Enabler Release Definition for Converged Personal Network Service

Candidate Version 1.0 – 15 Jun 2010

Open Mobile Alliance
OMA-ERELD-CPNS-V1_0-20100615-C

Contents

1. Scope

The scope of this document is limited to the Enabler Release Definition of Converged Personal Network Service (CPNS) enabler according to OMA Release process and the Enabler Release specification baseline listed in section 5.

The CPNS Enabler enables CPNS entities in a personal network (PN) to consume services within that PN, services from and to other PNs, and services provided by service providers outside the PN.

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/

[CPNS_RD] “Converged Personal Network Service Requirements”, Open Mobile Alliance™, OMA-RD-CPNS-V1_0, URL:http://www.openmobilealliance.org/

[CPNS_AD] “Converged Personal Network Service Architecture”, Open Mobile Alliance™, OMA-AD-CPNS-V1_0, URL:http://www.openmobilealliance.org/

2.2 Informative References

[OMADICT]	"Dictionary for OMA Specifications", Version 2.7, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_7, URL:http://www.openmobilealliance.org/
[OMA – CPNS]	Converged Personal Network Service (CPNS) BoF - 27 Mar 2008 URL: http://www.openmobilealliance.org/
[OMA – Presence]	"Presence", Open Mobile Alliance™, OMA-TS-Presence_SIMPLE-V2_0-20081223-C URL: http://www.openmobilealliance.org/
[OMA – Privacy]	"Privacy", Open Mobile Alliance™, OMA-RRP-Privacy-V1_0-20070807-A URL: http://www.openmobilealliance.org/
[3GPP TS 22.004]	3GPP TS 22.004 V8.0.0 (2006-12) "General on supplementary services (Release 8)"
[3GPP TR 21.905]	"Vocabulary for 3GPP Specifications" E.g. 3GPP TR 21.905 (Release 9) http://www.3gpp.org/ftp/Specs/html-info/21905.htm
[3GPP TR 22.944]	"Report on service requirements for UE functionality split". E.g. 3GPP TS 22.994 (Release 8) http://www.3gpp.org/ftp/Specs/html-info/22004.htm
[3GPP TS 22.004]	"General on supplementary services" E.g. 3GPP TS 22.004 (Release 8) http://www.3gpp.org/ftp/Specs/html-info/22004.htm
[3GPP TS 22.101]	"Service aspects; Service principles" E.g. 3GPP TS 22.101 (Release 9) http://www.3gpp.org/ftp/Specs/html-info/22101.htm
[3GPP TS 22.105]	"Service aspects; Services and service capabilities" E.g. 3GPP TS 22.105 (Release 9) http://www.3gpp.org/ftp/Specs/html-info/22105.htm
[3GPP TS 22.259]	"Service requirements for Personal Network Management (PNM); Stage 1" E.g. 3GPP TS 22.259 (Release 9) http://www.3gpp.org/ftp/Specs/html-info/22259.htm
[3GPP TS 23.259]	"Personal Network Management (PNM); Procedures and information flows" E.g. 3GPP TS 23.259 (Release 9) http://www.3gpp.org/ftp/Specs/html-info/23259.htm
[3GPP TS 24.259]	Personal Network Management (PNM); Stage 3 E.g. 3GPP TS 24.259 (Release 8) http://www.3gpp.org/ftp/Specs/html-info/24259.htm

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

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
CPNS Device	A Device [OMADICT] which can operate in different Modes simultaneously in the Personal Network. CPNS Devices are assumed to have capabilities to process, store and/or render content, as well as to have communication interfaces that enable them to perform in different Modes in Personal Networks.
CPNS Server	Is a functional entity that provides resources to CPNS entities either in response to requests or in a Push mode. In addition, it interacts with other external entities, such as Content Provider Server etc., for the purpose of service provisioning.
CPNS User	The CPNS User is the person who uses CPNS Service using PNE(s)
External Entity	An entity not specified by the CPNS Enabler
Mode	There are three identified Modes for CPNS Devices: PN GW, CPNS Server and PNE. The Modes CPNS Devices can operate in depend on their capabilities.
Overlay Network	A virtual network which is built on top of an existing underlying network. Nodes in an Overlay Network can reach each other through multiple physical or logical links in the underlying network.
PAN	Personal Area Network
Peer-to-Peer Network	A network of connected PNE(s) where: • The PNE(s) form an Overlay Network, and • The process of establishing and maintaining connectivity between PNE(s) is handled mainly by the PNE(s) themselves, and • The PNE(s) can both offer and receive Services.
Personal Network (PN)	A collection of devices available to a CPNS User to consume and produce Services. All devices within a PN can be linked to a PN GW. A PN is a non-static collection and will vary over time. A PN consists at a minimum of a device acting in PN GW mode and another device acting in PNE mode.
Personal Network Element (PNE)	A functional entity making up a Personal Network. It may be used either to consume or provide content and/or Services (simultaneously or separately).
Personal Network Gateway (PN GW)	A functional entity which by interconnecting entities that reside in personal networks and wide area networks, instantiates a converged network that provides CPNS services. A PN GW at the device level enables a PNE to connect to a CPNS Server as well as other PNE in a same or another PN. This implies using a global network, such as a mobile network. At the service level, the PN GW manages the service access to and from PNEs, and the communication of capabilities information and statistics to the CPNS Server.
PN Inventory	List of PN(s) and devices belonging to a PN or multiple PNs

Service See [OMA-DICT]

A selection from the portfolio of offerings made available by a Service Provider.

3.3 Abbreviations

ERDEF	Enabler Requirement Definition
ERELD	Enabler Release Definition
OMA	Open Mobile Alliance
OMNA	Open Mobile Naming Authority
CPNS	Converged Personal Network Service
ME	Mobile Equipment
MT	Mobile Termination
OMA	Open Mobile Alliance
PLMN	Public Land Mobile Network
PNE	Personal Network Element
PNM	Personal Network Management
TE	Terminal Equipment
UE	User Equipment
USIM	User Secure Identity Module

4. Release Version Overview

This document outlines the Enabler Release Definition for Converged Personal Network Service (CPNS) enabler and the respective conformance requirements for clients and servers implementing claiming compliance to it as defined by Open Mobile Alliance across the specification baseline.

The goal of the OMA Converged Personal Network Services (CPNS) enabler is to provide application-layer support for ubiquitous access to Services in a *converged network*, which is a collection of individual networks that are interconnected by means of *PN Gateway* (PN GW) devices.

The CPNS Enabler facilitates access by devices in a PN to application or content Services that are available either locally in one or more other PNE(s), or residing in other networks, including other PNs or network elements accessed via a cellular or other WAN technology. The main objective of the enabler is to allow the PNE(s) that are part of the PN to access Services outside of the PN and for those PNE(s) to offer Services to PNE(s) in other networks. The CPNS Enabler provides a wide range of functionality to support converged-network Services, including (but not limited to) end-to-end management of Service sessions, Service publication and discovery, tailoring of Service characteristics based on PNE capabilities, remote management of PNE configuration data and firmware/software, collection of CPNS usage statistics, security and charging.

The main CPNS enabler entities are:

- CPNS Server
- PN GW
- PNE

CPNS Server is an entity of CPNS enabler that replies to requests from PN GW and ensures that the appropriate application is selected and appropriate content is provided to the PNEs

PN GW serves as an intermediary entity between the PNE(s) and other networks that forwards the requests from the PNE(s) to the other networks and the other way around

PNE(s) are PN entities that are connected to the PN GW and between each other and are used for rendering the content received from the PN GW or from each other. PNE(s) can also offer content and other Services to PNE(s) in the same PN and to entities in other networks.

4.1 Version 1.0 Functionality

This enabler considers the interfaces and interactions between the key entities of the CPNS enabler.

The CPNS enabler will support both the PN-to-cellular/WAN model and the Peer-to-peer model.

5. Document Listing for CPNS V1.0

This section is normative.

Doc Ref	Permanent Document Reference	Description
Requirement Document		
[CPNS_RD]	OMA-RD-CPNS-V1_0-20091117-C	Requirements for Converged Personal Network Service enabler
Architecture Document		
[CPNS_AD]	OMA-AD-CPNS-V1_0-20100615-C	Architecture for Converged Personal Network Service enabler
Technical Specifications		
Supporting Files		

6. OMNA Considerations

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 CPNS - Client Requirements

This section is normative.

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

Table 1: ERDEF for CPNS Client-side Requirements

9. ERDEF for CPNS - Server Requirements

This section is normative.

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

Table 2: ERDEF for CPNS Server-side Requirements

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version –or- No previous version within OMA

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions: OMA-ERELD-CPNS-V1_0	07 Jun 2009		Initial baseline for RD review
	20 Oct 2009	All	Updated with the last documents versions
Candidate Version OMA-ERELD-CPNS-V1_0	17 Nov 2009	N/A	Status changed to Candidate by TP ref # OMA-TP-2009-0513-INP_CPNS_V1_0_RD_for_Candidate_Approval
Draft Versions: OMA-ERELD-CPNS-V1_0	28 Mar 2010	All	Update to 2010 template Updated Section 5
	27 May 2010	N/A	Updated Section 5
Candidate Version OMA-ERELD-CPNS-V1_0	15 Jun 2010	N/A	Status changed to Candidate by TP ref # OMA-TP-2010-0233-INP_CPNS_V1_0_AD_for_Candidate_approval