 Nov 2011	5	Added the Architecture Document to the documents listing.
	02 Dec 2011	5	Updated the list of documents before closure of the RD review
Candidate Version OMA-ERELD-DM-V2_0	20 Dec 2011	N/A	Status changed to Candidate by TP Ref # OMA-TP-2011-0440-INP_DMNG_DM_V2_0_RD_for_Candidate_approval
Draft Version OMA-ERELD-DM-V2_0	27 Feb 2012	5	Updated the list of documents before Candidate approval of the AD
Candidate Version OMA-ERELD-DM-V2_0	06 Mar 2012	N/A	Status changed to Candidate by TP Ref # OMA-TP-2012-0080-INP_DM_NG_V1.0_AD_for_Candidate_approval
Draft Version OMA-ERELD-DM-V2_0	31 May 2012	5	Changes to the AD, list of documents updated accordingly
Candidate Version OMA-ERELD-DM-V2_0	31 May 2012	N/A	Status changed to Candidate by TP Ref # OMA-TP-2012-0214-INP_DMNG_AD_for_notification
Draft Versions OMA-ERELD-DM-V2_0	08 Oct 2013	All	OMA-DM-DMNG-2013-0094R01-CR_ERELD
	22 Nov 2013	5	Updated the list of documents before closure of Consistency Review
Candidate Version OMA-ERELD-DM-V2_0	10 Dec 2013	All	Status changed to Candidate by TP TP Ref # OMA-TP-2013-0384-INP_DM_V2_0_ERP_and_ETR_for_Candidate_approval
Draft Version OMA-ERELD-DM-V2_0	22 Jan 2015	5	Editorial update of permanent document references in section 5
Candidate Version OMA-ERELD-DM-V2_0	22 Jan 2015	All	Status changed to Candidate by TP TP Ref # OMA-TP-2015-0038-INP_DM_V2_0_ERP_for_Notification