



Enabler Release Definition for LPP Extensions (LPPe)

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1. Scope

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

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/>
- [3GPP LPP] 3GPP TS 36.355 LTE Positioning Protocol,
URL:<http://www.3gpp.org>
- [LPPE 1.0 RD] “LPPE Requirements Document”, Version 1.0, Open Mobile Alliance™, OMA-RD-LPPE-V1_0
URL:<http://www.openmobilealliance.org/>
- [LPPE 1.0 TS] “LPPE Technical Specification”, Version 1.0, Open Mobile Alliance™, OMA-TS-LPPE-V1_0
URL:<http://www.openmobilealliance.org/>

2.2 Informative References

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.
Server	Termination point of LPP/LPPE
Target	Termination point of LPP/LPPE

3.3 Abbreviations

E-SMLC	Evolved SMLC
EPDU	External Protocol Data Unit
ERDEF	Enabler Requirement Definition
ERELED	Enabler Release Definition
LPP	LTE Positioning Protocol
LPPE	OMA LPP Extensions
LTE	Long-Term Evolution
OMA	Open Mobile Alliance
OMNA	Open Mobile Naming Authority
SET	SUPL-Enabler Terminal
SLP	SUPL Location Platform
SMLC	Serving Mobile Location Center
SUPL	Secure User Plane Location

4. Release Version Overview

This document outlines the Enabler Release Definition for LPPE Enabler and the respective conformance requirements for clients and servers claiming compliance to it as defined by Open Mobile Alliance across the specification baseline.

LTE Positioning Protocol LPP [3GPP LPP] is a positioning protocol for E-UTRAN control plane. The LPP termination points are “server” and “target”, which in the E-UTRAN control plane are the E-SMLC and the end-user device, respectively. However, LPP has been designed in such a way that it can also be utilized outside the control plane domain such as in the user plane in the context of SUPL. In the user plane use, the LPP termination points are most typically SLP (“server”) and the SET (“target”). Also SET-to-SET use cases are being considered.

LPP elementary messages (Request and Provision of Capabilities and Location Information and Assistance Data) each include a container, an EPDU, which can be used by standardization fora outside 3GPP to define their own extensions to the LPP messages. OMA LPP Extensions [LPPE 1.0 RD] take advantage of this option.

A variety of known and emerging positioning technologies are not in the scope of the 3GPP work. This is natural, because control plane deployments are bandwidth-constrained and limited to access types that are part of the control plane system. However, the user plane does not have any such limitations and, hence, new positioning technologies improving accuracy, availability and integrity can be realized in the user plane.

The advantages resulting from OMA building LPPE on top of the 3GPP-defined LPP include the convergence of control and user plane positioning protocols, reduced work load and being able to use the same LPPE protocol stack both in the control and user plane.

4.1 Version 1.0 Functionality

3GPP LPP is a positioning protocol that provides procedures for

- Request and Provision of location information including raw measurements
- Request and Provision of assistance data
- Request and Provision of capabilities

OMA LPP Extensions (LPPE) build on the 3GPP-defined LPP and extends the location, measurement and assistance data capabilities beyond 3GPP LPP without unnecessarily duplicating the work done in 3GPP.

The OMA LPPE Release 1.0 enables support for

- High accuracy GNSS methods in the form of new positioning methods and assistance data types
- Emerging radio network –based positioning technologies including the radio network measurement reports for selected radio access types
- Terminal-to-terminal positioning and assistance data transfer

Moreover, OMA LPPE attempts to be bearer-independent as far as possible with respect to non-bearer associated position methods like A-GNSS and any terrestrial method applicable to a non-serving network.

Security, authentication, privacy and charging are out of scope of LPPE. It is assumed that these services are provided by the user plane protocol which uses LPP/LPPE as the positioning protocol.

5. Document Listing for LPPE

This section is normative.

Doc Ref	Permanent Document Reference	Description
Requirement Document		
[LPPE 1.0 RD]	OMA-RD-LPPE-V1_0-20101012-C	Requirements Document for LPPE 1.0 Enabler
Architecture Document		
		None will be defined.
Technical Specifications		
Supporting Files		

Table 1: Listing of Documents in LPPE Enabler

6. OMNA Considerations

<< This section is to be used to describe any OMNA items included in the release. This would include, among others:

- Usage of OMA-based Uniform Resource Names (URNs) (including those used as namespace identifiers in Schemas)
- AppIDs for Application Characteristics (AC)
- Managed Object (MO) information for the MO registry
- ISO Object IDs
- PUSH Application Ids
- WAP Wireless Session Protocol (WSP) Content Types
- Presence <service-description> assignments
- Uniform Resource Identifier (URI)-List Registered Usage Names (for XDM)

The format of this section will be left up to the release owners to account for the particular needs they may run into. It should be clear from the written material, though, as to the set of OMNA items needed.

If a new OMNA registry is needed to support the release - clearly this should have been worked with the REL Committee before submitting a Release Document. Failure to do so may result in delays as the required tables are worked up and made publicly available. Another risk is that the table desired is not supported by OMNA (is not a registry type table) and the group will need to re-think how they intend to resolve their needs.

Through the normal development process the OMNA entries or support registries should be accommodated. This should not be trigger to remove the linkage from this section. Thus, if an entry is added to OMNA after the initial Candidate version described the need - the material should stay in this section. It may be useful in subsequent releases to add some text to indicate that the needed items have been accommodated (e.g. add a comment regarding its availability or support as appropriate).

If the release has absolutely no OMNA items to be accommodated - then it should indicate that explicitly with a short description (e.g. this release does not have any OMNA items for handling). This determination probably can not be made until the end of the development phases and editors are encouraged to keep this advisory in place until the Consistency Review.

DELETE THIS COMMENT >>

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 LPPE - Client Requirements

This section is normative.

Item	Feature / Application	Requirement
OMA-ERDEF-<<ENABLER>>-C-001-<<M/O>>	<<ENABLER>> Client	

Table 2: ERDEF for LPPE Client-side Requirements

9. ERDEF for LPPE - Server Requirements

This section is normative.

Item	Feature / Application	Requirement
OMA-ERDEF-<<ENABLER>>-S-001-<<M/O>>	<<ENABLER>> Server	

Table 3: ERDEF for LPPE 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 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-ERELED-LPPe-V1_0	10 Aug 2010	1-5	First draft
	02 Sep 2010	3,4	Incorporated CR: OMA-LOC-2010-0193R01
	24 Sep 2010	5	Removed TS from list of documents before submission of the RD to TP for Candidate approval
Candidate Versions OMA-ERELED-LPPe-V1_0	12 Oct 2010	n/a	TP approved via R&A: OMA-TP-2010-0427-INP_LPPe_V1_0_RD_for_Candidate_approval