



Shared XDM Specification

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Open Mobile Alliance
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1. Scope

This specification describes the data format and XCAP application usage for the shared document, URI List, which can be used by all OMA enablers.

2. References

2.1 Normative References

- [XDM_RD] “XML Document Management Requirements”, Candidate Version 1,0, Open Mobile Alliance™, OMA-RD-XDM-V1_0, URL: <http://www.openmobilealliance.org/>
- [RFC2119] “Key words for use in RFCs to Indicate Requirement Levels”, S. Bradner, March 1997, URL:<http://www.ietf.org/rfc/rfc2119.txt>
- [RFC2234] “Augmented BNF for Syntax Specifications: ABNF”. D. Crocker, Ed., P. Overell. November 1997, URL:<http://www.ietf.org/rfc/rfc2234.txt>
- [XCAP] “The Extensible Markup Language (XML) Configuration Access protocol (XCAP)”, J. Rosenberg, June 11, 2005, URL: <http://www.ietf.org/internet-drafts/draft-ietf-simple-xcap-07.txt>
Note: Work in progress
- [XCAP_List] “Extensible Markup Language (XML) Formats for Representing Resource Lists”, J. Rosenberg, February 7, 2005, URL: <http://www.ietf.org/internet-drafts/draft-ietf-simple-xcap-list-usage-05.txt>
Note: Work in progress
- [XDM_Spec] “XML Document Management (XDM) Specification”, Version 1.0, Open Mobile Alliance™, OMA-TS-XDM_Core-V1_0, URL:<http://www.openmobilealliance.org/>

2.2 Informative References

- [PoC_XDM] “PoC XDM Specification”, Version 1.0, Open Mobile Alliance™, OMA-TS-POC_XDM-V1_0, URL:<http://www.openmobilealliance.org/>
- [RLS_XDM] “Resource List Service (RLS) XDM Specification”, Version 1.0, Open Mobile Alliance™, OMA-TS-Presence_SIMPLE_RLS_XDM-V1_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

Global document	A document placed under the XCAP global tree that applies to all users of that application usage.
Global tree	A URL that represents the parent for all global documents for a particular application usage within a particular XCAP root. (Source: [XCAP])
XCAP Application Usage	Detailed information on the interaction of an application with an XCAP server. (Source: [XCAP])
XCAP Server	An HTTP server that understands how to follow the naming and validation constraints defined in this specification. (Source: [XCAP])

3.3 Abbreviations

AUID	Application Unique ID
HTTP	Hypertext Transfer Protocol
IETF	Internet Engineering Task Force
OMA	Open Mobile Alliance
TLS	Transport Layer Security
URI	Uniform Resource Identifier
XCAP	XML Configuration Access Protocol
XDM	XML Document Management
XML	Extensible Markup Language

4. Introduction

This specification, which is a part of the XML Document Management enabler, describes a particular type of list, the URI List, which is a convenient way for a principal to group together a number of URIs (e.g., as “Friends”, “Family” etc.) or other resources, where such a list is expected to be reused for a number of different services. Such a list is not enabler-specific and can be re-used wherever a principal has a need to collectively refer to a group of other end users or resources. For example, the reference to a list of “Friends” can be an entry in a PoC Group member list (see [PoC_XDM] for details), or be included in a Presence List (see [RLS_XDM] for details).

This specification provides the data schema and application usage of a URI List and Group Usage List. It reuses the document structure “resource-lists” described in IETF [XCAP_List].

5. Shared XDM Application Usages

5.1 URI list

5.1.1 Structure

- The URL List document SHALL conform to the structure of the “resource-lists” document described in [XCAP_List] Section 3.

5.1.2 Application Unique ID

The URI List SHALL conform to the AUID for “resource-lists” defined in [XCAP_List] Section 3.4.1.

5.1.3 Default Namespace

The default namespace SHALL conform to the default namespace “urn:ietf:params:xml:ns:resource-lists” for the “resource-lists” document described in [XCAP_List].

5.1.4 XML Schema

The URI List document SHALL conform to the XML schema for the “resource-lists” document described in [XCAP_List] Section 3.4.3

5.1.5 MIME Type

The URI List SHALL conform to the MIME type “application/resource-lists+xml” defined in [XCAP_List] Section 3.4.2.

5.1.6 Validation constraints

In addition to the XML schema, the additional validation constraints on a URI List SHALL conform to those described in [XCAP_List] Section 3.4.4.

5.1.7 Data Semantics

- The data semantics for a URI List SHALL conform to those described in [XCAP_List] Section 3.4.5.

5.1.8 Naming conventions

The naming conventions for a URI List SHALL conform to those described in [XCAP_List] Section 3.4.6.

The XDMC MAY use a single file for all shared URI Lists for a particular user. Such a <resource-lists> document contains <list> entries with name attributes, each of which identifies one of the user's shared URI Lists.

If a single file as described above is used, the filename SHALL be "index". The "name" attribute of each <list> element SHALL be present and SHALL be unique amongst all <list> elements within the same parent element.

NOTE: The XCAP client is not constrained to using this approach, and may choose to place shared URI lists in one or more documents. The approach above is useful as a simpler way for moving a user's shared URI lists between different UE, e.g., from an old to a new one. This approach can only be used for shared URI lists. The Directory application usage is needed for restoring/recreating all the user's documents across all applications.

5.1.9 Global documents

This application usage defines no global documents.

5.1.10 Resource interdependencies

This application usage defines no additional resource interdependencies.

5.1.11 Authorization policies

The authorization policies for manipulating a URI List SHALL conform to those described in [XDM_Spec] Section 6.4.3.

5.2 Group Usage List

This section specifies a new application Group Usage List, a list of group names or service URIs that are known by the XCAP Client. The feature MAY be supported.

5.2.1 Structure

The URL List document SHALL conform to the structure of the “resource-lists” document described in [XCAP_List] Section 3 with the following difference:

1. Extensions on “uriusage” element in <entry> element from "urn:oma:params:ns:resource-list:oma-uriusage" –namespace defines used uri type. Element “uriusage” is an abstract type. The <uriusage> element is not application specific. Each application can define their specific uri usages in their specifications.
2. Prohibition of using <external> and <entry-ref> so as to avoid complexity.

5.2.2 Application Unique ID

The AUID SHALL be org.openmobilealliance.group-usage-list.

5.2.3 Default Namespace

The default namespace SHALL conform to the default namespace “urn:ietf:params:xml:ns:resource-lists” for the “resource-lists” document described in [XCAP_List].

5.2.4 XML Schema

The URI List document SHALL conform to the XML schema for the “resource-lists” document described in [XCAP_List] Section 3.4.3 with the following extension:

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema targetNamespace="urn:oma:params:ns:resource-list:oma-uriusage"
  xmlns="urn:oma:params:ns:resource-list:oma-uriusage"
  xmlns:xs=http://www.w3.org/2001/XMLSchema
  elementFormDefault="qualified">
```

```
<!-- OMA specific extension: "uriusage" child elements -->
```

```
  <xs:element name="uriusages">
    <xs:complexType>
```

```
<xs:sequence>
  <xs:element ref="uriusage" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:complexType>
</xs:element>

<xs:element name="uriusage" abstract="true"/>
</xs:schema>
```

5.2.5 MIME Type

The URI List SHALL conform to the MIME type “application/group-usage-list+xml” defined in [XCAP_List] Section 3.4.2.

5.2.6 Validation constraints

In addition to the XML schema, the additional validation constraints on a URI List SHALL conform to those described in [XCAP_List] Section 3.4.4.

If the XDMC uses or adds an <entry-ref> or <external> element (specified in [XCAP_List]) under the <list> element, to refer to any storage of a PoC Contact Address in the Shared XDMS, the PoC XDMS comply with this specification SHALL return an error code “409 **Conflict**” response which includes the XCAP error element <constraint-failure>. If included, the "phrase" attribute SHOULD be set to "Not allowed".

5.2.7 Data Semantics

The data semantics for a URI List SHALL conform to those described in [XCAP_List] Section 3.4.5 with the following extensions:

The <uriusage> element SHALL be used to indicate what that the “uri” attribute of the <entry> element is used for. The <uriusage> element is not application specific. Each application can define their specific uri usages in their specifications.

5.2.8 Naming conventions

The XDMC MAY use a single file for all group names or service URIs. Every group name or service URI is defined in each <list> element.

The "name" attribute of each <list> element SHALL be present and SHALL be unique amongst all <list> elements within the same parent element.

The XDMC MAY store all his service URI's in a single xml document. If so, the name of the file SHALL be "index".

5.2.9 Global documents

This application usage defines no global documents.

5.2.10 Resource interdependencies

This application usage defines no additional resource interdependencies.

5.2.11 Authorization policies

The owner XCAP Client SHALL has the authorization right to access and modify the document.

6. Subscribing to changes in the XML documents

The Shared XDMS SHALL support subscriptions to changes in the XML documents as defined by the procedures in section 6.2.2.1 step 2 to step 6 and 6.2.2.2 of the [XDM_Spec].

Appendix A. Static Conformance Requirements (Normative)

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

- Shared XDM Application Usages

Each SCR table identifies a list of supported features as:

Item: Identifier for a feature.

Function: Short description of the feature.

Reference: Section(s) of this specification with more details on the feature.

Status: Whether support for the feature is mandatory or optional. MUST use “M” for mandatory support and “O” for optional support in this column.

Requirement: This column identifies other features required by this feature. If no other features are required, this column is left empty.

This section describes the dependency grammar notation to be used in the Requirement column of the SCR and CCR tables using ABNF [RFC2234].

TerminalExpression = ScrReference / NOT TerminalExpression / TerminalExpression LogicalOperator
TerminalExpression / (“ TerminalExpression “)”

ScrReference = ScrItem / ScrGroup

ScrItem = SpecScrName “-“ GroupType “-“ DeviceType “-“ NumericId / SpecScrName “-“ DeviceType
“-“ NumericId

ScrGroup = SpecScrName “:” FeatureType / SpecScrName “-“ GroupType “-“ DeviceType “-“
FeatureType

SpecScrName = 1*Character;

GroupType = 1*Character;

DeviceType = “C” / “S”; C – client, S – server

NumericId = Number Number Number

LogicalOperator = “AND” / “OR”; AND has higher precedence than OR and OR is inclusive

FeatureType = “MCF” / “OCF” / “MSF” / “OSF”; See Section A.1.6

Character = %x41-5A ; A-Z

Number = %x30-39 ; 0-9

A.1 Shared XDM Application Usages (Server)

Item	Function	Reference	Status	Requirement
Shared_XDM-AU-S-001	URI list structure	5.1.1	M	
Shared_XDM-AU-S-002	Application Unique ID in URI list	5.1.2	M	

Item	Function	Reference	Status	Requirement
Shared_XDM-AU-S-003	XML schema of URI list	5.1.4	M	
Shared_XDM-AU-S-004	URI list conforms to MIME type	5.1.5	M	
Shared_XDM-AU-S-005	Validation constraints, in addition to the XML schema	5.1.6	M	
Shared_XDM-AU-S-006	Data semantics of URI list	5.1.7	M	
Shared_XDM-AU-S-007	Naming conventions for URI list	5.1.8	M	
Shared_XDM-AU-S-008	Authorization policies	5.1.11	M	XDM-XDMS-S-005
Shared_XDM-AU-S-009	Subscribing to changes in XML documents	6	M	
Shared_XDM-AU-S-010	Default name space for URI list and also Group Usage List	5.1.3, 5.2.3	M	
Shared_XDM-AU-S-011	Group Usage List document structure	5.2.1	O	
Shared_XDM-AU-S-012	Application Unique ID in Group Usage List document	5.2.2	O	
Shared_XDM-AU-S-013	XML schema of Group Usage List document	5.2.4	O	
Shared_XDM-AU-S-014	Group Usage List document conforms to MIME type	5.2.5	O	
Shared_XDM-AU-S-015	Validation constraints, in addition to the XML schema	5.2.6	O	
Shared_XDM-AU-S-016	Data semantics of Group Usage List	5.2.7	O	
Shared_XDM-AU-S-017	Naming conventions for Group Usage List	5.2.8	O	
Shared_XDM-AU-S-018	Authorization policies for Group Usage List	5.2.11	O	

A.2 Shared XDM Application Usages (Client)

Item	Function	Reference	Status	Requirement
Shared_XDM-AU-C-001	URI list structure	5.1.1	M	
Shared_XDM-AU-C-002	Application Unique ID in URI list	5.1.2	M	
Shared_XDM-AU-C-003	XML schema of URI list	5.1.3	M	
Shared_XDM-AU-C-004	URI list conforms to MIME type	5.1.4.	M	
Shared_XDM-AU-C-005	Validation constraints, in addition to the XML schema	5.1.5	M	
Shared_XDM-AU-C-006	Data semantics of URI list	5.1.6	M	
Shared_XDM-AU-C-007	Naming conventions for URI list	5.1.7	M	
Shared_XDM-AU-C-008	Default name space for URI list and also Group Usage List	5.1.3, 5.2.3	O	
Shared_XDM-AU-C-009	Group Usage List document structure	5.2.1	O	
Shared_XDM-AU-C-010	Application Unique ID in Group Usage List document	5.2.2	O	
Shared_XDM-AU-C-011	XML schema of Group Usage List document	5.2.4	O	
Shared_XDM-AU-C-012	Group Usage List document conforms to MIME type	5.2.5	O	
Shared_XDM-AU-C-013	Validation constraints, in addition to the XML schema	5.2.6	O	
Shared_XDM-AU-C-014	Data semantics of Group Usage List	5.2.7	O	

Item	Function	Reference	Status	Requirement
Shared_XDM-AU-C-015	Naming conventions for Group Usage List	5.2.8	O	

Appendix B. Examples

(Informative)

B.1 Manipulating URI Lists

B.1.1 Obtaining URI Lists

Figure B.1.1 describes how an XDM client obtains URI lists.

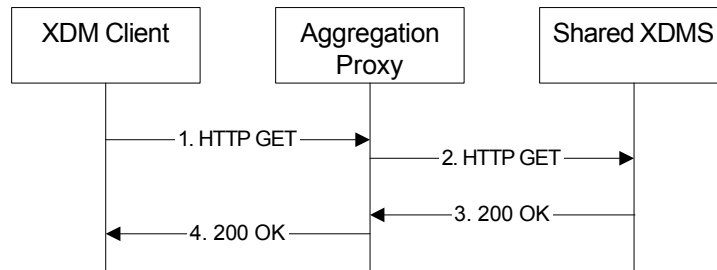


Figure B.1.1 XDM Client obtains URI lists

The details of the flows are as follows:

- 1) The user “sip:ronald.underwood@example.com” wants to obtain document describing his URI Lists. For this purpose the XDMC sends a HTTP GET request to the Aggregation Proxy.

```

GET http://xcap.example.com/services/resource-
  lists/users/sip:ronald.underwood@example.com/friends.xml/HTTP/1.1
...
Content-Length: 0
  
```

- 2) Based on the AUID, the Aggregation Proxy forwards the request to Shared XDMS.
- 3) After the Shared XDMS has performed the necessary authorisation checks on the request originator, the Shared XDMS sends an HTTP “200 OK” response including the requested document in the body.

```

HTTP/1.1 200 OK
Etag: "eti87"
...
Content-Type: application/resource-lists+xml

<?xml version="1.0" encoding="UTF-8"?>
<resource-lists xmlns="urn:ietf:params:xml:ns:resource-lists"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <list name="friends">

    <list name="close-friends">
      <display-name>Close Friends</display-name>
      <entry uri="sip:hermione.blossom@example.com">
        <display-name>Hermione</display-name>
      </entry>
      <entry uri="tel:5678;phone-context="+43012349999"/>
    </list>

    <external anchor="http://xcap.example.com/services/resource-
  lists/users/sip:hermione.blossom@example.com/society.xml/~
  /resource-lists/list%5bname=%22spew%22%5d">
      <display-name>society</display-name>
    </external>

  </list>
</resource-lists>
  
```

- 4) The Aggregation Proxy routes the response to the XDM Client.

Appendix C. Change History

(Informative)

C.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version

C.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Version OMA-Shared_XDM_Specification-V1_0	27 Sept 2004	All	Initial version created
	08 Oct 2004	All	Incorporates OMA-PAG-2004-0515R01-Initial-text-for-Shared-XDM-Specification
	15 Oct 2004	Appendix B	Incorporated OMA-PAG-2004-0535-Shared-XDMS-MessageFlowExample
	15 Oct 2004	Section 5	Incorporated OMA-PAG-2004-0546-Changes-to-Section-5-of-the-Shared-XDM-Spec
	29 Oct 2004	3.2	Incorporated OMA-PAG-0594R01-XDM-Specs-Definition-of-Global-Documents
	29 Oct 2004	Appendix A	Incorporated OMA-PAG-2004-0619-Shared-XDM-SCR
	13 Nov 2004	Appendix B And Section 5	Incorporated OMA-PAG-2004- 0706-Shared-XDM-Remove-5.1and5.2
	15 Nov 2004	Appendix A	Incorporated OMA-PAG-2004-0729-Shared-XDM-Spec-SCR-changes
	17 Nov 2004	General	Editorial cleanup
	29 Jan 2005	XDM CONRR items	All agreed comments in XDM CONRR chapter 5 All editorial comments in XDM CONRR chapter 5 OMA-PAG-2005-0050R01 OMA-PAG-2005-0083R01
	31 Jan 2005	Chapt 4, fixed file name	OMA-PAG-2005-93,
	31 Jan 2005		Incorporated 0082R04
	Candidate Version OMA-TS-XDM_Shared-V1_0	04 Feb 2004	n/a
OMA-TS-XDM_Shared-V1_0	15 Apr 2005	2.1 and 5.1.3	Incorporated CR 2005-0192R01
OMA-TS-XDM_Shared-V1_0	31 May 2005	5.1.1 5.1.4 5.1.7	Incorporated CR 2005-0323R03
OMA-TS-XDM_Shared-V1_0	28 Jun 2005	2.1	Incorporated CR 2005-0364
OMA-TS-XDM_Shared-V1_0	30 Sep 2005	5.1.4	Incorporated CR 2005-0469
OMA-TS-XDM_Shared-V1_0	22 Nov 2005	2.1, 2.2, 4	Incorporated CR 2005-0569R01
OMA-TS-XDM_Shared-V1_0	22 Nov 2005	4, 5.1.1 5.1.4, 5.2 A.1, A.2	Incorporated CR 2005-0527R02