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650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

3GPP acknowledges the contribution of the Parlay X Web Services specifications from The Parlay Group. The Parlay Group is pleased to see 3GPP acknowledge and publish the present document, and the Parlay Group looks forward to working with the 3GPP community to improve future versions of the present document.

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Introduction

The present document is part 14 of a multi-part deliverable covering the 3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Open Service Access (OSA); Parlay X Web Services, as identified below:

Part 1: "Common"
Part 2: "Third party call"
Part 3: "Call Notification"
Part 4: "Short Messaging"
Part 5: "Multimedia Messaging"
Part 6: "Payment"
Part 7: "Account management"
Part 8: "Terminal Status"
Part 9: "Terminal location"
Part 10: "Call handling"
Part 11: "Audio call"
Part 12: "Multimedia conference"
Part 13: "Address list management"
Part 14: "Presence"
Part 15: "Message Broadcast"
Part 16: "Geocoding"
Part 17: "Application driven Quality of Service (QoS)"
Part 18: "Device Capabilities and Configuration"
Part 19: "Multimedia streaming control"
Part 20: "Multimedia multicast session management"

1 Scope

The present document is Part 14 of the Stage 3 Parlay X Web Services specification for Open Service Access (OSA).

The OSA specifications define an architecture that enables application developers to make use of network functionality through an open standardized interface, i.e. the OSA APIs. The concepts and the functional architecture for the OSA are contained in 3GPP TS 23.198 [3]. The requirements for OSA are contained in 3GPP TS 22.127 [2].

The present document specifies the Presence Web Service aspects of the interface. All aspects of the Presence Web Service are defined here, these being:

- Name spaces.
- Sequence diagrams.
- Data definitions.
- Interface specification plus detailed method descriptions.
- Fault definitions.
- Service policies.
- WSDL Description of the interfaces.

The present document has been defined jointly between 3GPP TSG CT WG5, ETSI TISPAN and the Parlay Consortium.

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2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 22.127: "Service Requirement for the Open Services Access (OSA); Stage 1".

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

[4] 3GPP TS 22.101: "Service aspects; Service principles".

[5] W3C Recommendation (2 May 2001): "XML Schema Part 2: Datatypes". http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/.

[6] 3GPP TS 29.199-1: "Open Service Access (OSA); Parlay X Web Services; Part 1: Common".

[7] Void.

[8] 3GPP TS 29.198-14: "Open Service Access (OSA) Application Programming Interface (API); Part 14: Presence and Availability Management (PAM)".

[9] RFC 3856: "A Presence Event Package for the Session Initiation Protocol (SIP)". http://www.ietf.org/rfc/rfc3856.txt

[10] Void.

[11] Void.

[12] 3GPP TS 23.141: "Presence service; Architecture and functional description; Stage 2".

[13] 3GPP TS 29.199-13: "Open Service Access (OSA); Parlay X Web Services; Part 13: Address list management".

[11] IETF RFC 3265: "Session Initiation Protocol (SIP)-Specific Event Notification".

[15] Void.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 29.199-1 [6] and the following apply:

applications: for Instant Messaging, Push to Talk, or call control and other purposes may become clients of the presence Web Service
We assume that these applications belong to a watcher and authenticate to the services in the name of the watcher.

identity: represents a user in the real world

NOTE: See OSA/Parlay PAM identities [8], section 4.4.1.

presence attributes: contain information about a presentity
An attribute has a name and a value and can be supplied by any device, application or network module that can be associated to the presentity's identity. A watcher can obtains attributes only after he has successfully subscribed to them. Examples for attributes are activity, location type, communication means, etc.

presence information: consists of a set of attributes that characterize the presentity such as current activity, environment, communication means and contact addresses
Only the system and the presentity have direct access to this information, which may be collected and aggregated from **several** devices associated to the presentity.

subscription: before a watcher can access presence data, he has to subscribe to it
One possibility the API provides is an end-to-end subscription concept, in which only identities that have accepted a subscription to their presence can be addressed. Subscriptions can be also automatically handled by server policies edited by the presentity or other authorized users. The service/protocol to manage those policies is out of the scope of the present document.

NOTE: This definition is not related to the term "subscription" in 3GPP TR 21.905 [1].

watcher and presentity: We use these names to denote the role of the client connected to the presence services
Like in OSA/Parlay PAM [8] the watcher and the presentity have to be associated to identities registered to the system, i.e. users, groups of users or organizations.

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3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TS 29.199-1 [6] and the following apply:

ACL	Access Control List
DMS	Data Manipulation Server
GM	Group Management
IETF	Internet Engineering Task Force
IMS	IP Multimedia Subsystem
ISC	IP multimedia subsystem Service Control interface
MMS	Multimedia Message Service
PAM	Presence and Availability Management
RLS	Resource List Server
SCF	Service Capability Feature
SIMPLE	SIP for Instant Messaging and Presence Leveraging Extensions
SIP	Session Initiation Protocol
SMS	Short Message Service
URI	Uniform Resource Identifier
WS	Web Service
WSDL	Web Services Definition Language
XCAP	XML Configuration Access Protocol
XML	eXtensible Markup Language
XMPP	eXtensible Messaging and Presence Protocol
XSD	XML Schema Definition

4 Detailed service description

The presence service allows for presence information to be obtained about one or more users and to register presence for the same. It is assumed that the typical client of these interfaces is either a supplier or a consumer of the presence information. An Instant Messaging application is a canonical example of such a client of this interface.

Figure 4.1 shows the architecture of the presence Web Service and the underlying services. The OSA/Parlay PAM SCF is the straightforward option and implements the presence server with extended identity, device capability, and presence agent management. OSA/Parlay PAM allows aggregation of presence information from internet, mobile and enterprise users, etc. using a presence transport network of SIP or XMPP servers. The Presence Web Service can however communicate directly for example with IMS presence network elements (presence and resource list servers) using the ISC (SIP/SIMPLE) protocol interface.

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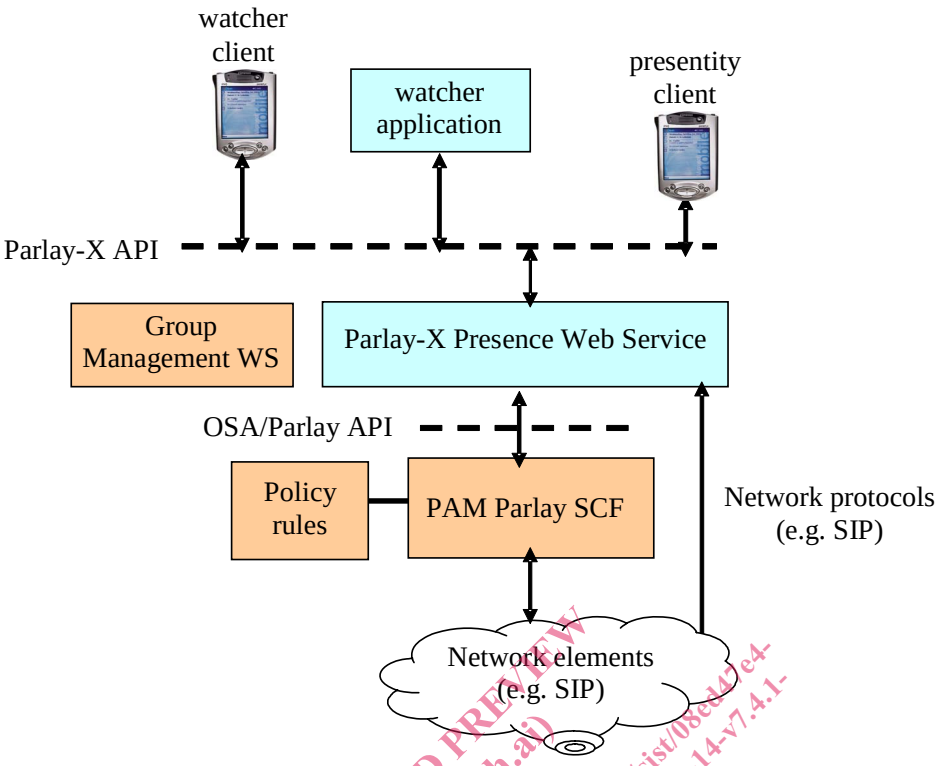

Figure 4.1: The PAM Web Service Environment

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Relationship to Similar or Supplanted Specifications:

The most important relations are to:

- Parlay-X Terminal Status and Terminal Location: Both services deal with information that could be considered part of the user's presence information. Communication abilities can be derived from terminal status information, and the user's placetype can be derived from his location.
- OSA/Parlay PAM: The OSA/Parlay Presence and Availability specification can be considered the big brother of this specification. While ParlayX Presence stays behind OSA PAM in terms of flexibility and power - especially concerning attributes and management interfaces - it also extends PAM by introducing end-to-end authorization. This specification aims to be mappable to OSA PAM.
- SIP SIMPLE [9]: This specification aims to be mappable to the SIP/SIMPLE architecture.
- XMPP (Jabber): Many principles of this specification (see Bibliography) have been adopted, especially the end-to-end authorization.
- IETF Rich Presence (see Bibliography). The set of attributes the present document specifies is closely aligned with the IETF's Rich Presence ideas.
- Group Management [13]: Presence of groups is supported by this specification, however their creation and manipulation has to be done using the GM PX Web Service. In the 3GPP presence context, contact lists and group manipulation is done with the XCAP protocol (see Bibliography).

5 Namespaces

The PresenceConsumer interface uses the namespace:

http://www.csapi.org/wsdl/parlayx/presence/consumer/v3_2

The PresenceNotification interfaces use the namespace:

http://www.csapi.org/wsdl/parlayx/presence/notification/v3_2

The PresenceSupplier interfaces use the namespace:

http://www.csapi.org/wsdl/parlayx/presence/supplier/v3_2

The PresenceSupplierNotificationManager interfaces use the namespace:

http://www.csapi.org/wsdl/parlayx/presence_supplier/notification_manager/v3_0

The PresenceSupplierNotification interfaces use the namespace:

http://www.csapi.org/wsdl/parlayx/presence_supplier/notification/v3_0

The data types are defined in the namespace:

http://www.csapi.org/schema/parlayx/presence/v3_2

The 'xsd' namespace is used in the present document to refer to the XML Schema data types defined in XML Schema [5]. The use of the name 'xsd' is not semantically significant.

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6 Sequence diagrams

6.1 Interface flow overview

The sequence diagram shows the interactions in case both watcher application and presentity are Web Service clients. Compared to the SIP interactions, the subscription notification is separated from the delivery of presence information itself. Based on the subscription result, the watcher can select the polling or notification mode for presence events. Changes in the authorization of presence attributes are propagated to the watchers via notifySubscription() message, the blocking of a subscription by the presentity are propagated via an endSubscriptionNotification message.

The sequence diagram does not show the internal communication within the presence server. It is assumed that the Presence Consumer and Supplier interfaces are implemented by the same instance. If an implementers of the API find other solutions preferable, he has to take care of the internal communication himself.