Presence Access Layer Data Specification

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Open Mobile Alliance

OMA-DDS-PAL_Data_Ext-V1_1-20111101-A

Contents

Figures

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/

[PAL_TS] "Presence Access Layer Specification", Open Mobile Alliance™, OMA-TS-PAL-V1_0, URL: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/

[PDE_DDS] "Presence SIMPLE Data Specification", Version 2.2, Open Mobile Alliance™, OMA-DDS-PresenceData_Ext-V2_2, URL: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/

[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/

[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/

[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/

[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/

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

[RFC3863] IETF RFC 3863 "Presence Information Data Format (PIDF)", H. Sugano et al., August 2004, URL: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

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/

[PDE_RD] "Presence SIMPLE Data Extensions Requirements", Version 1.0, Open Mobile Alliance™, OMA-RD-PresenceData_Ext-V1_0, URL: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/

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	3rd 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.

4.1 Version 1.1

The OMA PDE V1.1 Enabler describes the following additional functionalities:

- Updated abstract flows corresponding to PAL Rules as XML support (SUP) documents.

5. Justification

The PAL Enabler is focused on the Functional Components defined within the PAL architecture, and the behavior of those components when they interract 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-1i 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.

NOTE1: 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.

NOTE2: It is possible that PAL Rules may be evaluated directly by Watchers operating as part of the OMA SIMPLE Presence Enabler given these entities have access to Presence Information Elements of authorized Presentities.

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:

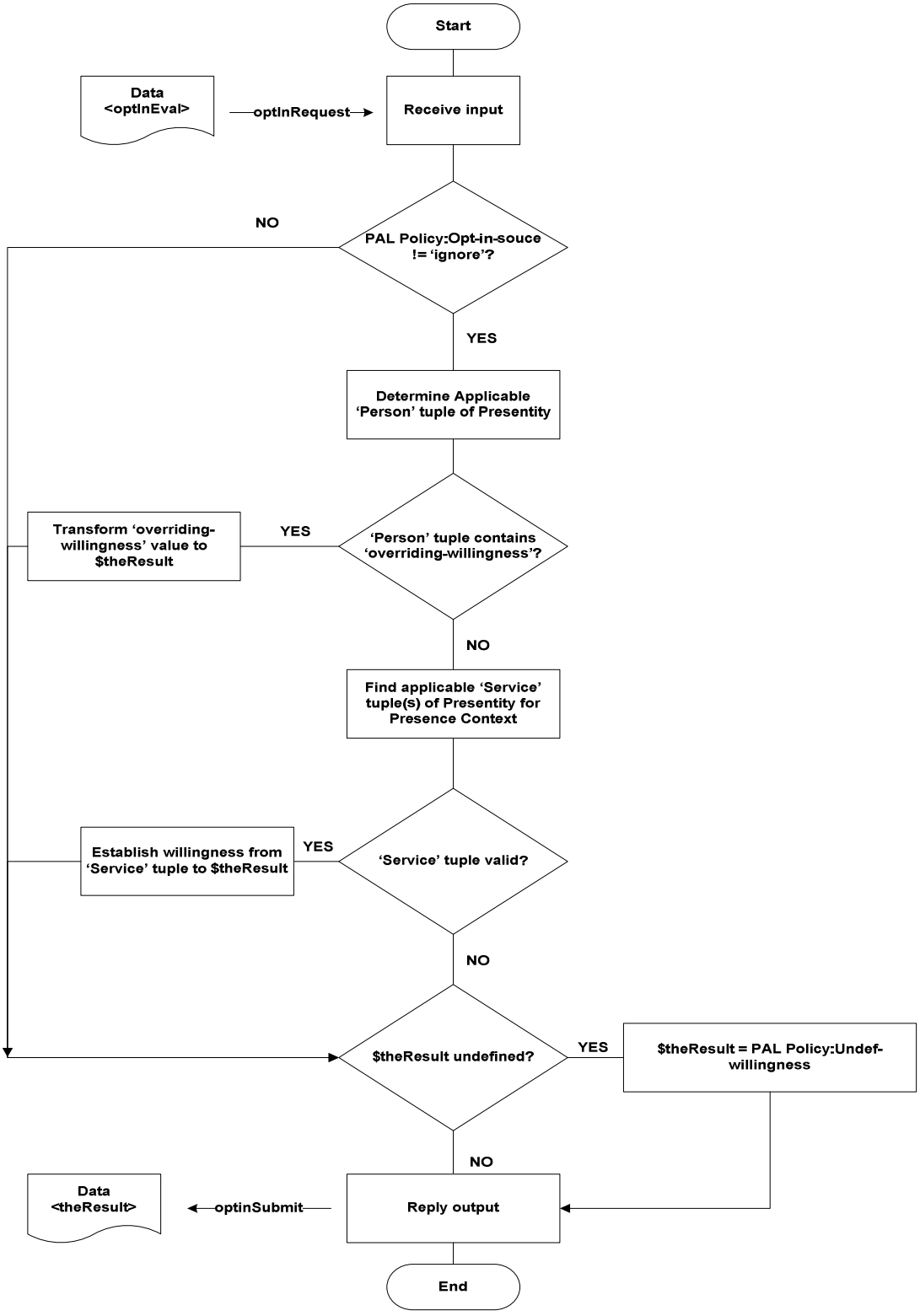

Figure 1: process flow for PAL Rule 'hasOptedInForService'

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:

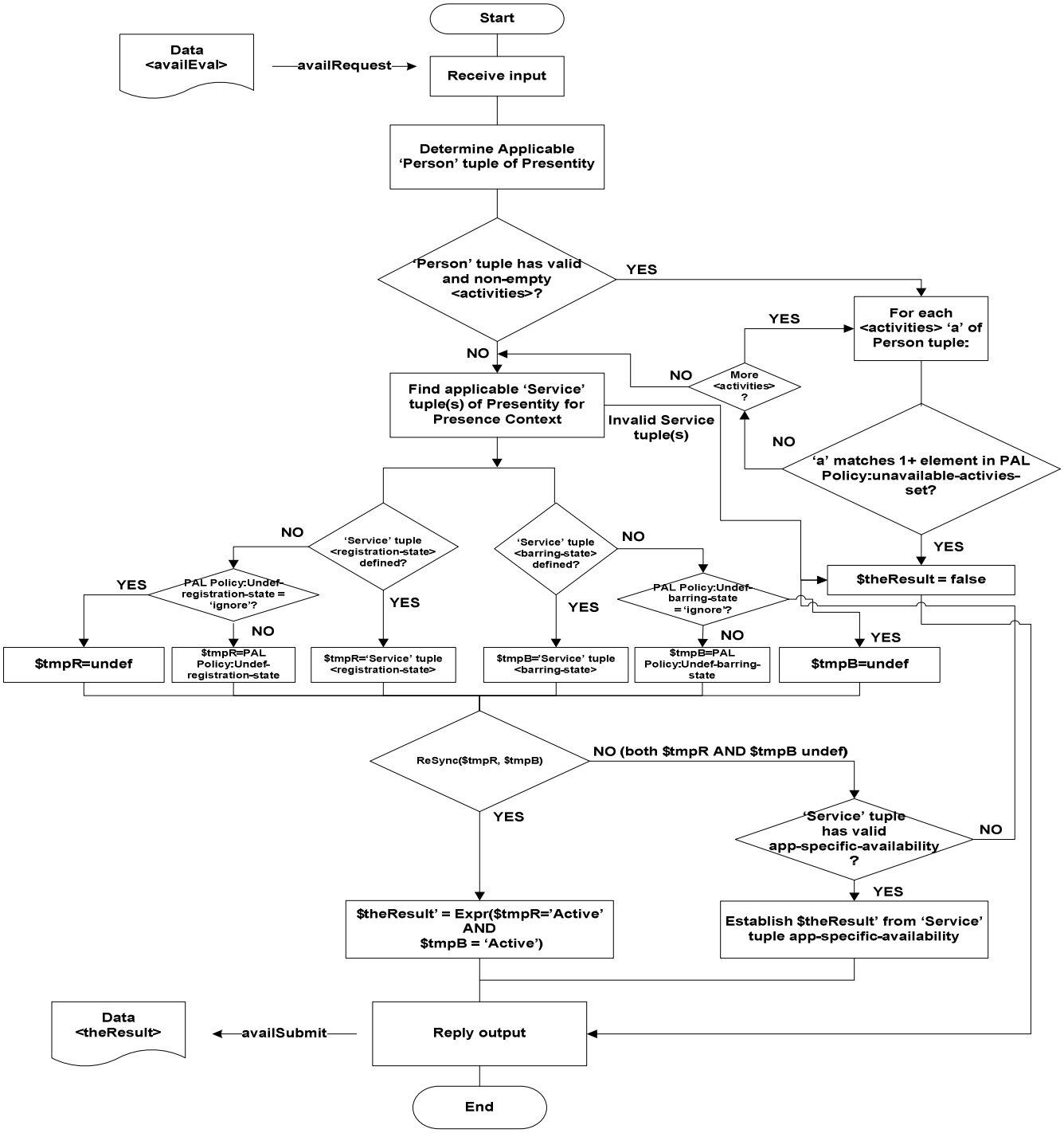

Figure 2: process flow for PAL Rule 'isAvailable'

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:

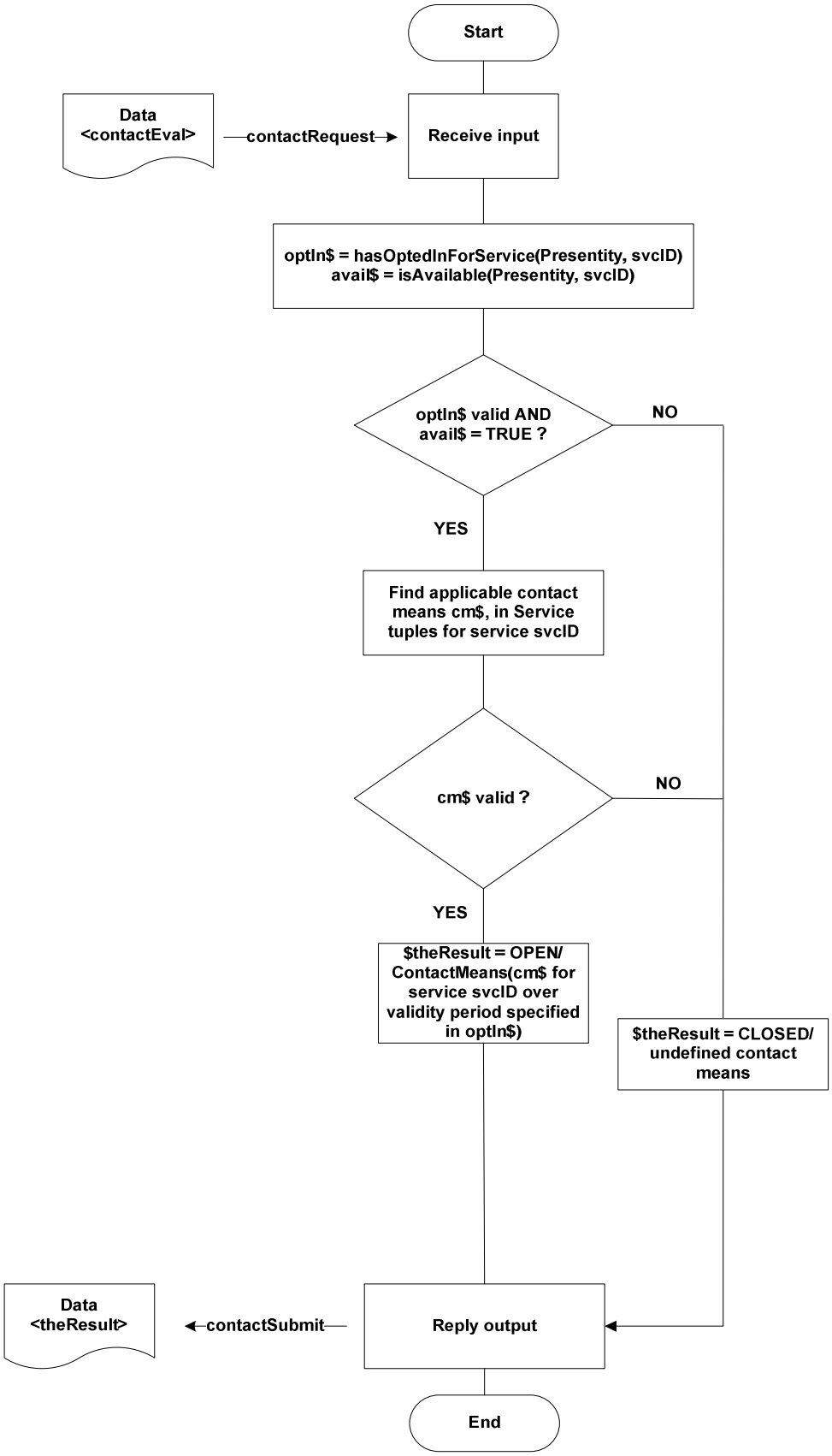

Figure 3: process flow for PAL Rule 'isContactable'

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 intepreting 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 forseeable future;
- closed, indefinite – Presentities under observation are un-willing (i.e. have opted-out) for the forseeable 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-activites-set” PAL Policy SHALL be referred to by a PAL Server during rules processing, as a parameter for enumerating activites 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 1.1 History

Reference	Date	Description
OMA-DDS-PAL_Data_Ext-V1_1-20111101-A	01 Nov 2011	Status changed to Approved by TP: OMA-TP-2011-0372-INP_PDE_V1_3_RRP_for_Final_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