UPP Directory XDM Specification

Approved Version 1.0 – 03 Apr 2012

Open Mobile Alliance

OMA-TS-XDM_UPP_Directory-V1_0-20120403-A

© 2012 Open Mobile Alliance Ltd. All Rights Reserved.

Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document. **[OMA-Template-Spec-20120101-I]**

Contents

1. Scope

This specification describes the data format and Application Usage for the UPP Directory Document, which contains the meta-information about the User Preferences Profiles that can be used by other OMA Enablers (e.g. CPM).

2. References

2.1 Normative References

OMA

[CPM_RD]	"Converged IP Messaging Requirements", Version 1.0, Open Mobile Alliance™, OMA-RD-CPM-V1_0, URL: http://www.openmobilealliance.org
[Dict]	"Dictionary for OMA Specifications", Version 2.4, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_4, URL: http://www.openmobilealliance.org/
[SCRRULES]	"SCR Rules and Procedures", Version 1.0, Open Mobile Alliance™, OMA-ORG-SCR_Rules_and_Procedures-V1_0, URL: http://www.openmobilealliance.org/
[XDM_Core]	"XML Document Management (XDM) Specification", Version 2.1, Open Mobile Alliance™, OMA-TS-XDM_Core-V2_1, URL: http://www.openmobilealliance.org/
[XDM_RD]	"XML Document Management Requirements", Version 2.1, Open Mobile Alliance™, OMA-RD-XDM-V2_1, URL: http://www.openmobilealliance.org/
[XSD_uppDirectory]	"XML Schema Definition : UPP Directory Document", Version 1.0, Open Mobile Alliance™, OMA-SUP-XSD_xdm_uppDirectory-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

2.2 Informative References

OMA

[XDM_AD]	"XML Document Management Architecture", Version 2.1, Open Mobile Alliance™, OMA-AD-XDM-V2_1, 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

Access Permissions	Use definition from [XDM_RD].
Access Permissions Document	Use definition from [XDM_Core].
Active User Preferences Profile	Use definition from [XDM_RD].
Application Unique ID	Use definition from [XDM_Core].
Application Usage	Use definition from [XDM_Core].
Default User Preferences Profile	Use definition from [XDM_RD].
Document Reference	Use definition from [XDM_AD].
Document URI	Use definition from [XDM_Core].
Enabler	Use definition from [Dict].
Global Document	Use definition from [XDM_Core].
Principal	Use definition from [Dict].
UPP Directory	Use definition from [XDM_RD].
UPP Directory Document	Use definition from [XDM_RD].
User	A User is any entity that uses the described features through the User Equipment.
User Preferences Profile	Use definition from [CPM_RD].
XCAP Resource	Use definition from [XDM_Core].
XCAP Root	Use definition from [XDM_Core].
XCAP Server	Use definition from [XDM_Core].
XCAP User Identifier	Use definition from [XDM_Core].
XDM Agent	Use definition from [XDM_AD].
XDMC	Use definition from [XDM_AD].
XDM Preferences	Use definition from [XDM_Core].
XDM Preferences Document	Use definition from [XDM_Core].
XDMS	Use definition from [XDM_AD].

3.3 Abbreviations

ABNF	Augmented Backus-Naur Form
AUID	Application Unique ID

HTTP	Hypertext Transfer Protocol
IETF	Internet Engineering Task Force
MIME	Multipurpose Internet Mail Extensions
OMA	Open Mobile Alliance
SCR	Static Conformance Requirements
SIP	Session Initiation Protocol
UPP	User Preferences Profile
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
XCAP	XML Configuration Access Protocol
XDM	XML Document Management
XDMC	XDM Client
XDMS	XDM Server
XML	Extensible Markup Language
XUI	XCAP User Identifier

4. Introduction

This specification provides the Application Usage for the UPP Directory Document.

The UPP Directory XDMS (see [XDM_AD]) is the logical repository for UPP Directory Documents. The common protocol specified in [XDM_Core] is used for access and manipulation of UPP Directory Documents by authorized Principals.

4.1 Version 1.0

The version 1.0 is called "UPP Directory XDMS" and specifies the Application Usage for UPP Directory Document.

5. UPP Directory XDM Application Usages

5.1 UPP Directory

5.1.1 Structure

The UPP Directory Document SHALL conform to the structure of the "upp-directory" described in this section. The schema definition is provided in section **Error! Reference source not found.**"*XML Schema*".

The <upp-directory> element:

a) SHALL include <upp-set> element which contains the list of UPPs available to the user. The <upp-set> element:

    1) MAY include one or more <upp> elements which contain the details of each UPP available to the user. The <upp> element:

        i. SHALL include a "upp-id" attribute that uniquely identifies the UPP;

        ii. MAY include any other attribute for the purpose of extensibility;

        iii. MAY include <display-name> element, containing a suggested name to display in user interfaces (e.g. Home); and

        iv. MAY include any other elements for the purpose of extensibility.

b) SHALL include <active-upp> which contains the details of Active UPP selected by the user for its devices. The <active-upp> element:

    1) SHALL include <default-upp> element which identifies a Default UPP. The <default-upp> element:

        i. SHALL include a <upp-reference> element which uniquely identifes a UPP which is selected as Default UPP by the user. The <upp-reference> element:

            1. SHALL include the "ref-id" attribute which carries the identifier of a UPP as value.

    2) MAY include one or more <active-device-upp> elements that identify a UPP which is selected as Active UPP by a particular device. The <active-device-upp> element:

        i. SHALL include a "device-id" attribute which uniquely identifies a particular device of the user; and

        ii. SHALL include a <upp-reference> element which uniquely identifes a UPP which is selected as Active UPP by a particular device. The <upp-reference> element:

            1. SHALL include the "ref-id" attribute which carries the identifier of a UPP as value.

c) MAY include any other attribute for the purposes of extensibility.

5.1.2 Application Unique ID

The AUID SHALL be "org.openmobilealliance.upp-directory".

5.1.3 XML Schema

The UPP Directory Document SHALL be composed according to the XML schema described in [XSD_uppDirectory].

5.1.4 Default Namespace

The default namespace used in expanding URIs SHALL be "urn:oma:xml:xdm:upp-directory" defined in section **Error! Reference source not found.**.

5.1.5 MIME Type

The MIME type for the UPP Directory Document SHALL be "application/upp-directory+xml".

5.1.6 Validation Constraints

The UPP Directory Document SHALL conform to the XML Schema described in section 5.1.3 "*XML Schema*", with the clarifications given below.

The value of the "ref-id" of the <upp-reference> element SHALL match with one of the "upp-id" attribute values of the <upp> element listed under <upp-set> element.

The value of the "device-id" attribute proposed by the XDMC in the <active-device-upp> SHALL be unique amongst the values of all <active-device-upp> elements present in the UPP Directory Document of a particular user.

If the XDMC deletes a <upp> element and if it's "upp-id" attribute value matches with any of the "ref-id" attribute value of the <upp-reference> element the UPP Directory XDMS SHALL return an HTTP "409 Conflict" response including the XCAP error element <constraint-failure>. If included, the "phrase" attribute SHOULD be set to "The UPP is in use".

If the XDMC adds an <active-device-upp> element whose "device-id" attribute value matches with that of another <active-device-upp> already present, the UPP Directory XDMS SHALL return HTTP "409 Conflict" including the error element <constraint-failure>. If included, the "phrase" attribute SHOULD be set to "Duplicate entry".

5.1.7 Data Semantics

See section 5.1.1 "Structure" and section 5.1.6 "Validation constraints".

5.1.8 Naming Conventions

The name of the UPP Directory Document SHALL be "upp-directory".

5.1.9 Global Documents

Not applicable.

5.1.10 Resource Interdependencies

Not applicable.

5.1.11 Authorization Policies

The authorization policies SHALL conform to the default authorization policy as described in [XDM_Core] section*"Authorization"*.

The UPP Directory Application Usage MAY support an Access Permissions Document as described in [XDM_Core] sections "*Authorization*" and "*Access Permissions Document*" with the following clarifications:

a) An <allow-opeararation-own-data> element SHALL NOT be included in an <actions> element; and

b) An <external-list> element SHALL, if such element is included in a <conditions> element, reference a URI List in List XDMS.

5.1.12 Subscription to Changes

The UPP Directory Application Usage SHALL support suscription to changes as specified in [XDM_Core] section "*Subscriptions to changes in the XDM Resources*".

5.1.13 Search Capabilities

Not applicable for searching UPP Directory Document.

The UPP Directory Application Usage MAY support search capability for searching:

- The Modification History Information Document as described in [XDM_Core] section "*Modification History Information Document*"; and

- The Request History Information Document as described in [XDM_Core] section "*Request History Information Document*".

5.1.14 XDM Preferences Document

The UPP Directory Application Usage SHALL support an XDM Preferences Document as described in [XDM_Core] section "*XDM Preferences Document*" if it supports History Information XDM Documents as described in section 5.1.15.

5.1.15 History Information Documents

The UPP Directory Application Usage MAY support Modification History Information Document as described in [XDM_Core] section "*Modification History Information Document*" for a UPP Directory Document.

The UPP Directory Application Usage MAY support a Request History Information Document as described in [XDM_Core] section "*Request History Information Document*".

5.1.16 Forwarding

Not applicable.

5.1.17 Restore

The UPP Directory Application Usage MAY support restore of a UPP Directory Document as described in [XDM_Core] section "*XDM Restore*".

5.1.18 Document Reference

The UPP Directory Application Usage MAY support Document Reference of a UPP Directory Document as described in [XDM_Core] section "*Document Reference*".

5.1.19 Differential Read and Write

Not applicable.

6. Subscribing to changes in the XML documents

Refer to section "Subscription to Changes" in each Application Usage.

Appendix A.   Change History   (Informative)

A.1   Approved Version 1.0 History

Reference	Date	Description
OMA-TS-XDM_UPP_Directory-V1_0-20120403-A	03 Apr 2012	Status changed to Approved by TP: OMA-TP-2012-0136-INP_XDM_V2_1_ERP_for_Final_Approval

Appendix B.   Static Conformance Requirements   (Normative)

The notation used in this appendix is specified in [SCRRULES].

The SCR's defined in the following tables include SCR for:

- UPP Directory XDM Application Usages

B.1   UPP Directory XDM Application Usages (XDMS)

Item	Function	Reference	Requirement
XDM_UPD-AU-S-001-M	Support UPP Directory Document Structure (XDMv2.1)	5.1.1	XDM_Core-XOP-S-001-M
XDM_UPD-AU-S-002-M	Support Application Unique ID of UPP Directory Document (XDMv2.1)	5.1.2	
XDM_UPD-AU-S-003-M	Support XML Schema of UPP Directory Document (XDMv2.1)	5.1.3	
XDM_UPD-AU-S-004-M	Support Default name space for UPP Directory Document (XDMv2.1)	5.1.4	
XDM_UPD-AU-S-005-M	Support MIME type of UPP Directory Document (XDMv2.1)	5.1.5	
XDM_UPD-AU-S-006-M	Support Validation constraints of UPP Directory Document (XDMv2.1)	5.1.6	
XDM_UPD-AU-S-007-M	Support Data semantics of UPP Directory Document (XDMv2.1)	5.1.7	
XDM_UPD-AU-S-008-M	Support Naming conventions for UPP Directory Document (XDMv2.1)	5.1.8	
XDM_UPD-SEC-S-001-M	Support default Authorization policy for accessing a UPP Directory Document (XDMv2.1)	5.1.11	XDM_Core-SEC-S-001-M
XDM_UPD-SEC-S-002-O	Support Authorization policies defined in an Access Permissions Document governing access to a UPP Directory Document (XDMv2.1)	5.1.11	XDM_Core-SEC-S-002-O
XDM_UPD-SUB-S-001-M	Support Subscribing to changes in UPP Directory Document (XDMv2.1)	5.1.12	XDM_Core-SUB-S-001-O AND XDM_Core-SUB-S-002-O
XDM_UPD-PRF-S-001-O	Support XDM Preferences Document (XDMv2.1)	5.1.14	XDM_Core-PRF-S-001-O AND (XDM_UPD-MHI-S-001-O OR XDM_UPD-RHI-S-001-O)
XDM_UPD-MHI-S-001-O	Support Modification History Information Document (XDMv2.1)	5.1.15	XDM_Core-MHI-S-001-O AND XDM_UPD-PRF-S-001-O
XDM_UPD-RHI-S-001-O	Support Request History Information Document (XDMv2.1)	5.1.15	XDM_Core-RHI-S-001-O AND XDM_UPD-PRF-S-001-O
XDM_UPD-RES-S-001-O	Support Restore of UPP Directory Document (XDMv2.1)	5.1.17	XDM_Core-RES-S-001-O
XDM_UPD-REF-S-001-O	Support Document Reference of UPP Directory Document (XDMv2.1)	5.1.18	XDM_Core-REF-S-001-O

B.2 UPP Directory XDM Application Usages (XDMC)

Item	Function	Reference	Requirement
XDM_UPD-AU-C-001-O	Support UPP Directory Application Usage (XDMv2.1)	5.1	XDM_UPD-AU-C-002-O AND XDM_UPD-AU-C-003-O AND XDM_UPD-AU-C-004-O AND XDM_UPD-AU-C-005-O AND XDM_UPD-AU-C-006-O AND XDM_UPD-AU-C-007-O AND XDM_UPD-AU-C-008-O AND XDM_UPD-AU-C-009-O
XDM_UPD-AU-C-002-O	Support UPP Directory Document Structure (XDMv2.1)	5.1.1	XDM_Core-XOP-C-003-M AND XDM_UPD-AU-C-001
XDM_UPD-AU-C-002-O	Support Application Unique ID of UPP Directory Document (XDMv2.1)	5.1.2	XDM_UPD-AU-C-001
XDM_UPD-AU-C-004-O	Support XML Schema of UPP Directory Document (XDMv2.1)	5.1.3	XDM_UPD-AU-C-001
XDM_UPD-AU-C-005-O	Support Default name space for UPP Directory Document (XDMv2.1)	5.1.4	XDM_UPD-AU-C-001
XDM_UPD-AU-C-006-O	Support MIME type of UPP Directory Document (XDMv2.1)	5.1.5	XDM_UPD-AU-C-001
XDM_UPD-AU-C-007-O	Support Validation constraints of UPP Directory Document (XDMv2.1)	5.1.6	XDM_UPD-AU-C-001
XDM_UPD-AU-C-008-O	Support Data semantics of UPP Directory Document (XDMv2.1)	5.1.7	XDM_UPD-AU-C-001
XDM_UPD-AU-C-009-M	Support Naming conventions for UPP Directory Document (XDMv2.1)	5.1.8	XDM_UPD-AU-C-001
XDM_UPD-SEC-C-001-O	Support Access Permissions Document (XDMv2.1)	5.1.11	XDM_UPD-AU-C-001-O AND XDM_Core-SEC-C-006-O
XDM_UPD-SUB-C-001-O	Support Subscribing to changes in UPP Directory Document (XDMv2.1)	5.1.12	XDM_UPD-AU-C-001-O AND XDM_Core-SUB-C-001-O AND XDM_Core-SUB-C-002-O
XDM_UPD-PRF-C-001-O	Support XDM Preferences Document (XDMv2.1)	5.1.14	XDM_UPD-AU-C-001-O AND XDM_Core-PRF-C-001-O AND (XDM_UPD-MHI-C-001-O OR XDM_UPD-RHI-C-001-O)
XDM_UPD-MHI-C-001-O	Support Modification History Document (XDMv2.1)	5.1.15	XDM_UPD-AU-C-001-O AND XDM_Core-MHI-C-001-O
XDM_UPD-RHI-C-001-O	Support Request History Document (XDMv2.1)	5.1.15	XDM_UPD-AU-C-001-O AND XDM_Core-RHI-C-001-O
XDM_UPD-RES-C-001-O	Support Restore of UPP Directory Document (XDMv2.1)	5.1.17	XDM_UPD-AU-C-001-O AND XDM_Core-RES-C-001-O
XDM_UPD-REF-C-001-O	Support Document Reference of UPP Directory Document (XDMv2.1)	5.1.18	XDM_UPD-AU-C-001-O AND XDM_Core-REF-C-001-O

B.3 UPP Directory XDM Application Usages (XDM Agent)

Item	Function	Reference	Requirement
XDM_UPD-AU-A-001-O	Support UPP Directory Application Usage (XDMv2.1)	5.1	XDM_UPD-AU-A-002-O AND XDM_UPD-AU-A-003-O AND XDM_UPD-AU-A-004-O AND XDM_UPD-AU-A-005-O AND XDM_UPD-AU-A-006-O AND XDM_UPD-AU-A-007-O AND XDM_UPD-AU-A-008-O AND XDM_UPD-AU-A-009-O
XDM_UPD-AU-A-002-O	Support UPP Directory Document Structure (XDMv2.1)	5.1.1	XDM_Core-XOP-A-003-M AND XDM_UPD-AU-A-001-O
XDM_UPD-AU-A-003-O	Support Application Unique ID of UPP Directory Document (XDMv2.1)	5.1.2	XDM_UPD-AU-A-001-O
XDM_UPD-AU-A-004-O	Support XML Schema of UPP Directory Document (XDMv2.1)	5.1.3	XDM_UPD-AU-A-001-O
XDM_UPD-AU-A-005-O	Support Default name space for UPP Directory Document (XDMv2.1)	5.1.4	XDM_UPD-AU-A-001-O
XDM_UPD-AU-A-006-O	Support MIME type of UPP Directory Document (XDMv2.1)	5.1.5	XDM_UPD-AU-A-001-O
XDM_UPD-AU-A-007-O	Support Validation constraints of UPP Directory Document (XDMv2.1)	5.1.6	XDM_UPD-AU-A-001-O
XDM_UPD-AU-A-008-0	Support Data semantics of UPP Directory Document (XDMv2.1)	5.1.7	XDM_UPD-AU-A-001-O
XDM_UPD-AU-A-009-O	Support Naming conventions for UPP Directory Document (XDMv2.1)	5.1.8	XDM_UPD-AU-A-001-O
XDM_UPD-SEC-A-001-O	Support Access Permissions Document (XDMv2.1)	5.1.11	XDM_Core-SEC-A-006-M AND XDM_UPD-AU-A-001-O
XDM_UPD-SUB-A-001-O	Support Subscribing to changes in UPP Directory Document (XDMv2.1)	5.1.12	XDM_Core-SUB-A-001-O AND XDM_Core-SUB-A-002-O AND XDM_UPD-AU-A-001-O
XDM_UPD-PRF-A-001-O	Support XDM Preferences Document (XDMv2.1)	5.1.14	XDM_Core_PRF-A-001-O AND XDM_UPD-AU-A-001-O AND (XDM_UPD-MHI-A-001-O OR XDM_UPD-RHI-A-001-O)
XDM_UPD-MHI-A-001-O	Support Modification History Document (XDMv2.1)	5.1.15	XDM_UPD-AU-A-001-O AND XDM_Core-MHI-A-001-O
XDM_UPD-RHI-A-001-O	Support Request History Document (XDMv2.1)	5.1.15	XDM_UPD-AU-A-001-O AND XDM_Core-RHI-A-001-O
XDM_UPD-RES-A-001-O	Support Restore of UPP Directory Document (XDMv2.1)	5.1.17	XDM_UPD-AU-A-001-O AND XDM_Core-RES-A-001-O
XDM_UPD-REF-A-001-O	Support Document Reference of UPP Directory Document (XDMv2.1)	5.1.18	XDM_UPD-AU-A-001-O AND XDM_Core-REF-A-001-O

Appendix C.   Examples   (Informative)

C.1   UPP Directory Document Structure

Sample content of UPP Directory Document of a user for the following scenario:

- The User has 3 profiles named "Work", "home" and "roaming".

- The User has chosen "Work" profile as the Default UPP.

- The User has chosen "home" profile as Active UPP from his device whose id is
  "sip:ronald.underwood@example.com;gr=kjh29x97us97d"

- The User has chosen "Work" profile as Active UPP from his device whose id is
  "sip:ronald.underwood@example.com;gr=kdfdhjkurgh97d"

```xml
<?xml version="1.0" encoding="UTF-8"?>
<upp-directory xmlns="urn:oma:xml:xdm:upp-directory">
    <!—set of Profiles available to the user -->
    <upp-set>
        <upp upp-id="xyz8dh">
            <display-name> home </display-name>
        </upp>

         <upp upp-id="abc9i">
            <display-name> work </display-name>
        </upp>

        <upp upp-id="def7j">
            <display-name> roaming </display-name>
        </upp>
    </upp-set>

    <active-upp>
        <default-upp>
            <upp-reference ref-id="abc9i"/> <!—User has chosen "Work" profile as default profile -->
        </default-upp>

        <active-device-upp device-id="sip:ronald.underwood@example.com;gr=kjh29x97us97d">
            <upp-reference ref-id="xyz8dh"/>
        </active-device-upp>

        <active-device-upp device-id="sip:ronald.underwood@example.com;gr=kdfdhjkurgh97d">
            <upp-reference ref-id="abc9i"/>
        </active-device-upp>
    </active-upp>
</upp>
```