Enabler Release Definition for LightweightM2M

Candidate Version 1.0 – 02 Oct 2012

Open Mobile Alliance

OMA-ERELD-LightweightM2M-V1_0-20121002-C

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1. Scope

The scope of this document is limited to the Enabler Release Definition of LightweightM2M v1.0 according to OMA Release process and the Enabler Release specification baseline listed in section 5.

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2. References

2.1 Normative References

[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 2.8, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_8, URL:http://www.openmobilealliance.org/

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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”, "Release Version Overview" and “Conformance Requirements Notation Details”, 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

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.
M2M Device	A M2M Device is a device that runs (a) M2M application(s) and communicates through the Network Provider’s network.
M2M Service Provider	A M2M Service Provider provides (a) M2M service(s) to the M2M User by communicating to the M2M Device through the Network Provider’s network.
M2M User	A M2M User uses the service provided by the M2M Service Provider.

3.3 Abbreviations

DM	Device Management
ERDEF	Enabler Requirement Definition
ERELD	Enabler Release Definition
M2M	Machine to Machine
OMA	Open Mobile Alliance
OMNA	Open Mobile Naming Authority
RD	Requirements Document
SMS	Short Messaging Service
USSD	Unstructured Supplementary Service Data

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4. Release Version Overview

The motivation of LightweightM2M is to develop a fast deployable client-server specification to provide machine to machine service. LightweightM2M is principly a device management protocol, but it should be designed to be able to extend to meet the requirements of applications. LightweightM2M is not restricted to device management, it should be able transfer service / application data. LightweightM2M implements the interface between M2M device and M2M Server. It provides a choice for the M2M Service Provider to deploy a M2M system to provide service to the M2M user.

4.1 Version 1.0 Functionality

LightweightM2M supports multiple communication bearers, such as IP-based transmission, SMS and USSD. With IP-based transmission, it is bearer independent. Both wireline or wireless connection is supported. And LightweightM2M is able to manage these connections.

The LightweightM2M is able to discover devices, perform the bootstrap provisioning and the device registration.

The LightweightM2M is able to perform the basic device management functionalities:

- Remote configuration: the M2M server uses the capabilities provided by the protocol to remotely configure the M2M device, such as device power-saving mode, reporting period, threshold for reporting sensor data, and etc.
- Remote control: the M2M server uses the capabilities provided by the protocol to remotely control the M2M device, such as opening the connection to the server, switching network connections, firmware update, factory reset operation and etc.
- Status report: the M2M server uses the capabilities provided by the protocol to command the M2M device to report its status, such as radio signal strength reporting, sensoring data reporting, connecting status reporting and etc.

Beside device management, an important feature of LightweightM2M is to accommodate the requirements of applications and to perform the management of peripherals (resources). The service data is transferred by device management protocol, so it it unnecessary to develop another interface for service logic.

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5. Document Listing for LightweightM2M

Doc Ref	Permanent Document Reference	Description
Requirement Document		
[LightweightM2M_RD]	OMA-RD-LightweightM2M-V1_0-20121002-C	Requirement Document for LightweightM2M Enabler
Architecture Document		
Technical Specifications		
Supporting Files		

Table 1: Listing of Documents in LightweightM2M Enabler

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6. OMNA Considerations

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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.

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8. ERDEF for LightweightM2M - Client Requirements

This section is normative.

Item	Feature / Application	Requirement

Table 2: ERDEF for LightweightM2M Client-side Requirements

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9. ERDEF for LightweightM2M - Server Requirements

This section is normative.

Item	Feature / Application	Requirement

Table 3: ERDEF for LightweightM2M Server-side Requirements

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Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
		No previous version in OMA

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-ERELD-LightweightM2M-V1_0	20 Jun 2012	All	Baseline as agreed in OMA-DM-LightweightM2M-2012-0059-INP_LightweightM2M_v1.0_ERELD_baseline
	01 Oct 2012	5	Editorial changes to permanent document references
Candidate Version OMA-ERELD-LightweightM2M-V1_0	02 Oct 2012	All	Status changed to Candidate by TP TP Ref # OMA-TP-2012-0340R02-INP_LightweightM2M_V1.0_RD_for_Candidate_Approval

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Appendix B. <Additional Information>

B.1 App Header

B.1.1 More Headers

B.1.1.1 Even More Headers

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