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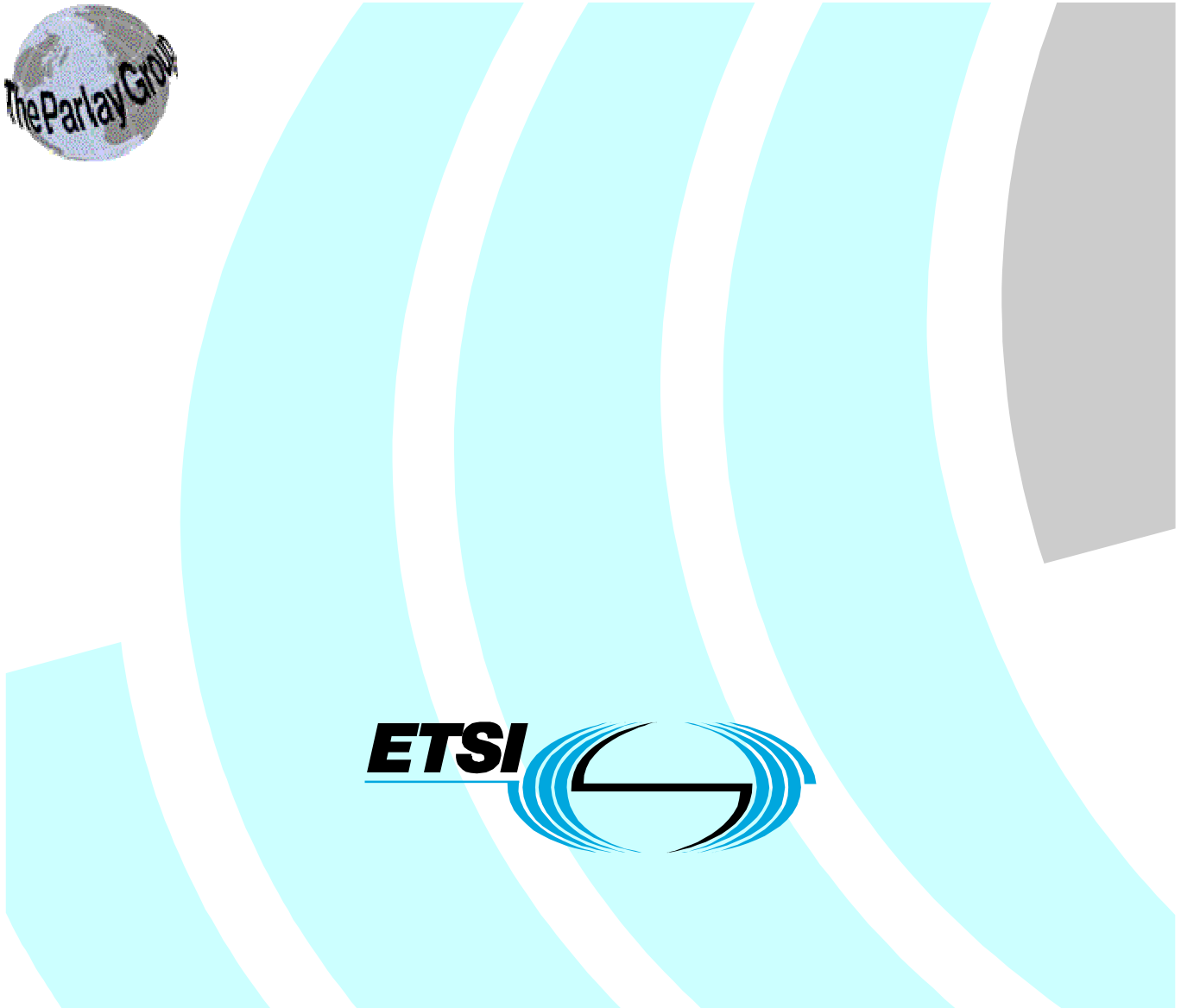
Technical Report

Open Service Access (OSA);
Mapping of Parlay X Web Services to Parlay/OSA APIs;
Part 14: Presence Mapping;
Sub-part 1: Mapping to Presence and Availability Management



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Contents

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Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN).

The present document is part 14, sub-part 1, of a multi-part deliverable covering Open Service Access (OSA); Mapping of Parlay X Web Services to Parlay/OSA APIs, as identified below:

Part 1: "Common Mapping";

Part 2: "Third Party Call Mapping";

Part 3: "Call Notification Mapping";

Part 4: "Short Messaging Mapping";

Part 5: "Multimedia Messaging Mapping";

Part 6: "Payment Mapping";

Part 7: "Account Management Mapping";

Part 8: "Terminal Status Mapping";

Part 9: "Terminal Location Mapping";

Part 10: "Call Handling Mapping";

Part 11: "Audio Call Mapping";

Part 12: "Multimedia Conference Mapping";

Part 14: "Presence Mapping";

Sub-part 1: "Mapping to Presence and Availability Management"

Sub-part 2: "Mapping to SIP/IMS Networks".

NOTE: Part 13 has not been provided as there is currently no defined mapping between ES 202 391-13 [1] and the Parlay/OSA APIs. If a mapping is developed, it will become part 13 of this series.

The present document has been defined jointly between ETSI, The Parlay Group (http://www.parlay.org) and the 3GPP.

1 Scope

The Parlay X Web Services provide powerful yet simple, highly abstracted, imaginative, telecommunications functions that application developers and the IT community can both quickly comprehend and use to generate new, innovative applications.

The Open Service Access (OSA) specifications define an architecture that enables application developers to make use of network functionality through an open standardized interface, i.e. the Parlay/OSA APIs.

The present document specifies the mapping of the Parlay X Presence Web Service to the Presence and Availability Management (PAM) Service Capability Feature (SCF).

2 References

For the purposes of this Technical (TR), the following references apply:

[2] ETSI TR 121 905: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Vocabulary for 3GPP Specifications (3GPP TR 21.905)".

[3] W3C Recommendation (2 May 2001): "XML Schema Part 2: Datatypes".

NOTE: Available at http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/.

[4] ETSI TR 102 397-1: "Open Service Access (OSA); Parlay X Web Services Part 1: Common Mapping".

[5] ETSI ES 202 915-14: "Open Service Access (OSA); Application Programming Interface (API); Part 14: Presence and Availability Management SCF (Parlay 4)".

[6] ETSI ES 202 391-13: "Open Service Access (OSA); Parlay X Web Services; Part 13: Address List Management".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 102 397-1 [4] 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

NOTE: We assume that these applications belong to a watcher and authenticate to the services in the name of the watcher.

identity: representation of a user in the real world

NOTE: See ES 202 915-14 [5], clause 4.4.1.

presence attributes: contain information about a presentity

NOTE: 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 obtain attributes only after he has successfully subscribed to them. Examples for attributes are activity, location type, communication means, etc.

presence information: set of attributes that characterize the presentity such as current activity, environment, communication means and contact addresses

NOTE: 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: relationship between a watcher and present data

NOTE: Before a watcher can access the presence data, he has to suscribe 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 ETSI TR 121 905 [2].

watcher and presentity: We use these names to denote the role of the client connected to the presence services.

NOTE: As in ES 202 915-14 [5] the watcher and the presentity have to be associated to identities registered to the system, i.e. users, groups of users or organizations.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TR 102 397-1 [4] and the following apply:

ACL	Access Control List
IMS	IP Multimedia Subsystem
PAM	Presence and Availability Management
PIDF	Presence Information Data Format
RPID	Rich Presence Information Data
SCF	Service Capability Feature
SIMPLE	SIP for Instant Messaging and Presence Leveraging Extensions
SIP	Session Initiation Protocol
XML	eXtensible Markup Language

4 Mapping Description

The Presence capability can be implemented with Parlay/OSA PAM.

It is applicable to ETSI OSA 2.x/3.x, Parlay/OSA 4.x/5.x and 3GPP Releases 5/6.

5 Sequence Diagrams

5.1 Presence Supplier and Consumer

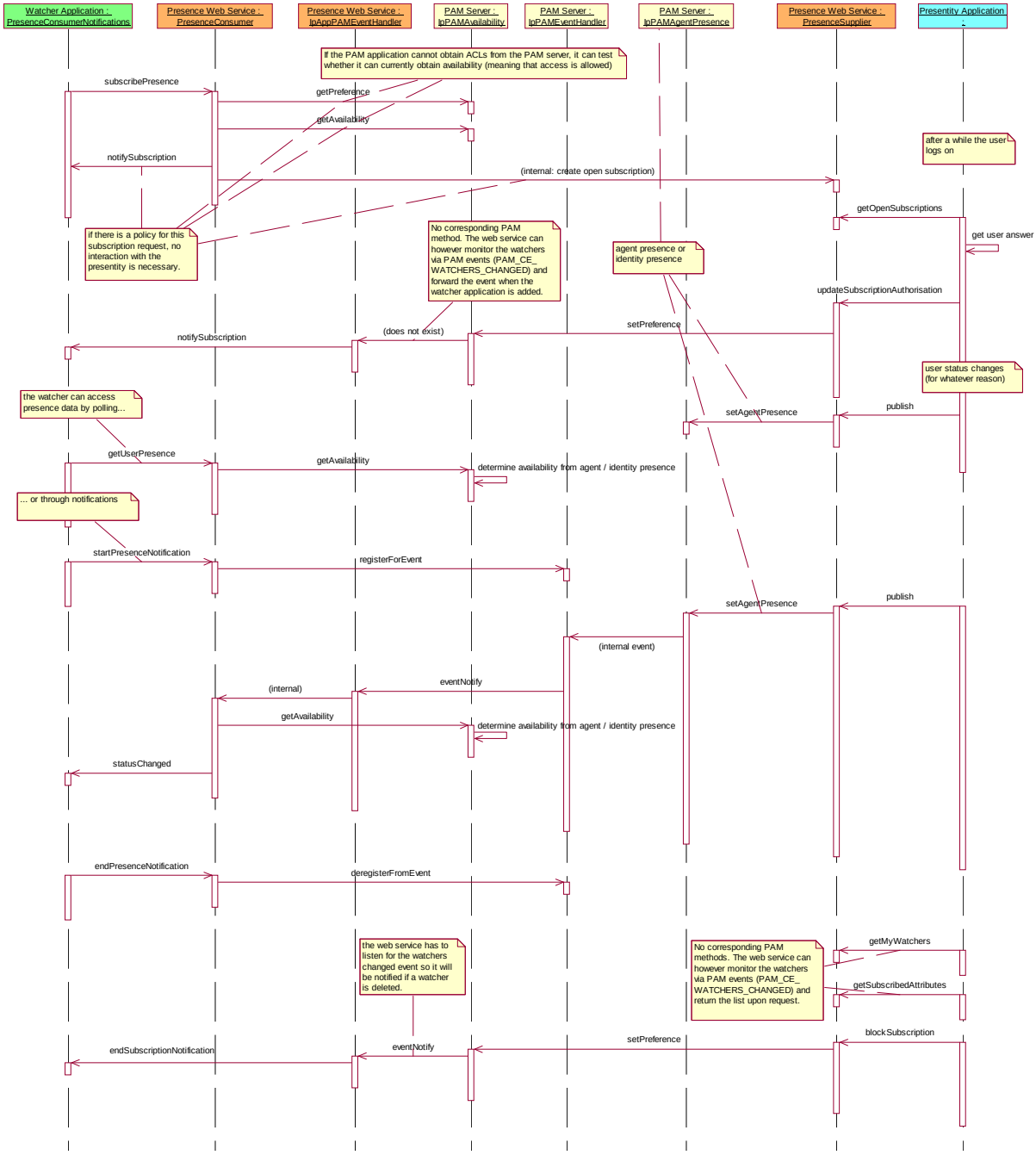

Figure 1

6 Detailed Mapping Information

6.1. Data Mappings

In PIDF (and therefore in RPID, and in Parlay X) the presence data of a presentity consists of the identifier of the presentity plus a set of tuples describing her presence state. A tuple having a contact address can be mapped to a PAM agent belonging to the presentity. The following table maps the RPID structure to PAM attributes.

If the SIMPLE server does not support RPID, only the basic type from PIDF can be mapped to the lower layer. Rich Presence can still be used within the Parlay X layer.

RPID	PAM
Presentity (URL)	Unique identifier of the identity
Tuple	Set of attributes belonging either to the identity or to one of her agents
Contact address of tuple (optional)	Identifier of agent belonging to the identity. If not set, the tuple describes identity attributes
Status element of tuple	The actual presence attributes of the agent or identity.
RPID: class of tuple	Agent or identity type
Status: basic	Boolean attribute called status
RPID: other status elements	Attributes with corresponding names and types
Not supported	Other attributes (arbitrary name and type)
RPID: tuple type	No mapping
RPID: relationship	No mapping
Not currently supported; still under discussion	Capabilities of agents, capability attributes
Notes on presentities	Identity attribute
Notes on tuples	Identity/agent attribute

Presence vs. Availability. The mapping to the PAM server has to take into account that Parlay X Presence does not support the distinction between ***availability*** and ***presence***. The Parlay X Web Service offers PAM ***availability*** information to its applications and stores PAM ***presence*** information at the PAM server.

Identities and Agents. Pam's notion of agents and identities is not clearly supported by the RPID model. Depending on the data at hand, the Parlay X service and the SIMPLE server will use either the `IpPAM`*`Identity`*`Presence` or the `IpPAM`*`Agent`*`Presence` interfaces of the PAM server. The computation of availability information is up to the PAM server.

Parlay X Subscription Data. Parlay X subscription data describes who is allowed to access which attributes of a presentity. This corresponds to the access control lists protecting PAM availability information. The Parlay X subscription state "pending" cannot be mapped to ACLs.

6.2 Operations

6.2.1 subscribePresence

If the watcher is already on the ACL of the presentity (this can be checked with the method `getPreference()` on the `IpPAMAvailability` interface), the web service can answer the request immediately. If not, this method does not map directly to PAM, as the ACL has no "pending" state. A solution is a new presentity identity attribute listing all pending subscriptions.

6.2.2 getUserPresence

This operation maps to the Parlay/OSA PAM method `getAvailability` on the `IpPAMAvailability` interface.

6.2.3 startPresenceNotification

This operation maps to the Parlay/OSA PAM method `registerForEvent` on the `IpPAMEventHandler` interface.

6.2.4 endPresenceNotification

This operation maps to the Parlay/OSA PAM method `deregisterForEvent` on the `IpPAMEventHandler` interface.

6.2.5 statusChanged

The Parlay/OSA PAM method `eventNotify` on the `IpAppPAMEventHandler` interface maps to this operation.

6.2.6 statusEnd

The Parlay/OSA PAM method `eventNotify` on the `IpAppPAMEventHandler` interface maps to this operation.

6.2.7 notifySubscription

As subscriptions do not map well to PAM, no PAM method maps directly to this operation. The web service would have to constantly monitor the ACLs of all presentities the watcher wants to subscribe to (using `getPreference()`). In this way, if the watcher is added to an ACL, the web service can invoke **notifySubscription**.

6.2.8 subscriptionEnded

The same applies in case of **subscriptionEnded**: If the watcher is removed from an ACL, the web service can invoke **subscriptionEnded**. Alternatively, the web service can check the PAM ACL only if a request for availability fails for privacy reasons. However, this does not entirely fulfil the immediate notification character of the ParlayX method.

6.2.9 publish

This method maps to the Parlay/OSA PAM method `setAgentPresence` on the `IpPAMAgentPresence` interface. Alternatively, the Parlay X Presence Service can use `setIdentityPresence` on the `IpPAMIdentityPresence` interface. The exact implementation depends on the attributes available on the OSA PAM server.

6.2.10 getOpenSubscriptions

There is no state "pending" in ACLs, hence no open subscriptions. A special attribute for pending subscriptions could be used to circumvent this.

6.2.11 updateSubscriptionAuthorization

This operation maps to `setPreference` on the `IpPAMAvailability` interface. The Parlay X Web Service has to update the ACLs on the PAM server.

6.2.12 getMyWatchers

This operation maps to `getPreference` on the `IpPAMAvailability` interface. The Parlay X Web Service has to obtain the ACLs from the PAM server.

6.2.13 getSubscribedAttributes

This operation maps to `getPreference` on the `IpPAMAvailability` interface. The Parlay X Web Service has to obtain the ACLs from the PAM server.

6.2.14 blockSubscription

This operation maps to `setPreference` on the `IpPAMAvailability` interface. The Parlay X Web Service has to update the ACLs on the PAM server.

6.2.15 Unmapped Elements

Please note that as Parlay/OSA PAM does not include end-to-end subscription, the subscription mechanisms cannot be mapped in all aspects to the PAM SCF (e.g. operation **subscribePresence**).

A reverse mapping of other Parlay/OSA PAM interfaces, especially the management APIs to Parlay X does not make sense, as the managed data resides in the PAM server, and not in the Parlay X server built on top of it.

6.3 Exceptions

For the present document, the mapping of Parlay/OSA API method exceptions to Parlay X Web Service exceptions is common and defined in TR 102 397-1 [4]. There are no service-specific exception mappings.

7 Additional Notes

The Parlay X Presence Web Service offers Parlay/OSA PAM ***availability*** information to its applications and stores Parlay/OSA PAM ***presence*** information at the PAM SCF. Depending on the configuration, the Parlay X Presence web service will use either the `IpPAM`*`Identity`*`Presence` or the `IpPAM`*`Agent`*`Presence` interfaces of the PAM SCF.

The computation of availability information is up to the PAM SCF.

History

Document history		
V1.1.1	August 2005	Publication