



Presence Access Layer Data Specification

Candidate Version 1.0 – 31 Aug 2010

Open Mobile Alliance
OMA-DDS-PAL_Data_Ext-V1_0-20100831-C

Use of this document is subject to all of the terms and conditions of the Use Agreement located at <http://www.openmobilealliance.org/UseAgreement.html>.

Unless this document is clearly designated as an approved specification, this document is a work in process, is not an approved Open Mobile Alliance™ specification, and is subject to revision or removal without notice.

You may use this document or any part of the document for internal or educational purposes only, provided you do not modify, edit or take out of context the information in this document in any manner. Information contained in this document may be used, at your sole risk, for any purposes. You may not use this document in any other manner without the prior written permission of the Open Mobile Alliance. The Open Mobile Alliance authorizes you to copy this document, provided that you retain all copyright and other proprietary notices contained in the original materials on any copies of the materials and that you comply strictly with these terms. This copyright permission does not constitute an endorsement of the products or services. The Open Mobile Alliance assumes no responsibility for errors or omissions in this document.

Each Open Mobile Alliance member has agreed to use reasonable endeavors to inform the Open Mobile Alliance in a timely manner of Essential IPR as it becomes aware that the Essential IPR is related to the prepared or published specification. However, the members do not have an obligation to conduct IPR searches. The declared Essential IPR is publicly available to members and non-members of the Open Mobile Alliance and may be found on the “OMA IPR Declarations” list at <http://www.openmobilealliance.org/ipr.html>. The Open Mobile Alliance has not conducted an independent IPR review of this document and the information contained herein, and makes no representations or warranties regarding third party IPR, including without limitation patents, copyrights or trade secret rights. This document may contain inventions for which you must obtain licenses from third parties before making, using or selling the inventions. Defined terms above are set forth in the schedule to the Open Mobile Alliance Application Form.

NO REPRESENTATIONS OR WARRANTIES (WHETHER EXPRESS OR IMPLIED) ARE MADE BY THE OPEN MOBILE ALLIANCE OR ANY OPEN MOBILE ALLIANCE MEMBER OR ITS AFFILIATES REGARDING ANY OF THE IPR'S REPRESENTED ON THE “OMA IPR DECLARATIONS” LIST, INCLUDING, BUT NOT LIMITED TO THE ACCURACY, COMPLETENESS, VALIDITY OR RELEVANCE OF THE INFORMATION OR WHETHER OR NOT SUCH RIGHTS ARE ESSENTIAL OR NON-ESSENTIAL.

THE OPEN MOBILE ALLIANCE IS NOT LIABLE FOR AND HEREBY DISCLAIMS ANY DIRECT, INDIRECT, PUNITIVE, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OF DOCUMENTS AND THE INFORMATION CONTAINED IN THE DOCUMENTS.

© 2010 Open Mobile Alliance Ltd. All Rights Reserved.

Used with the permission of the Open Mobile Alliance Ltd. under the terms set forth above.

Contents

1. SCOPE	6
2. REFERENCES	7
2.1 NORMATIVE REFERENCES	7
2.2 INFORMATIVE REFERENCES	8
3. TERMINOLOGY AND CONVENTIONS	9
3.1 CONVENTIONS	9
3.2 DEFINITIONS	9
3.3 ABBREVIATIONS	10
4. INTRODUCTION	11
5. JUSTIFICATION	12
6. PRESENCE ASPECT DEFINITIONS	13
6.1 PRESENCE ASPECT OPTIN	13
6.1.1 Description	13
6.1.2 Semantics	13
6.1.3 Presence Aspect Values	13
6.1.4 Dependant PAL Rules	13
6.1.5 Applicable PAL Policies	13
6.1.6 Notes	14
6.2 PRESENCE ASPECT AVAILABLE	14
6.2.1 Description	14
6.2.2 Semantics	14
6.2.3 Presence Aspect Values	14
6.2.4 Dependant PAL Rules	14
6.2.5 Applicable PAL Policies	14
6.2.6 Notes	14
6.3 PRESENCE ASPECT CONTACTABLE	14
6.3.1 Description	15
6.3.2 Semantics	15
6.3.3 Presence Aspect Values	15
6.3.4 Dependant PAL Rules	15
6.3.5 Applicable PAL Policies	15
6.3.6 Notes	15
6.4 PRESENCE ASPECT ALLAPPLICABLE	15
6.4.1 Description	15
6.4.2 Semantics	16
6.4.3 Presence Aspect Values	16
6.4.4 Dependant PAL Rules	16
6.4.5 Applicable PAL Policies	16
6.4.6 Notes	16
7. PRESENCE TRIGGER DEFINITIONS	17
7.1 PRESENCE TRIGGER ONOPTIN	17
7.1.1 Description	17
7.1.2 Semantics	17
7.1.3 Dependant Presence Aspect/Presence Aspect Values	17
7.1.4 Dependant PAL Rules	17
7.1.5 Applicable PAL Policies	17
7.1.6 Notes	17
7.2 PRESENCE TRIGGER ONAVAILABLE	18
7.2.1 Description	18
7.2.2 Semantics	18
7.2.3 Dependant Presence Aspect/Presence Aspect Values	18

- 7.2.4 Dependant PAL Rules..... 18
- 7.2.5 Applicable PAL Policies..... 18
- 7.2.6 Notes..... 18
- 7.3 PRESENCE TRIGGER ONCONTACTABLE..... 18**
 - 7.3.1 Description..... 18
 - 7.3.2 Semantics..... 19
 - 7.3.3 Dependant Presence Aspect/Presence Aspect Values..... 19
 - 7.3.4 Dependant PAL Rules..... 19
 - 7.3.5 Applicable PAL Policies..... 19
 - 7.3.6 Notes..... 19
- 8. INTEROPERABLE PAL RULES..... 20**
 - 8.1 PAL RULE HASOPTEDINFORSERVICE..... 20**
 - 8.1.1 Description..... 20
 - 8.1.2 Semantics..... 20
 - 8.1.3 Process Flow..... 20
 - 8.1.4 Notes..... 21
 - 8.2 PAL RULE ISAVAILABLE..... 22**
 - 8.2.1 Description..... 22
 - 8.2.2 Semantics..... 22
 - 8.2.3 Process Flow..... 22
 - 8.2.4 Notes..... 23
 - 8.3 PAL RULE ISCONTACTABLE..... 24**
 - 8.3.1 Description..... 24
 - 8.3.2 Semantics..... 24
 - 8.3.3 Process Flow..... 24
 - 8.3.4 Notes..... 26
- 9. PAL POLICY DEFINITIONS..... 27**
 - 9.1 OPT-IN-SOURCE..... 27**
 - 9.1.1 Opt-in-source Semantics..... 27
 - 9.2 APPLICABLE-ACCESS-NETWORK-TYPE..... 27**
 - 9.2.1 Applicable-access-network-type Semantics..... 27
 - 9.3 UNDEF-WILLINGNESS..... 28**
 - 9.3.1 Undef-willingness Semantics..... 28
 - 9.4 UNAVAILABLE-ACTIVITIES-SET..... 29**
 - 9.4.1 PAL Policy Semantics..... 29
 - 9.5 UNDEF-BARRING-STATE..... 29**
 - 9.5.1 PAL Policy Semantics..... 29
 - 9.6 UNDEF-REGISTRATION-STATE..... 30**
 - 9.6.1 PAL Policy Semantics..... 30
 - 9.7 THRESHOLD-VALUE-EQUALS..... 30**
 - 9.7.1 PAL Policy Semantics..... 30
 - 9.8 THRESHOLD-VALUE-LESS-THAN..... 31**
 - 9.8.1 PAL Policy Semantics..... 31
 - 9.9 THRESHOLD-VALUE-GREATER-THAN..... 31**
 - 9.9.1 PAL Policy Semantics..... 31
- APPENDIX A. CHANGE HISTORY (INFORMATIVE)..... 33**
 - A.1 APPROVED VERSION HISTORY..... 33**
 - A.2 DRAFT/CANDIDATE VERSION 1.0 HISTORY..... 33**
- APPENDIX B. TEMPLATE FOR INPUT CONTRIBUTIONS DEFINING A PAL PRESENCE PARAMETER (INFORMATIVE)34**
 - B.1 PRESENCE ASPECT ‘XXX’..... 34**
 - B.1.1 Description..... 34
 - B.1.2 Semantics..... 34
 - B.1.3 Presence Aspect values..... 34
 - B.1.4 Dependant PAL Rules..... 34

- B.1.5 Applicable PAL Policy 34
- B.1.6 Notes 34
- B.2 PRESENCE TRIGGER 'XXX' 34**
 - B.2.1 Description 34
 - B.2.2 Semantics 34
 - B.2.3 Dependant Presence Aspect/Presence Aspect Values 34
 - B.2.4 Dependant PAL Rules 34
 - B.2.5 Applicable PAL Policy 34
 - B.2.6 Notes 34
- B.3 PAL RULE 'XXX' 34**
 - B.3.1 Description 34
 - B.3.2 Semantics 34
 - B.3.3 Process Flow 34
 - B.3.4 Notes 34
- B.4 PAL POLICY 'XXX' 34**
 - B.4.1 PAL Policy 'XXX' Semantics 35

Figures

- Figure 1: process flow for PAL Rule 'hasOptedInForService' 21
- Figure 2: process flow for PAL Rule 'isAvailable' 23
- Figure 3: process flow for PAL Rule 'isContactable' 25

Tables

No table of figures entries found.

1. Scope

This document describes the data model used by the Presence Access Layer (PAL) Enabler, and provides definitions of corresponding PAL Presence Parameters, including:

- Presence Aspects;
- Presence Triggers;
- PAL Policies; and,
- PAL Rules.

2. References

2.1 Normative References

OMA

- [PAL_RD] “Presence Access Layer Requirements”, Version 1.0, Open Mobile Alliance™, OMA-RD-PAL-V1_0,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [PAL_TS] “Presence Access Layer Specification”, Open Mobile Alliance™, OMA-TS-PAL-V1_0,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [PAL_XDMS] “Presence Access Layer XDM Specification”, Open Mobile Alliance™, OMA-TS-PAL_XDM-V1_0,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [PDE_DDS] “Presence SIMPLE Data Specification”, Version 2.1, Open Mobile Alliance™, OMA-DDS-PresenceData_Ext-V2_1,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [PRS_IG] “Implementation Guidelines for OMA Presence SIMPLE v1.1”, Version 1.1, Open Mobile Alliance™, OMA-WP-PRS_1_1_Implementation_Guidelines,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [XML_pde_prIsAvailable] “PDE – PAL Rule isAvailable”, Version 1.0, Open Mobile Alliance™, OMA-SUP-XML_pde_prIsAvailable-V1_0,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [XML_pde_prIsContactable] “PDE – PAL Rule isContactable”, Version 1.0, Open Mobile Alliance™, OMA-SUP-XML_pde_prIsContactable-V1_0,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [XML_pde_prOptIn] “PDE – PAL Rule hasOptedInForService”, Version 1.0, Open Mobile Alliance™, OMA-SUP-XML_pde_prHasOptedInForService-V1_0,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [XSD_pde_palBasePolicy] “XML Schema Definition: PAL Base Policy”, Version 1.0, Open Mobile Alliance™, OMA-SUP-XSD_pde_palBasePolicy-V1_0,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)

IETF

- [RFC2119] IETF RFC 2119 “Key words for use in RFCs to Indicate Requirement Levels”, S. Bradner, March 1997,
[URL:http://www.ietf.org/rfc/rfc2119.txt](http://www.ietf.org/rfc/rfc2119.txt)
- [RFC3863] IETF RFC 3863 “Presence Information Data Format (PIDF)”, H. Sugano et al., August 2004,
[URL:http://www.ietf.org/rfc/rfc3863.txt](http://www.ietf.org/rfc/rfc3863.txt)
- [RFC4480] IETF RFC 4480 “RPID: Rich Presence Extensions to the Presence Information Data Format (PIDF)”, H. Schulzrinne et al., Jul 2006,
[URL:http://www.ietf.org/rfc/rfc4480.txt](http://www.ietf.org/rfc/rfc4480.txt)

2.2 Informative References

- [OMADICT] “Dictionary for OMA Specifications”, Version x.y, Open Mobile Alliance™, OMA-ORG-Dictionary-Vx_y,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [PDE_RD] “Presence SIMPLE Data Extensions Requirements”, Version 1.0, Open Mobile Alliance™, OMA-RD-PresenceData_Ext-V1_0,
[URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [PRS_RD] “Presence SIMPLE Requirements”, Version 2.0, Open Mobile Alliance™, OMA-RD-Presence_SIMPLE-V2_0,
[URL:http://www.openmobilealliance.org/](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

Application-specific availability	Use definition from [PDE_RD].
Application-specific Willingness	Use definition from [PDE_RD].
Class of Service	Use definition from [PAL_AD].
Enabler	Use definition from [OMADICT].
Functional Component	Use definition from [OMADICT].
Logical Observer	Use definition from [PAL_RD].
Overriding Willingness	Use definition from [PDE_RD].
PAL Client	Use definition from [PAL_RD].
PAL Policy	Use definition from [PAL_RD].
PAL Presence Parameters	Use definition from [PAL_RD].
PAL Profile	Use definition from [PAL_RD].
PAL Rule	Use definition from [PAL_RD].
PAL Server	Use definition from [PAL_RD].
Presence Aspect	Use definition from [PAL_RD].
Presence Aware Service	Use definition from [PAL_RD].
Presence Context	Use definition from [PAL_RD].
Presence Information Element	Use definition from [PRS_RD].
Presence Trigger	Use definition from [PAL_RD].
Presentity	Use definition from [PRS_RD].
Quality of Service	Use definition from [PAL_RD].
Watcher	Use definition from [PRS_RD].

3.3 Abbreviations

3GPP	3 rd Generation Partnership Project
IMS	IP Multimedia Subsystem
OMA	Open Mobile Alliance
PAL	Presence Access Layer
QoS	Quality of Service
XDM	XML Document Management
XML	eXtensible Markup Language

4. Introduction

This specification describes the mapping of Presence Information Elements towards the definition of Presence Aspects. Further, this specification describes PAL Rules and PAL Policies which are utilized by the PAL Enabler to evaluate Presence Aspects as required. This specification also defines Presence Triggers which monitor correspondingly named Presence Aspects, and which execute a predefined action when it is determined that a baseline Presence Aspect value has changed.

5. Justification

The PAL Enabler is focused on the Functional Components defined within the PAL architecture, and the behavior of those components when they interact with one another (i.e. to fulfill PAL Enabler functional requirements described in [PAL_RD] Section “*Requirements*”).

Further, separating PAL related data definitions from the core PAL Enabler in a distinct data specification document permits PAL Presence Parameters to evolve incrementally without revisiting the PAL Enabler each time a change is required.

6. Presence Aspect Definitions

This section defines Presence Aspects for use by the PAL Enabler. A Presence Aspect is a mechanism which consolidates one or more Presence Information elements into a simplified abstraction for use by a Logical Observer. Presence Aspects are based on Presence Aspects specified as part of a PAL Profile (i.e. a Presence Aware Service or Class of Service template) as specified in [PAL_XDMS]. The sub-sections provide the set of Presence Aspects that SHALL be supported by the PAL Enabler.

NOTE: New standardized PAL Presence Aspects may be created based on contributions reviewed and agreed by OMA. A template for contributions relating to the definition of standardized Presence Aspects is found in Appendix B.1.

6.1 Presence Aspect optIn

The human readable name of this Presence Aspect is “optIn”. The fully qualified name for this Presence Aspect is oma:prs:pal:aspect:optIn.

6.1.1 Description

The “optIn” Presence Aspect SHALL be exposed by the PAL Enabler as an abstraction relating to whether a Presentity has opted in (i.e. is *willing*) for a given Presence Aware Service or Class of Service.

6.1.2 Semantics

Presence Aspect “optIn” SHALL be based upon the “Overriding Willingness” and “Application-specific willingness” building blocks detailed in [PDE_DDS] Section “*Presence Information Element Definitions*” and PAL Enabler interoperable rules specified in section 8 “*Interoperable Rules*”.

6.1.3 Presence Aspect Values

The “optIn” Presence Aspect value SHALL consist of the following component parts:

- Presentity willingness indicator which SHALL have exactly one of the following values:
 - open - SHALL be interpreted by a Logical Observer, as Presentity has opted-in; or,
 - closed - SHALL be interpreted by a Logical Observer as Presentity has opted-out.
- Presentity willingness time offset indicator which SHALL consist of exactly one of the following values:
 - Indefinite - SHALL be interpreted by a Logical Observer as a Presentity optIn is in effect indefinitely; or,
 - time-ofs - SHALL be interpreted by a Logical Observer as a Presentity optIn is in effect for a given time offset (in seconds) from when the Presence Aspect response was issued by a PAL Server.

6.1.4 Dependant PAL Rules

The “optIn” Presence Aspect SHALL be dependant on the following PAL Rule as specified in [XML_pde_prOptIn]:

- oma:prs:pal:rules:hasOptedInForService.

6.1.5 Applicable PAL Policies

The PAL Enabler SHALL provide a determinate value for Presence Aspect “optIn” utilizing at least one of the following PAL Policies:

- “opt-in-source”; and,

- “undef-willingness”.

6.1.6 Notes

void.

6.2 Presence Aspect available

The human readable name of this Presence Aspect is “available”. The fully qualified name for this Presence Aspect is oma:prs:pal:aspect:available.

6.2.1 Description

The “available” Presence Aspect SHALL be exposed by the PAL Enabler as an abstraction relating to whether a Presentity is available to communicate for a given Presence Aware Service or Class of Service.

6.2.2 Semantics

Presence Aspect “available” SHALL be based upon the “Activity”, and “Application-specific availability” building blocks specified in [PDE_DDS], “*Presence Information Element Definitions*” and PAL Rules specified in section 8 “*Interoperable PAL Rules*”.

6.2.3 Presence Aspect Values

The “available” Presence Aspect value SHALL consist of one of the following:

- true – indicates a given Presentity is available to communicate; or,
- false – indicates a given Presentity is not available (i.e. is unavailable) to communicate.

6.2.4 Dependant PAL Rules

The “available” Presence Aspect SHALL be dependant on the following PAL Rule as specified in [XML_pde_prIsAvailable]:

- oma:prs:pal:rules:isAvailable

6.2.5 Applicable PAL Policies

The PAL Enabler SHALL provide a determinate value for Presence Aspect “available” utilizing at least one of the following PAL Policies:

- “undef-registration-state”;
- “undef-barring-state”; and,
- “unavailable-activities-set”.

6.2.6 Notes

void.

6.3 Presence Aspect contactable

The human readable name of this Presence Aspect is “contactable”. The fully qualified name for this Presence Aspect is oma:prs:pal:aspect:contactable.

6.3.1 Description

The “contactable” Presence Aspect SHALL be exposed by the PAL Enabler as an abstraction relating to whether a Presentity is contactable, and has valid communication means associated with a given Presence Aware Service or Class of Service.

6.3.2 Semantics

Presence Aspect “contactable” SHALL be based upon the “Communication address” building block specified in [PDE_DDS], “*Presence Information Element Definitions*” and PAL Rules specified in section 8 “*Interoperable PAL Rules*”.

6.3.3 Presence Aspect Values

The “contactable” Presence Aspect value SHALL consist of the following component parts:

- open – indicates a given Presentity is contactable as well as:
 - PresentityContact – a valid communication means as described in [PAL_TS] Section “*PAL-Ii Message Parameters – Presentity Contact*”; and
 - Validity Period – a validity period time offset indicator as described in section 6.1.3 “*Presence Aspect Values*”.
- closed – indicates a given Presentity is not contactable (i.e. is not able to communicate).

6.3.4 Dependant PAL Rules

The “contactable” Presence Aspect SHALL be dependant on the following PAL Rule as specified in [XML_pde_prIsContactable]:

- oma:prs:pal:rules:isContactable

6.3.5 Applicable PAL Policies

The PAL Enabler SHALL provide a determinate value for Presence Aspect “available” utilizing at least one of the following PAL Policies:

- “undef-registration-state”;
- “undef-barring-state”; and,
- “unavailable-activities-set”.

6.3.6 Notes

When a Presentity is determined as being unable to communicate (i.e. Presence Aspect “contactable” has the value ‘closed’), the associated communication means, and validity period SHALL be undefined.

6.4 Presence Aspect allApplicable

The human readable name of this Presence Aspect is “allApplicable”. The fully qualified name for this Presence Aspect is oma:prs:pal:aspect:allApplicable.

6.4.1 Description

The “allApplicable” Presence Aspect SHALL be exposed by the PAL Enabler as an abstraction relating to all applicable Presence Aspects associated with a given Presence Aware Service or Class of Service.

6.4.2 Semantics

Presence Aspect “allApplicable” SHALL be utilized as a mechanism to provide all applicable Presence Aspects defined as part of an associated Presence Context.

6.4.3 Presence Aspect Values

void.

6.4.4 Dependant PAL Rules

void.

6.4.5 Applicable PAL Policies

void.

6.4.6 Notes

Presence Aspect “allApplicable” does not have itself, a defined Presence Aspect value since it is used to retrieve Presence Aspects relevant to a given Presence Context.

7. Presence Trigger Definitions

This section defines Presence Triggers for use by the PAL Enabler. A Presence Trigger is a mechanism which is associated with a Presence Context and specifies a predefined action corresponding with a detected change in an underlying Presence Aspect value. Presence Triggers are conceptually similar to database triggers and are initially specified as part of a PAL Profile (i.e. a Presence Aware Service or Class of Service template) as specified in [PAL_XDMS]. The sub-sections provide the set of Presence Triggers that SHALL be supported by the PAL Enabler.

NOTE: New standardized PAL Presence Triggers may be created based on contributions reviewed and agreed by OMA. A template for contributions relating to the definition of standardized Presence Triggers is found in Appendix B.2.

7.1 Presence Trigger onOptIn

The human readable name of this Presence Trigger is “onOptIn”. The fully qualified name for this Presence Trigger is oma:prs:pal:trigger:onOptIn.

7.1.1 Description

The “onOptIn” Presence Trigger SHALL be exposed by the PAL Enabler as a trigger which monitors and detects whether a Presentity has opted in (i.e. is *willing*) or opted out (i.e. is *unwilling*) of an associated Presence Aware Service or Class of Service.

7.1.2 Semantics

Presence Trigger “onOptIn” SHALL be monitored and evaluated for the specified Presentity, based on the semantics specified in section 6.1 “*Presence Aspect optIn*”

7.1.3 Dependant Presence Aspect/Presence Aspect Values

Presence Trigger “onOptIn” SHALL correspond to Presence Aspect “optIn”.

A predefined action associated with Presence Trigger “onOptIn” SHALL be executed, when one of the following Presence Aspect values has been detected for an associated Presentity:

- Presence Aspect “optIn” value established as willing (i.e. 'open' for a valid time offset) and it is determined that the Presence Aspect “optIn” value has changed for the given Presentity, to unwilling (i.e. 'closed' for a valid time offset); or,
- Presence Aspect “optIn” value established as unwilling (i.e. 'closed' for a valid time offset) and it is determined that the Presence Aspect “optIn” value has changed for the given Presentity, to willing (i.e. 'open' for a valid time offset).

The default predefined action for Presence Trigger “onOptIn” SHALL be to issue an asynchronous notification toward the applicable PAL Client.

7.1.4 Dependant PAL Rules

void.

7.1.5 Applicable PAL Policies

void.

7.1.6 Notes

void.

7.2 Presence Trigger onAvailable

The human readable name of this Presence Trigger is “onAvailable”. The fully qualified name for this Presence Trigger is oma:prs:pal:trigger:onAvailable.

7.2.1 Description

The “onAvailable” Presence Trigger SHALL be exposed by the PAL Enabler as a trigger which monitors and detects whether a Presentity is available or unavailable to communicate for an associated Presence Aware Service or Class of Service.

7.2.2 Semantics

Presence Trigger “onAvailable” SHALL be monitored and evaluated for the specified Presentity, based on the semantics specified in section 6.2 “*Presence Aspect available*”.

7.2.3 Dependant Presence Aspect/Presence Aspect Values

Presence Trigger “onAvailable” SHALL correspond to Presence Aspect “available”.

A predefined action associated with Presence Trigger “onAvailable” SHALL be executed, when one of the following Presence Aspect values has been detected for an associated Presentity:

- Presence Aspect “available” value currently established as available and it is determined that the Presence Aspect “available” value has changed for the given Presentity, to unavailable; or,
- Presence Aspect “available” value currently established as unavailable and it is determined that the Presence Aspect “available” value has changed for the given Presentity, to available.

The default predefined action for Presence Trigger “onAvailable” SHALL be to issue an asynchronous notification toward the applicable PAL Client.

7.2.4 Dependant PAL Rules

void.

7.2.5 Applicable PAL Policies

void.

7.2.6 Notes

void.

7.3 Presence Trigger onContactable

The human readable name of this Presence Trigger is “onContactable”. The fully qualified name for this Presence Trigger is oma:prs:pal:trigger:onContactable.

7.3.1 Description

The “onContactable” Presence Trigger SHALL be exposed by the PAL Enabler as a trigger which monitors and detects whether a Presentity is contactable and has valid communication means associated with a Presence Aware Service or Class of Service.

7.3.2 Semantics

Presence Trigger “onContactable” SHALL be monitored and evaluated for the specified Presentity, based on the semantics specified in section 6.3 “*Presence Aspect contactable*”.

7.3.3 Dependant Presence Aspect/Presence Aspect Values

Presence Trigger “onContactable” SHALL correspond to Presence Aspect “contactable”.

A predefined action associated with Presence Trigger “onContactable” SHALL be executed, when one of the following Presence Aspect values has been detected for an associated Presentity:

- Presence Aspect “contactable” value currently established as contactable (i.e. 'true' with a valid communication means) and it is determined that the Presence Aspect “contactable” value has changed for the given Presentity, to uncontactable (i.e. 'false' with an undefined communication means); or,
- Presence Aspect “contactable” value currently established as uncontactable (i.e. 'false' with a undefined communication means) and it is determined that the Presence Aspect “contactable” value has changed for the given Presentity, to contactable (i.e. 'true' with a valid communication means).

The default predefined action for Presence Trigger “onContactable” SHALL be to issue an asynchronous notification toward the applicable PAL Client.

7.3.4 Dependant PAL Rules

void.

7.3.5 Applicable PAL Policies

void.

7.3.6 Notes

void.

8. Interoperable PAL Rules

This section defines PAL Rules for use by the PAL Enabler. A PAL Rule is a mechanism which is associated with a Presence Context and specifies a sequence of logical operations used to evaluate a Presence Aspect or Presence Trigger. PAL Rules are based on PAL Rules defined as part of a PAL Profile (i.e. a Presence Aware Service or Class of Service template) as specified in [PAL_XDMS]. The sub-sections provide PAL Rules that SHALL be supported by the PAL Enabler.

NOTE: New standardized PAL Rules may be created based on contributions reviewed and agreed by OMA. A template for contributions relating to the definition of standardized PAL Rules is found in Appendix B.3.

8.1 PAL Rule hasOptedInForService

The human readable name for this rule is “hasOptedInForService”. The fully qualified name for this rule is oma:prs:pal:rules:hasOptedInForService.

8.1.1 Description

PAL Rule “hasOptedInForService” SHALL be used by a PAL Server to establish whether a Presentity has opted in (i.e. is willing) to communicate for an associated Service.

8.1.2 Semantics

During evaluation of PAL Rule “hasOptedInForService”, a PAL Server SHALL adhere to semantics and processing guidelines as specified in [PDE_DDS] Section “*Default Watcher Processing*”, and [PRS_IG] Section “*Implementation Guidelines*” as well as the Presence Aspect upon which this PAL Rule is being evaluated against (e.g. Presence Aspect “optIn”) to ensure that PAL Clients receive a consistent and unambiguous view of Presence Information.

8.1.3 Process Flow

PAL Rule “hasOptedInForService” SHALL be evaluated by a PAL Server using the abstract process flow specified in [XML_pde_prOptIn] and outlined in figure 1, below:

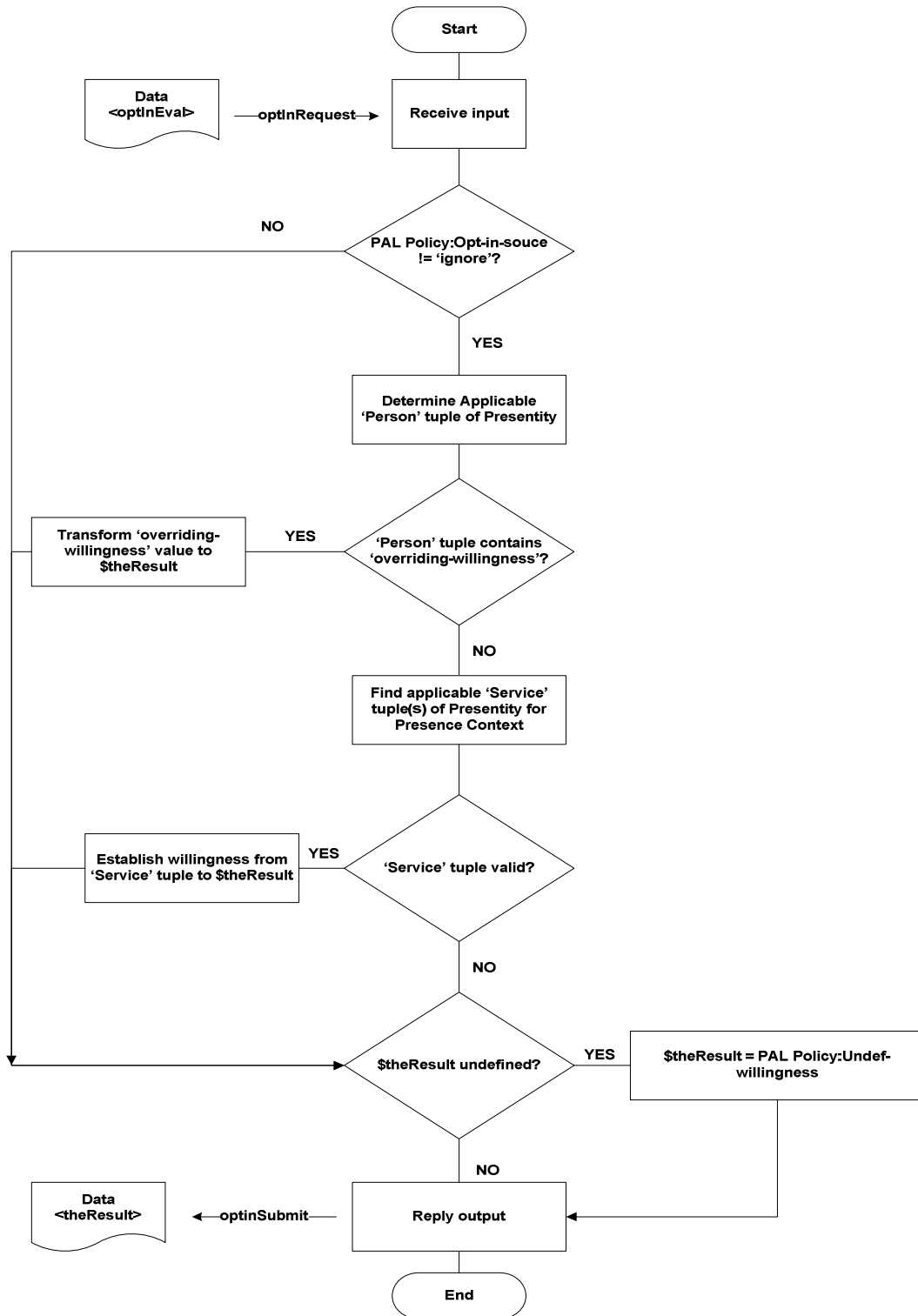


Figure 1: process flow for PAL Rule 'hasOptedInForService'

8.1.4 Notes

void.

8.2 PAL Rule isAvailable

The human readable name for this rule is “isAvailable”. The fully qualified name for this rule is oma:prs:pal:rules:isAvailable.

8.2.1 Description

PAL Rule “isAvailable” SHALL be used by a PAL Server to establish whether a Presentity is available to communicate for an associated Presence Aware Service or Class of Service. This rule corresponds to Presence Aspect “available” specified in section 6.2.

8.2.2 Semantics

During evaluation of PAL Rule “isAvailable”, a PAL Server SHALL adhere to semantics and processing guidelines as specified in [PDE_DDS] Section “*Default Watcher Processing*”, and [PRS_IG] Section “*Implementation Guidelines*” as well as the Presence Aspect upon which this PAL Rule is being evaluated against (e.g. Presence Aspect 'available') to ensure that PAL Clients receive a consistent and unambiguous view of Presence Information.

8.2.3 Process Flow

PAL Rule “isAvailable” SHALL be evaluated by a PAL Server using the abstract process flow specified in [XML_pde_prIsAvailable] and outlined in figure 2, below:

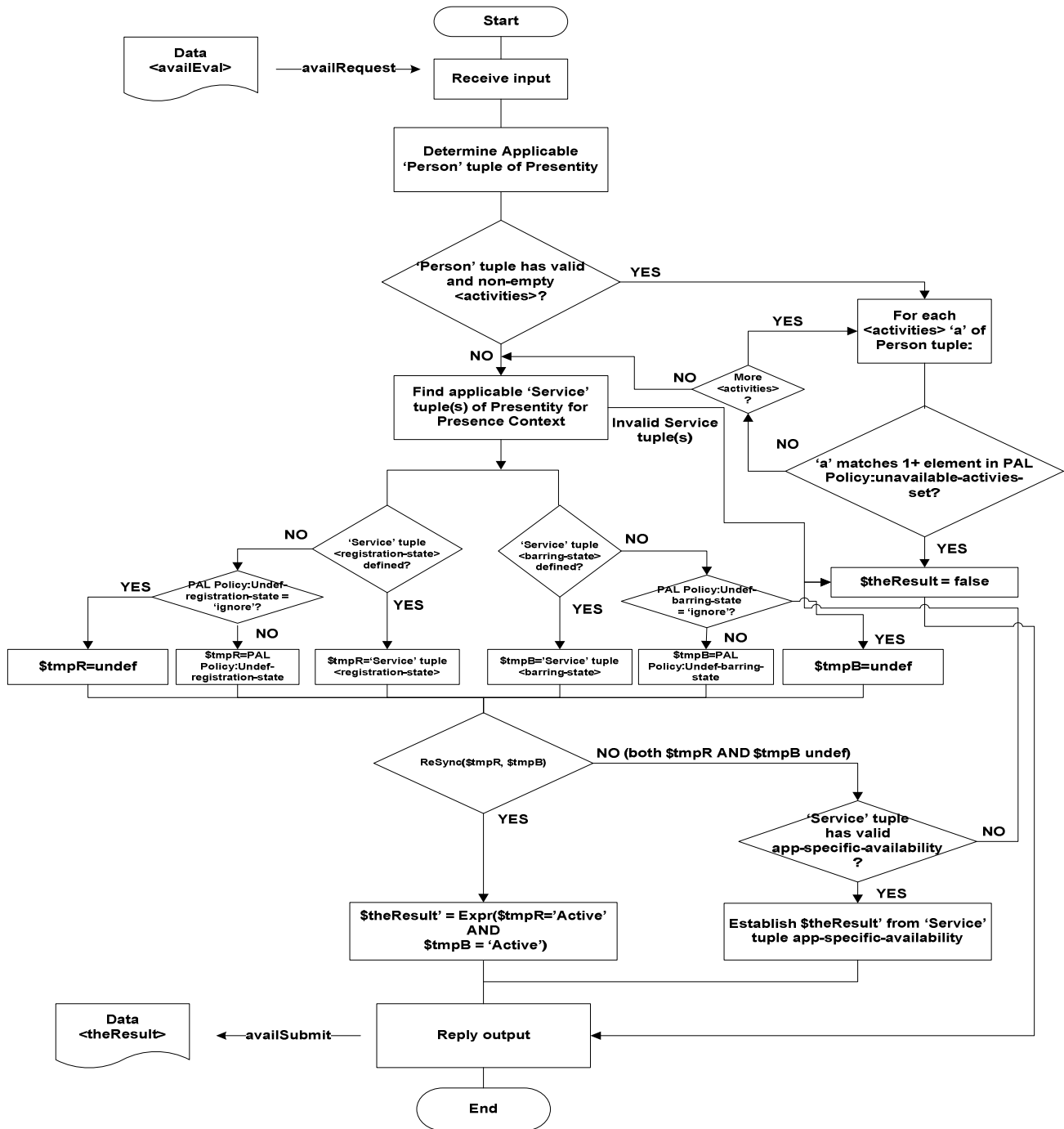


Figure 2: process flow for PAL Rule 'isAvailable'

8.2.4 Notes

PAL Rule “isAvailable” assumes the precedence of Presence Information Element processing is as follows:

1. Person tuple of a given Presentity; and,
2. Service tuple(s) of a given Presentity and corresponding with a specified Presence Context.

8.3 PAL Rule isContactable

The human readable name for this rule is “isContactable”. The fully qualified name for this rule is oma:prs:pal:rules:isContactable.

8.3.1 Description

PAL rule “isContactable” SHALL be used by a PAL Server to establish whether a Presentity has opted in (i.e. is willing), is available, and has currently valid communication means to communicate for an associated Presence Aware Service or Class of Service. PAL Rule ‘isContactable’ corresponds to a Presence Aspect as specified in section 6.3 “*Presence Aspect contactable*”.

8.3.2 Semantics

During evaluation of PAL Rule “isContactable”, a PAL Server SHALL adhere to semantics and processing guidelines as specified in [PDE_DDS] Section “*Default Watcher Processing*”, and [PRS_IG] Section “*Implementation Guidelines*” as well as the Presence Aspect upon which this PAL Rule is being evaluated against (i.e. Presence Aspect “contactable”) to ensure that a PAL Client receives a consolidated view of Presence Information.

8.3.3 Process Flow

PAL Rule “isContactable” SHALL be evaluated by a PAL Server using the abstract process flow specified in [XML_pde_prIsContactable] and outlined in figure 3, below:

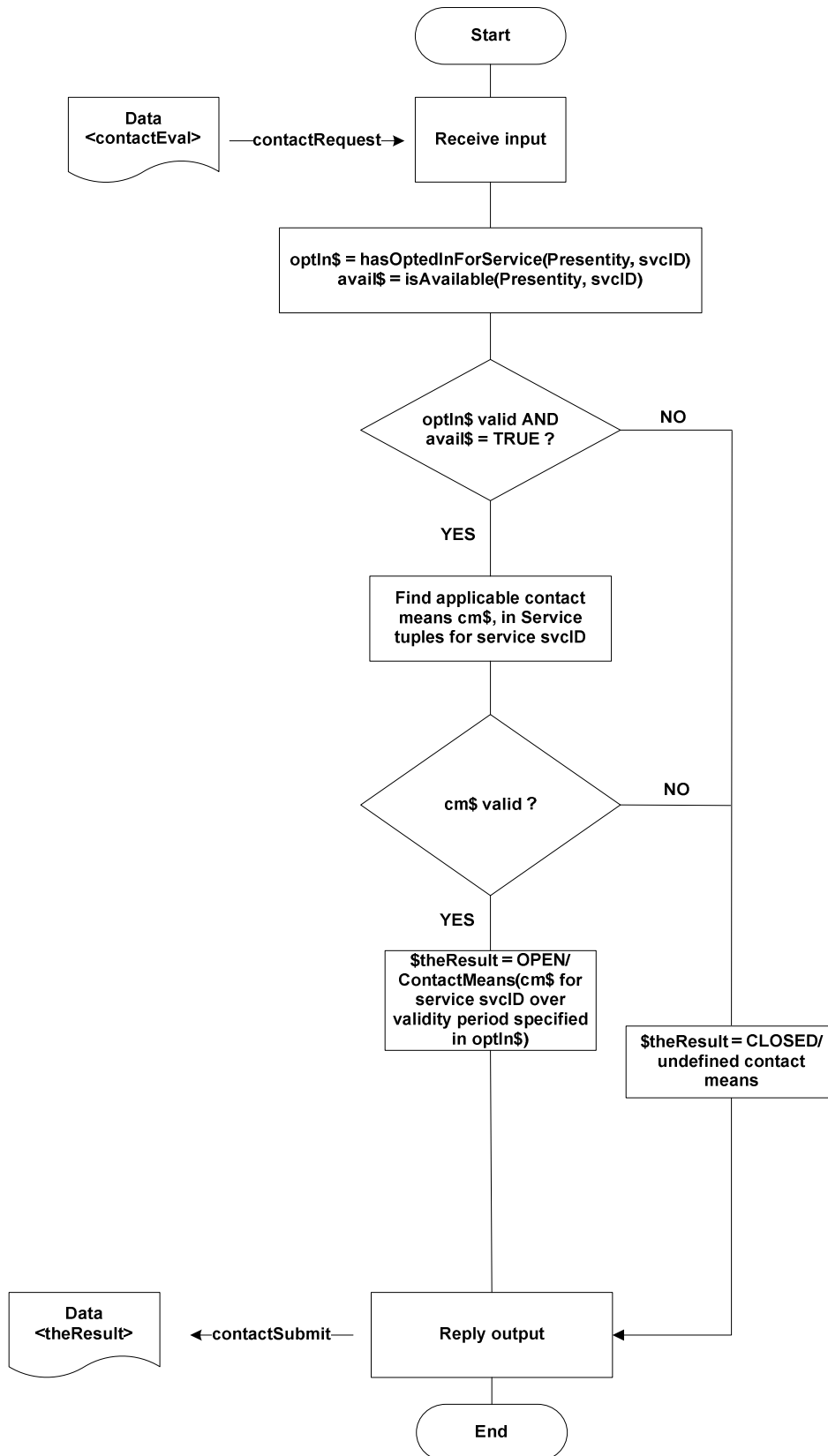


Figure 3: process flow for PAL Rule 'isContactable'

8.3.4 Notes

void.

9. PAL Policy Definitions

This section defines PAL Policies for use by the PAL Enabler, for a given Presence Aware Service or Class of Service. The base (i.e. default) set of PAL Policies specified in the following subsections SHALL be supported by a PAL Enabler.

PAL Policies may be incorporated as part of a PAL Profile (e.g. as part of a Presence Aware Service template). PAL Policies may further be refined through a PAL Enabler policy resolution mechanism as specified in [PAL_TS] Section “*PAL Policy Resolution*”.

NOTE: New standardized PAL Policies may be created based on contributions reviewed and agreed by OMA. A template for contributions relating to the definition of standardized PAL Policies is found in Appendix B.4.

9.1 Opt-in-source

9.1.1 Opt-in-source Semantics

9.1.1.1 Description

The “opt-in-source” PAL Policy SHALL be referred to by a PAL Server during rules processing, as a parameter regarding which Presence Information Element published by a Presentity, forms the basis of Presence Aspect 'optIn' as specified in section 6 “*Presence Aspect Definitions*”.

9.1.1.2 Policy Values

Possible values for PAL Policy “opt-in-source” SHALL be as follows:

- willing – use <willingness> element as specified in [PDE_DDS] Section “Application-specific Willingness” as the basis for establishing Presentities Presence Aspect 'optIn'; or,
- ignore – ignore any specific Presence Information Element relating to willingness.

9.1.1.3 Default Values

PAL Policy “opt-in-source” SHALL assume the default value ‘ignore’.

9.1.1.4 XMLSchema

The XML schema for PAL Policy “opt-in-source” is specified in [XSD_palBasePolicy].

9.1.1.5 Notes

In scenarios where “opt-in-source” is set to the value ‘ignore’, the corresponding value of PAL Policy ‘undef-willingness’ SHALL be applied to the evaluation of Presence Aspect 'optIn' as specified in section 9.3 “*Undef-willingness*”.

9.2 Applicable-access-network-type

9.2.1 Applicable-access-network-type Semantics

9.2.1.1 Description

The “applicable-access-network-type” PAL Policy SHALL be referred to by a PAL Server during rules processing, as a guideline for which network types are applicable to a given Presence Context (i.e. a relevant Presence Aware Service or Class of Service).

9.2.1.2 Policy Values

Values corresponding to PAL Policy “applicable-access-network-type” SHALL include one or more of the following:

- IMS – a corresponding Presence Context functions appropriately within an IMS network; or,
- Alpha-numeric string token - an applicable access network type for the given Presence Context which corresponds to "access-type" in the P-Access-Network-Info header specified in [3GPP-TS_24.229] Section 7.2A.4.2 "Syntax".

9.2.1.3 Default Values

void.

9.2.1.4 XMLSchema

The XML schema for PAL Policy "applicable-access-network-type" is specified in [XSD_palBasePolicy].

9.2.1.5 Notes

In scenarios where "applicable-access-network-type" corresponding to a Presence Context has two or more applicable networks, specific behavior SHALL be applied (e.g. a PAL Server determining the applicable access network type based on the QoS associated with a given Presence Context).

9.3 Undef-willingness

9.3.1 Undef-willingness Semantics

9.3.1.1 Description

The "undef-willingness" PAL Policy SHALL be referred to by a PAL Server during rules processing, as a guideline for interpreting the absence of a <willingness> indicator or of an "opt-in-source" set to "ignore", for a corresponding Presence Context (i.e. a relevant Presence Aware Service or Class of Service).

9.3.1.2 Policy Values

Possible values for PAL Policy "undef-willingness" SHALL be as follows:

- open,indefinite – Presentities under observation are willing or have opted-in for the foreseeable future;
- closed, indefinite – Presentities under observation are un-willing (i.e. have opted-out) for the foreseeable future;
- open, time-ofs – Presentities under observation are willing or have opted-in for the next time offset; or,
- closed, time-ofs – Presentities under observation are un-willing (opted-out) for the next time offset.

NOTE: Value 'time-ofs' is a time offset calculated (in seconds) based on a relative time at which the corresponding rules processing (by a PAL Server) was initiated.

9.3.1.3 Default Values

PAL Policy "undef-willingness" SHALL assume the default value "closed, indefinite" subject to local legislation.

9.3.1.4 XML Schema

The XML schema for PAL Policy "undef-willingness" is specified in [XSD_palBasePolicy].

9.3.1.5 Notes

void.

9.4 Unavailable-activities-set

9.4.1 PAL Policy Semantics

9.4.1.1 Description

The “unavailable-activities-set” PAL Policy SHALL be referred to by a PAL Server during rules processing, as a parameter for enumerating activities related to a given Presentities Presence Aware Service or Class of Service, that would render a Presentity unavailable (i.e. Presence Aspect 'available' is 'false' as specified in section 6.2).

9.4.1.2 Policy values

Possible values for PAL Policy “unavailable-activities-set” SHALL include a list of one or more activities as qualified names (e.g. as specified in [RFC4480] Section “*Activities element*”).

9.4.1.3 Default values

void.

9.4.1.4 XML Schema

The XML schema for PAL Policy “unavailable-activities-set” is specified in [XSD_palBasePolicy].

9.4.1.5 Notes

void.

9.5 Undef-barring-state

9.5.1 PAL Policy Semantics

9.5.1.1 Description

The “undef-barring-state” PAL Policy SHALL be referred to by a PAL Server during rules processing, as a parameter for how to interpret the absence or omission of specific <barring-state> Presence Information Elements corresponding to a given Presentities Presence Aware Service or Class of Service. The <barring-state> Presence Information Element may optionally be used in the determination of availability, as specified in [PDE_DDS] Section “*Application-specific Availability*”.

9.5.1.2 Policy values

Possible values for PAL Policy “undef-barring-state” SHALL be as follows:

- ignore – a missing or absent <barring-state> Presence Information Element for a given Presentity is undefined (i.e. the <barring-state> Presence Information Element is not considered, and is ignored);
- active – a missing or absent <barring-state> Presence Information Element for a given Presentity assumes an 'active' <barring-state> Presence Information Element was published by a Presentity;
- terminated – a missing or absent <barring-state> Presence Information Element for a given Presentity assumes a 'terminated' <barring-state> Presence Information Element was published by a Presentity.

9.5.1.3 Default values

PAL Policy “undef-barring-state” SHALL assume the default value ‘ignore’.

9.5.1.4 XML Schema

The XML schema for PAL Policy “undef-barring-state” is specified in [XSD_palBasePolicy].

9.5.1.5 Notes

void.

9.6 Undef-registration-state

9.6.1 PAL Policy Semantics

9.6.1.1 Description

The “undef-registration-state” PAL Policy SHALL be referred to by a PAL Server during rules processing, as an indicator of how to interpret the absence or omission of specific <registration-state> Presence Information Elements corresponding to a Presence Aware Service or Class of Service. The <registration-state> Presence Information Element may optionally be used in the determination of availability, as specified in [PDE_DDS] Section “*Application-specific Availability*”.

9.6.1.2 Policy values

Possible values for PAL Policy “undef-registration-state” SHALL be as follows:

- ignore – a missing or absent <registration-state> Presence Information Element for a given Presentity is undefined (i.e. the <registration-state> Presence Information Element is not considered, and is ignored);
- active – a missing or absent <registration-state> Presence Information Element for a given Presentity assumes an 'active' <registration-state> Presence Information Element was published by a Presentity;
- terminated – a missing or absent <registration-state> Presence Information Element for a given Presentity assumes a 'terminated' <registration-state> Presence Information Element was published by a Presentity.

9.6.1.3 Default values

PAL Policy “undef-registration-state” SHALL assume the default value ‘ignore’.

9.6.1.4 XML Schema

The XML schema for PAL Policy “undef-registration-state” is specified in [XSD_palBasePolicy].

9.6.1.5 Notes

void.

9.7 Threshold-value-equals

9.7.1 PAL Policy Semantics

9.7.1.1 Description

The “threshold-value-equals” PAL Policy SHALL be referred to by a PAL Server during rules processing as a comparison operation (i.e. for equality) against a baseline value, for qualified Presence Information Elements corresponding to a Presence Aware Service or Class of Service.

9.7.1.2 Policy values

A value for PAL Policy “threshold-value-equals” SHALL consist of the following:

- Alpha-numeric string – a label which is used to identify a specific threshold PAL Policy;
- Qualified name – a Presence Information Element to which the comparison operation applies;

- Any type – a baseline value to be used for the comparison operation.

9.7.1.3 Default values

void.

9.7.1.4 XML Schema

The XML schema for PAL Policy “threshold-value-equals” is specified in [XSD_palBasePolicy].

9.7.1.5 Notes

A unique instance of PAL Policy “threshold-value-equals” may be specified for each equality threshold required.

9.8 Threshold-value-less-than

9.8.1 PAL Policy Semantics

9.8.1.1 Description

The “threshold-value-less-than” PAL Policy SHALL be referred to by a PAL Server during rules processing as a comparison operation (i.e. for less-than) against a baseline value, for qualified Presence Information Elements corresponding to a Presence Aware Service or Class of Service.

9.8.1.2 Policy values

A value for PAL Policy “threshold-value-less-than” SHALL consist of the following:

- Alpha-numeric string – a label which is used to identify a specific threshold PAL Policy;
- Qualified name – a Presence Information Element to which the comparison operation applies;
- Any type – a baseline value to be used for the comparison operation.

9.8.1.3 Default values

void.

9.8.1.4 XML Schema

The XML schema for PAL Policy “threshold-value-less-than” is specified in [XSD_palBasePolicy].

9.8.1.5 Notes

A unique instance of PAL Policy “threshold-value-less-than” may be specified for each less-than threshold required.

9.9 Threshold-value-greater-than

9.9.1 PAL Policy Semantics

9.9.1.1 Description

The “threshold-value-greater-than” PAL Policy SHALL be referred to by a PAL Server during rules processing as a comparison operation (i.e. for greater-than) against a baseline value, for qualified Presence Information Elements corresponding to a Presence Aware Service or Class of Service.

9.9.1.2 Policy values

A value for PAL Policy “threshold-value-greater-than” SHALL consist of the following:

- Alpha-numeric string – a label which is used to identify a specific threshold PAL Policy;
- Qualified name – a Presence Information Element to which the comparison operation applies;
- Any type – a baseline value to be used for the comparison operation.

9.9.1.3 Default values

void.

9.9.1.4 XML Schema

The XML schema for PAL Policy “threshold-value-greater-than” is specified in [XSD_palBasePolicy].

9.9.1.5 Notes

A unique instance of PAL Policy “threshold-value-greater-than” may be specified for each greater-than threshold required.

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-DDS-PAL-V1_0	02 Mar 2010	n/a	DDS skeleton based on OMA-Template-DataDef-20100101-I
	16 Mar 2010	1, 2, 3, 6, 9	Incorporated CRs: OMA-MWG-PRS-2010-0032R02, OMA-MWG-PRS-2010-0033R01, OMA-MWG-PRS-2010-0035.
	19 May 2010	All	Incorporated CRs: OMA-COM-PRS-2010-0043R01, OMA-COM-PRS-2010-0057, OMA-COM-PRS-2010-0058, OMA-COM-PRS-2010-0060, OMA-COM-PRS-2010-0073R01, OMA-COM-PRS-2010-0074, plus minor edits: <ul style="list-style-type: none"> Fixing sub-section and figure numbering; Adding x-reference links in the document; Making use of consistent quotations, and referrer words (i.e. 'specified').
	26 May 2010	All	Editorial clean-up by DSO of cross-references in document Language set English UK
	01 July 2010	All	Incorporated CRs: OMA-COM-PRS-2010-0095R01, OMA-COM-PRS-2010-0096R01, OMA-COM-PRS-2010-0098, OMA-COM-PRS-2010-0099R01, plus minor edits: <ul style="list-style-type: none"> Minor edits to clarify word-usage (CONR B007), and grammar; Removed editor's note (withdrawn CONR B014); and Adding missing x-reference links in the document.
	22 July 2010		Incorporated CRs: OMA-COM-PRS-2010-0104R01, OMA-COM-PRS-2010-0105, plus minor edits: <ul style="list-style-type: none"> Added missing cross-references and updated table of contents.
Candidate Version OMA-DDS-PAL-V1_0	04 Aug 2010	All	Editorial clean-up of fonts by DSO
	31 Aug 2010	N/A	Status changed to Candidate by TP TP ref # OMA-TP-2010-0379- INP_PDE_V1_2_RRP_package_for_Candidate_Approval

Appendix B. Template for Input Contributions defining a PAL Presence Parameter (Informative)

B.1 Presence Aspect 'XXX'

NOTE: Presence Aspect 'XXX' is a human readable name of the Presence Aspect.

B.1.1 Description

B.1.2 Semantics

B.1.3 Presence Aspect values

B.1.4 Dependant PAL Rules

B.1.5 Applicable PAL Policy

B.1.6 Notes

B.2 Presence Trigger 'XXX'

NOTE: Presence Trigger 'XXX' is a human readable name of the Presence Trigger.

B.2.1 Description

B.2.2 Semantics

B.2.3 Dependant Presence Aspect/Presence Aspect Values

B.2.4 Dependant PAL Rules

B.2.5 Applicable PAL Policy

B.2.6 Notes

B.3 PAL Rule 'XXX'

NOTE: PAL Rule 'XXX' is a human readable name of the PAL Rule.

B.3.1 Description

B.3.2 Semantics

B.3.3 Process Flow

B.3.4 Notes

B.4 PAL Policy 'XXX'

NOTE: PAL Policy 'XXX' is a human readable name of the PAL Policy.

B.4.1 PAL Policy 'XXX' Semantics

B.4.1.1 Description

B.4.1.2 Policy Values

B.4.1.3 Default Values

B.4.1.4 XML Schema

B.4.1.5 Notes