# Enabler Release Definition for Mobile Location Service (MLS)

Candidate Version 1.3 – 26 Feb 2013

**Open Mobile Alliance**

OMA-ERELD-MLS-V1_3-20130226-C

**© 2013 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.

© 2013 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 ..... 4
2. REFERENCES ..... 5
2.1 NORMATIVE REFERENCES ..... 5
2.2 INFORMATIVE REFERENCES ..... 5
3. TERMINOLOGY AND CONVENTIONS ..... 6
3.1 CONVENTIONS ..... 6
3.2 DEFINITIONS ..... 6
3.3 ABBREVIATIONS ..... 6
4. RELEASE VERSION OVERVIEW ..... 7
4.1 VERSION 1.0 FUNCTIONALITY ..... 7
4.2 VERSION 1.1 FUNCTIONALITY ..... 7
4.3 VERSION 1.2 FUNCTIONALITY ..... 7
4.4 VERSION 1.3 FUNCTIONALITY ..... 7
5. DOCUMENT LISTING FOR MLS ..... 8
6. OMNA CONSIDERATIONS ..... 9
7. CONFORMANCE REQUIREMENTS NOTATION DETAILS ..... 10
8. ERDEF FOR MLS - CLIENT REQUIREMENTS ..... 11
9. ERDEF FOR MLS - SERVER REQUIREMENTS ..... 12
APPENDIX A. CHANGE HISTORY (INFORMATIVE) ..... 13
A.1 APPROVED VERSION HISTORY ..... 13
A.2 DRAFT/CANDIDATE VERSION 1.3 HISTORY ..... 13

# Tables

Table 1: Listing of Documents in MLS Enabler ..... 8
Table 2: ERDEF for MLS Client-side Requirements ..... 11
Table 3: ERDEF for MLS Server-side Requirements ..... 12

© 2013 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

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

© 2013 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


**[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/

**[23.271]** "Functional stage 2 description of Location Services ", 3GPP TS 23.271 Release 10 http://www.3gpp.org/ftp/Specs/latest/Rel-10/23_series/

**[IOPPROC]** "OMA Interoperability Policy and Process", Version 1.11, Open Mobile Alliance™, OMA-ORG-IOP-Process-V1_11, URL:http://www.openmobilealliance.org/

**[MLP 3.4]** "Mobile Location Protocol", Version 3.4, Open Mobile Alliance™, OMA-TS-MLP-V3_4 URL:http://www.openmobilealliance.org/

**[MLP DTD]** "MLP DTDs", Version 3.4, Open Mobile Alliance™, OMA-SUP-DTD_MLP-V3_4 URL:http://www.openmobilealliance.org/

**[MLP_COM DTD]** "MLP Common DTDs", Version 3.4, Open Mobile Alliance™, OMA-SUP-DTD_MLP_ID_QOP_RES_SHAPE-V3_4 URL:http://www.openmobilealliance.org/

**[MLS AD]** "MLS Architecture Document", Version 1.3, Open Mobile Alliance™, OMA-AD-MLS-V1_3 URL:http://www.openmobilealliance.org/

**[MLS RD]** "MLS Requirements Document", Version 1.3, Open Mobile Alliance™, OMA-RD-MLS-V1_3 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

**[RLP 1.2]** "Roaming Location Protocol", Version 1.2, Open Mobile Alliance™, OMA-TS-RLP-V1_2 URL:http://www.openmobilealliance.org/

**[RLP DTD]** "RLP DTDs", Version 1.2, Open Mobile Alliance™, OMA-SUP-DTD_RLP-V1_2 URL:http://www.openmobilealliance.org/

**[SUPL AD]** "SUPL Architecture Document", Version 3.0, Open Mobile Alliance™, OMA-AD-SUPL-V3_0 URLhttp://www.openmobilealliance.org/

**[SUPL RD]** "SUPL Requirements Document", Version 3.0, Open Mobile Alliance™, OMA-RD-SUPL-V3_0 URL:http://www.openmobilealliance.org/

**[TIA-881]** 3GPP2 X.S0002-0, Version 2.0, May 2006: "MAP Location Service Enhancements" URL: http://www.3gpp2.org/Public_html/specs/


## 2.2 Informative References


**[OMADICT]** "Dictionary for OMA Specifications", Version x.y, Open Mobile Alliance™, OMA-ORG-Dictionary-Vx_y, URL:http://www.openmobilealliance.org/


© 2013 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”, "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. |
| **Minimum Functionality Description** | Description of the guaranteed features and functionality that will be enabled by implementing the minimum mandatory part of the Enabler Release. |
| **Minimum Functionality Description** | Description of the guaranteed features and functionality that will be enabled by implementing the minimum mandatory part of the Enabler Release. |
| **MCF** | Defined in [IOPPROC] as “All mandatory client features of the specification SCR” |
| **MSF** | Defined in [IOPPROC] as “All mandatory server features of the specification SCR” |
| **SUPL Enabled Terminal (SET)** | A device that is capable of communicating with a SUPL network. Examples of this could be a UE in UMTS, a MS in GSM or IS-95, or a PC over an IP-based transport. |
| **SUPL Location Platform (SLP)** | Entity responsible for SUPL Service Management and Position Determination. SLP contains the SLC and SPC Functions. |

## 3.3 Abbreviations

| | |
|---|---|
| **ERDEF** | Enabler Requirement Definition |
| **ERELD** | Enabler Release Definition |
| **OMA** | Open Mobile Alliance |
| **OMNA** | Open Mobile Naming Authority |
| **MLP** | Mobile Location Protocol |
| **MLS** | Mobile Location Service |
| **PCP** | Privacy Checking Protocol |
| **RLP** | Roaming Location Protocol |
| **SUPL** | Secure User Plane Location |

© 2013 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. Release Version Overview

## 4.1 Version 1.0 Functionality

The OMA Mobile Location Service V1.0 (MLS V1.0) consists of a set of location specifications complying with 3GPP Release 6 LCS Specification. MLS 1.0 is primarily intended for use in a 3GPP environment. Compliance to other environments is not a requirement but the specification has in several cases been extended to not unnecessary prevent use in other environments. The set of specifications in MLS V1.0 consist of MLP V3.2 and RLP V1.0.

## 4.2 Version 1.1 Functionality

The OMA Mobile Location Service V1.1 (MLS V1.1) consists of a set of location specifications complying with 3GPP Release 6 LCS Specifications. In addition MLS V1.1 supports the functions in the OMA SUPL V1.0 enabler. MLS 1.1 is primarily intended for use in a 3GPP environment. Compliance to other environments is not a requirement but the specification has in several cases been extended to not unnecessary prevent use in other environments. The set of specifications in MLS V1.1 consist of MLP V3.2, RLP V1.0 and PCP V1.0.

## 4.3 Version 1.2 Functionality

The OMA Mobile Location Service V1.2 (MLS V1.2) consists of a set of location specifications:

- Supporting functions in MLS 1.1 except for Lid and Lpp reference points.
- Complying with 3GPP Release 7 LCS Specifications except for Lid and Lpp reference points that are no longer supported.
- Supporting the OMA SUPL V2.0 enabler, [SUPL AD].
- Supporting 3GPP2 “MAP Location Service Enhancements”, [TIA-881].

The set of specifications in MLS V1.2 consist of MLP V3.3 and RLP V1.1.

## 4.4 Version 1.3 Functionality

MLS V1.3 is an evolvement of MLS V1.2. The functional additions are:

- support of 3GPP Release 10 LCS Specification
- support of OMA SUPL V3.0
- support of OMA LPPe V1.0
- improvements of trigger feature

The set of specifications in MLS V1.3 consist of MLP V3.4 and RLP V1.2.

© 2013 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. Document Listing for MLS

This section is normative.

| Doc Ref | Permanent Document Reference | Description |
|---|---|---|
| **Requirement Document** | | |
| [MLS RD] | OMA-RD-MLS-V1_3-20120529-C | Requirement Document for MLS Enabler |
| **Architecture Document** | | |
| [MLS AD] | OMA-AD-MLS-V1_3-20120529-C | Architecture Document for MLS Enabler |
| **Technical Specifications** | | |
| [MLP 3.4] | OMA-TS-MLP-V3_4-20130226-C | Specification that defines the MLP 3.4 protocol |
| [RLP 1.2] | OMA-TS-RLP-V1_2-20130226-C | Specification that defines the RLP 1.2 protocol |
| **Supporting Files** | | |
| [MLP_COM DTD ] | OMA-SUP-DTD_MLP_ID_QOP_RES_SHAPE-V3_4-20120529-C | DTD for the messages and included elements common to MLP and RLP protocols.<br><br>Working file in DTD directory:<br>file: MLP_ID_QOP_RES_SHAPE_v3_4.dtd<br>path: http://www.openmobilealliance.org/tech/dtd/ |
| [MLP DTD] | OMA-SUP-DTD_MLP-V3_4-20130226-C | DTD for the messages and included elements of the MLP protocol.<br><br>Working file in DTD directory:<br>file: MLP_v3_4.dtd<br>path: http://www.openmobilealliance.org/tech/dtd/ |
| [RLP DTD] | OMA-SUP-DTD_RLP-V1_2-20120529-C | DTD for the messages and included elements of the RLP protocols.<br><br>Working file in DTD directory:<br>file: RLP_v1_2.dtd<br>path: http://www.openmobilealliance.org/tech/dtd/ |

**Table 1: Listing of Documents in MLS Enabler**

© 2013 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. OMNA Considerations

This release do not require any OMNA considerations

© 2013 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. 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.

© 2013 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.

# 8. ERDEF for MLS - Client Requirements

This section is normative.

| Item | Feature / Application | Status | Requirement |
|---|---|---|---|
| OMA-ERDEF-MLS-C-001 | MLS Enabler | M | OMA-ERDEF-MLS-C-002<br>OR<br>OMA-ERDEF-MLS-C-003<br>OR<br>OMA-ERDEF-MLS-C-004 |
| OMA-ERDEF-MLS-C-002 | MLS Client | O | MLP 3.4:MCF |
| OMA-ERDEF-MLS-C-003 | Requesting Location Server | O | RLP 1.2: MCF AND NOT<br>(RLP-D-C-003 OR<br>RLP-V-C-010 OR<br>RLP-V-C-012) |
| OMA-ERDEF-MLS-C-004 | Home Location Server | O | RLP 1.2: MCF |

**Informative Note: The requirement for Item OMA-ERDEF-MLS-C-003 exempt three privacy related SCR Items in RLP from being mandatory as they are not applicable for the Requesting Location Server.**

**Table 2: ERDEF for MLS Client-side Requirements**

© 2013 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.

# 9. ERDEF for MLS - Server Requirements

This section is normative.

| Item | Feature / Application | Status | Requirement |
|---|---|---|---|
| OMA-ERDEF-MLS-S-001 | MLS Enabler | M | OMA-ERDEF-MLS-S-002<br>OR<br>OMA-ERDEF-MLS-S-003<br>OR<br>OMA-ERDEF-MLS-S-004 |
| OMA-ERDEF-MLS-S-002 | Requesting Location Server | O | MLP 3.4:MSF |
| OMA-ERDEF-MLS-S-003 | Home Location Server | O | RLP 1.2: MSF AND NOT<br>(RLP-D-S-003 OR<br>RLP-V-S-010 OR<br>RLP-V-S-012) |
| OMA-ERDEF-MLS-S-004 | Visited Location Server | O | RLP 1.2:MSF |

**Informative Note: The requirement for Item OMA-ERDEF-MLS-S-003 exempt three privacy related SCR Items in RLP from being mandatory as they are not applicable for the Home Location Server.**

**Table 3: ERDEF for MLS Server-side Requirements**

© 2013 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 |
|---|---|---|
| OMA-ERELD-MLS-V1_0 | 19 Jul 2011 | First Approved version |
| OMA-ERELD-MLS-V1_1 | 19 Jul 2011 | First Approved version |
| OMA-ERELD-MLS-V1_2 | 19 Jul 2011 | First Approved version |
| OMA-ERELD-MLS-V1_2_1 | 17 Nov 2011 | First Approved version |

## A.2 Draft/Candidate Version 1.3 History

| Document Identifier | Date | Sections | Description |
|---|---|---|---|
| Draft Versions<br>OMA-ERELD-MLS-V1_3 | 17 Jan 2012 | n/a | Initial draft |
| | 22 Feb 2012 | 4.4 | Applied CR:<br>OMA-LOC-2012-0035-<br>CR_MLS_1_3_ERELD_IntroductionNewRelease |
| | 25 Apr 2012 | 2.1 | Applied editorial corrections per CONRR |
| | 16 May 2012 | 5 | Updated permanent document references |
| Candidate Version<br>OMA-ERELD-MLS-V1_3 | 29 May 2012 | n/a | Status changed to Candidate by TP<br>TP ref # OMA-TP-2012-0202-<br>INP_MLS_13_ERP_and_ETR_for_Candidate_Approval |
| Draft Version<br>OMA-ERELD-MLS-V1_3 | 25 Feb 2013 | n/a | Status changed to Draft<br>Updated permanent document references |
| Candidate Version<br>OMA-ERELD-MLS-V1_3 | 26 Feb 2013 | n/a | Status changed to Candidate by TP<br>TP ref# OMA-TP-2013-0071-<br>INP_MLS_Evolution_V1.3_ERP_for_Notification |

© 2013 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.