Parlay Service Access Architecture

Candidate Version 1.0 – 19 May 2009

Open Mobile Alliance

OMA-AD-Parlay_Service_Access-V1_0-20090519-C

Contents

Figures

1. Scope (Informative)

This document defines the architecture for the OMA Parlay Service Access (PSA) APIs v.1.0 in order to satisfy the requirements defined in [PSA RD].

The “Parlay/OSA(Open Service Access) In OMA Service Environment (PIOSE)” [PIOSE] reference release and 3GPP “Open Service Access (OSA); Stage 2” [3GPP TS 23.198] will be considered as input for this deliverable.

2. References

2.1 Normative References

[3GPP TS 23.198] "Open Service Access (OSA); Stage 2", TS23.198

URL: http://www.3gpp.org/ftp/Specs/html-info/23198.htm

[OSE] "OMA Service Environment", Open Mobile Alliance™, URL:http://www.openmobilealliance.org/

[PIOSE] "Parlay in OSE Architecture", Open Mobile Alliance™, OMA-RRP-PIOSE-V1_0-A, URL:http://www.openmobilealliance.org/

[PSA RD] "Parlay Service Access Requirements", Open Mobile Alliance™, OMA-RD-Parlay_Service_Access-V1_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

2.2 Informative References

[3GPP TS 22.127] "Service Requirement for the Open Services Access (OSA); Stage 1"

URL:http://www.3gpp.org/ftp/Specs/html-info/22127.htm

[3GPP TS 29.198] "Open Service Architecture (OSA) Application Programming Interface (API)"

URL:http://www.3gpp.org/ftp/Specs/html-info/29-series.htm

[3GPP TS 29.199] "Open Service Access (OSA); Parlay X web services"

URL:http://www.3gpp.org/ftp/Specs/html-info/29-series.htm

[OMADICT] "Dictionary for OMA Specifications", Version 2.7, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_7-A, URL:http://www.openmobilealliance.org/

[OWSER-Core] "OMA Web Services Enabler (OWSER): Core Specifications", Open Mobile Alliance™, OMA-TS-OWSER_Core_Specification-V1_1-A, URL:http://www.openmobilealliance.org/

[OWSER-WSDL] "OMA Web Services Enabler (OWSER) Best Practices: WSDL Style Guide", Open Mobile Alliance™, OMA-TS-OWSER-Best_Practice-WSDL_Style_Guide-V1_1-A, URL:http://www.openmobilealliance.org/

[PEEM] "OMA Policy Evaluation, Enforcement and Management Architecture V1.0", Open Mobile Alliance,

http://www.openmobilealliance.org/

[SEC-CF] "Enabler Release Package for Application Layer Security Common Functions", Open Mobile Alliance™, OMA-ERP-SEC_CF-V1_0-A, 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.

3.2 Definitions

OSA API	See Parlay API
Parlay API	A multi-part suite of API specifications, also referred to as OSA API, with which service application developers can make use of network functionality, features and enablers through a secure, open, standardised interface, i.e. the Parlay/OSA APIs. The Parlay APIs are object-oriented in nature, and defined using UML as the methodology with which to specify interface classes, methods, parameters and state transition diagrams.This set of UML based APIs supports three different technology realizations as described below.
Parlay - CORBA/IDL Realization	The Object Management Group’s (OMG) (http://www.omg.org/) Interface Definition Language (IDL) is used as the means to programmatically define the APIs. The CORBA/IDL realization facilitates the use of CORBA as the distribution and communication mechanism
Parlay - Java Realization	The Java realization provides for Java, a developer API consistent with the UML specification, and aligned with best practice for the JSE and JEE development environments. The Java realisation provides Java code for JSE and JEE.
Parlay -Web Services Realization	A realization of the Parlay UML in WSDL
Parlay X (API)	Parlay X provides simple, abstracted Web Services-based use of network functionality, features and enablers, consistent with the Parlay APIs and supplemented where necessary to meet the needs of Web Service developers. The Parlay X APIs are defined as WSDLs , which are not derived from the Parlay UML, and conform to a defined Web Services styleguide [OWSER-WSDL].

3.3 Abbreviations

CORBA	Common Object Request Broker Architecture
IDL	Interface Definition Language
JEE	Java Enterprise Edition
JSE	Java Standard Edition
OMA	Open Mobile Alliance
OMG	Object Management Group
OSA	Open Service Access
UML	Unified Modeling Language
WSDL	Web Services Description Language

4. Introduction (Informative)

The 3GPP Open Service Access (OSA) defines an architecture that enables service application developers to make use of network functionality through open standardized interface, i.e. the OSA APIs and Parlay X APIs. Document [3GPP TS 23.198] specifies the architecture of the Open Service Access (OSA).

This Architecture Document takes into account both [3GPP TS 23.198] and [PIOSE].

The Parlay In OSE (PIOSE) Enabler provides an OMA perspective on the use of Parlay and Parlay X as part of the OSE ([PIOSE]). This perspective provides further background and analysis on Parlay architecture and principles.

4.1 Version 1.0

PSA version 1.0 completes the work on the 3GPP Release 8 requirements that have been transferred to OMA and addressed in PSA RD [PSA RD] as per OMA processes.

5. Architectural Model

The architecture for this enabler is specified in [3GPP TS 23.198].

PIOSE AD ([PIOSE]) positions the PSA framework enabler in the context of OSE ([OSE]).

5.1 Dependencies

The PSA framework enabler is dependent on OSE ([OSE]), on Parlay in OSE ([PIOSE]), and on the following 3GPP Rel. 8 specifications:

- TS 22.127, “Service Requirement for the Open Services Access (OSA); Stage 1”, [3GPP TS 22.127];
- TS 23.198, “Open Service Access (OSA); Stage 2”, [3GPP TS 23.198];
- TS 29.198-xx series, “Open Service Architecture (OSA) Application Programming Interface (API)”, [3GPP TS 29.198];
- TS 29.199-xx series, “Open Service Access (OSA); Parlay X web services”, [3GPP TS 29.199].

No other dependencies are identified.

5.2 Architectural Diagram

The figure below shows the PSA Framework scope:

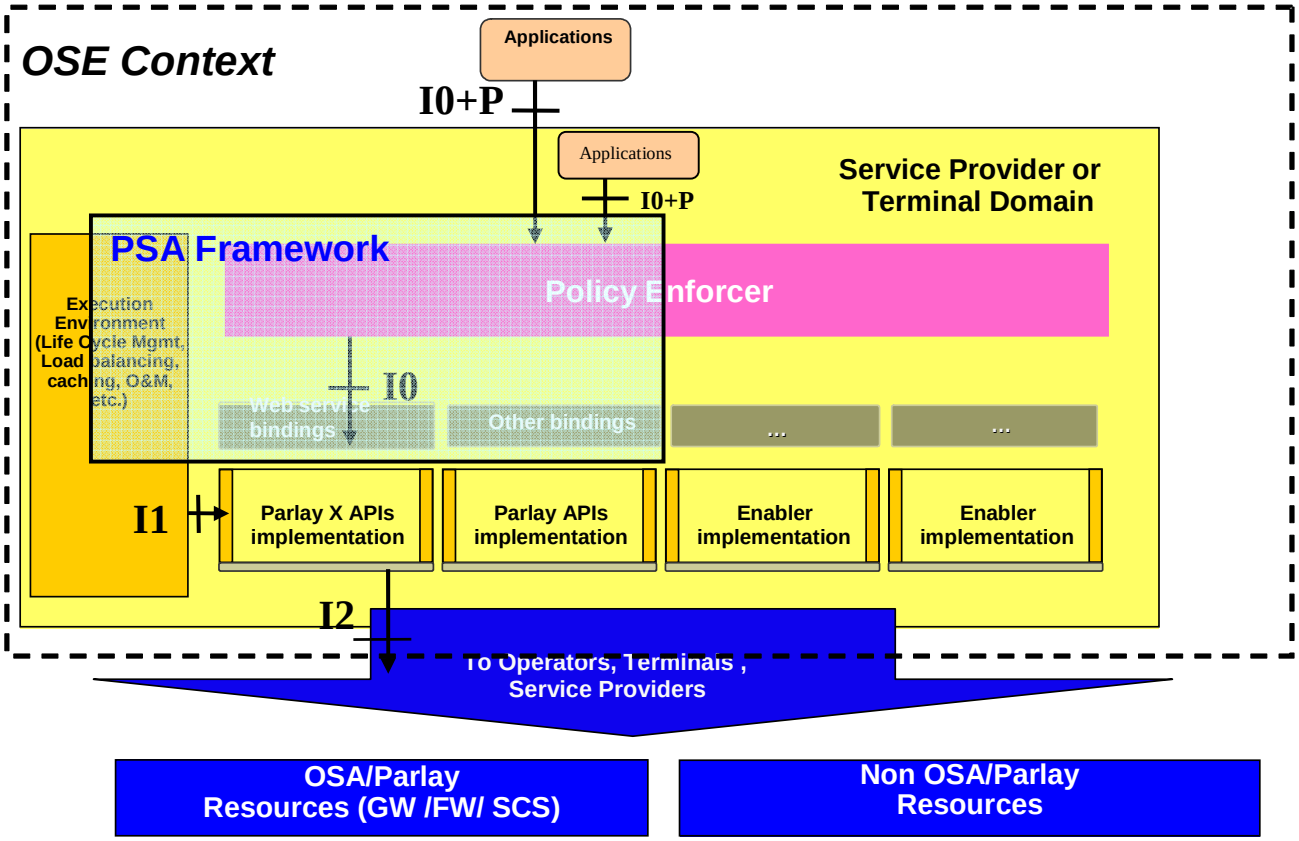

Figure 1: PSA framework in PIOSE context

5.3 Functional Components and Interfaces/reference points definition

Document [PIOSE] describes how the OSE relates to different resources including the OSA/Parlay Resources and OSA architecture components (OSA/Parlay is described in [3GPP TS 23.198]).

In the PIOSE context, the PSA Framework is a PSA architectural element that gathers and provides mechanisms (i.e. Policy enforcement, evaluation, management; Accounting; Event management; Identity management) to facilitate the access from 3° parties to Parlay/ParlayX resources.

Implementation of the PSA Framework in real deployments of service environments allow the service provider to:

1) offer a single logical point of contact for all Applications accessing the service capability features in the service environment, and

2) be able to hide to the Applications the topology of the underlying network enabler.

The PSA framework enabler supports an interface to set policies on how to utilize the underlying network system (e.g. based on the need of load distribution).

The PSA framework enabler provides an interface to notify the application of events (including chargeable events) that have occurred in the network.

The requirement to manage and enforce policies on the access and usage of service capability features requested by the applications is supported through the Policy Enforcer in OSE ([OSE]): in the PSA framework enabler, the OMA PEEM enabler [PEEM] may be used to realise these functionalities.

The PSA framework enabler provides an interface to inform about the usage of APIs: since the PE manages and enforces policies, log information provided by PE may be used to track usage of APIs.

PSA framework enabler is identified in PSA AD and can be implemented as a collection of 3GPP and OMA functionalities (e.g. PEEM can manage and enforce policies on the access and usage of APIs); it is FFS a detailed specification of it

5.4 Security Considerations

The PSA framework enabler may use security mechanisms as defined in [OWSER-Core] or [SEC-CF].

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-AD-Parlay_Service_Access-V1_0	24 Jun 2008	5	First draft version with two sentences in Section 5 (agreed during 20080624 OGSA F2F in Prague)
	18 Aug 2008	3.2 Definitions 3.3 Abbreviations 4. Introduction	See OMA-ARC-PSA-2008-0014R01-INP_Addition_of_Parlay_definitions_to_the_RD_and_AD (agreed during 20080818 OGSA F2F in Chicago)
		1. Scope	See OMA-ARC-2008-0168-INP_Scope_Section_for_PSA_AD (agreed during 20080818 OGSA F2F in Chicago)
		4. Introduction	See OMA-ARC-2008-0169R01-INP_Introduction_Section_for_PSA_AD (agreed during 20080818 OGSA F2F in Chicago)
		5.3 Functional Components and Interfaces/reference points definition	See OMA-ARC-2008-0171R01-INP_Func_comps_Policies_on_underlying_network_system_for_PSA_AD (agreed during 20080818 OGSA F2F in Chicago)
		5.3 Functional Components and Interfaces/reference points definition	See OMA-ARC-2008-0172R01-INP_Func_comps_Topology_hiding_for_PSA_AD (agreed during 20080818 OGSA F2F in Chicago)
		5.3 Functional Components and Interfaces/reference points definition	See OMA-ARC-2008-0174R01-INP_Func_comps_Event_notifications_for_PSA_AD (agreed during 20080818 OGSA F2F in Chicago)
		5.3 Functional Components and Interfaces/reference points definition	See OMA-ARC-2008-0175R01-INP_Func_comps_Policies_on_usage_of_service_capability_features_for_PSA_AD (agreed during 20080818 OGSA F2F in Chicago)
		5.3 Functional Components and Interfaces/reference points definition	See OMA-ARC-2008-0176R01-INP_Func_comps_Accounting_for_PSA_AD (agreed during 20080818 OGSA F2F in Chicago)
	23 Oct. 2008	5.3 Functional Components and Interfaces/reference points definition	See OMA-ARC-2008-0170R04-INP_Func_comps_Figure_Text_for_PSA_AD (agreed during 20081020 OGSA F2F in Osaka)
		Appendix A. Change History	Editorial changes: History box fixed
	04 Nov 2008	5.4 Security Considerations Appendix B. Flows	See OMA-ARC-PSA-2008-0027-INP_Apply_New_AD_Template (agreed during 20081104 ARC CC)
		2.1 Normative References 2.2 Informative References	See OMA-ARC-PSA-2008-0030R01-INP_Add_Norm_Refs_to_AD (agreed during 20081104 ARC CC)
		3.1 Conventions	See OMA-ARC-PSA-2008-0031-INP_Fix_Section_3_1_in_AD (agreed during 20081104 ARC CC)
		4.1 Version 1.0 4.2 Version <x.y> and sub	See OMA-ARC-PSA-2008-0032R01-INP_Populate_Section_4_1_in_AD (agreed during 20081104 ARC CC)
		5.1 Dependencies	See OMA-ARC-PSA-2008-0033-INP_Populate_Section_5_1_in_AD (agreed during 20081104 ARC CC)

Document Identifier	Date	Sections	Description
	16 Dec 2008	5.2 Architectural Diagram	See OMA-ARC-PSA-2008-0037R01-INP_PSA_FW_Figure_AD (agreed during 20081216 ARC F2F in Cancun)
		2.2 Informative References 5.3 Functional Components and Interfaces/reference points definition	See OMA-ARC-PSA-2008-0038-INP_HLF_005_AD (agreed during 20081216 ARC F2F in Cancun)
		5.3 Functional Components and Interfaces/reference points definition	See OMA-ARC-PSA-2008-0039R01-INP_HLF_006_AD (agreed during 20081216 ARC F2F in Cancun)
		5.3 Functional Components and Interfaces/reference points definition	See OMA-ARC-PSA-2008-0040R01-INP_SYS_002_003_AD (agreed during 20081216 ARC F2F in Cancun) Editorial clean-up
	09 Feb 2009	Editorial cleanup	See OMA-ARC-PSA-2009-0005-INP_AD_Cleanup. (agreed during 20090209 ARC F2F in Macau)
	31 Mar 2009	ADRR	See OMA-ADRR-Parlay_Service_Access-V1_0_0-20090316-D.doc
	17 Apr 2009	ADRR	See A009 email resolution on ARC reflector (20090416)
	21 Apr 2009	ADRR	Comment 11 resolution (agreed during 20090421 ARC F2F in Helsinki).
Candidate Version: OMA-AD-Parlay_Service_Access-V1_0	19 May 2009	All	Status changed to Candidate by TP: OMA-TP-2009-0194-INP_PSA_V1_0_AD_for_Candidate_Approval