# Shared XDM Specification

Approved Version 1.0 – 12 Jun 2006

## Open Mobile Alliance

OMA-TS-XDM_Shared-V1_0-20060612-A

# Contents

# 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://ww.openmobilealliance.org/

**[XSD_APPUSAGE]** "XDM Resource List Elements – appusage", Candidate Version 1.0, Open Mobile Alliance™, OMA-SUP-XSD_xdm_rsrclist_appusage-V1_0, URL: http://www.openmobilealliance.org/

**[XSD_URIUSAGE]** "XDM Resource List Elements – uriusage", Candidate Version 1.0, Open Mobile Alliance™, OMA-SUP-XSD_xdm_rsrclist_uriusage-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, May 5, 2006, URL: http://www.ietf.org/internet-drafts/draft-ietf-simple-xcap-11.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: IETF Draft 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 Engireering 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 URI List document SHALL conform to the structure of the "resource-lists" document described in [XCAP_List] Section 3 with the following extension:

- The <appusages> child element of the <list> element defines the applications which use this list. The <appusages> element contains the node URI and the AUID value of those application usages referring to the <list> element.

Note:It is recommended that the <entry-ref> element defined in [XCAP_List] not be used as it may create extra roundtrips between an XDM client and an XDM server when resolving a URI-list.

### 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 with the following extension described in [XSD_APPUSAGE].

### 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 3.4.5, with the following clarifications:

The "name" attribute of the <list> element SHALL be present.

Therefore, if XDM Client proposes a creation of <list> element without its "name" attribute, an HTTP "409 Conflict" response SHALL be returned with the error condition identified by the <constraint-failure> element. If included, the "phrase" attribute of this element SHOULD be set "Name attribute is required."

Note: It is noted that the value of the "name" attribute of <list> element shall also conform to the uniqueness constraints as specified in [XCAP_List] Section 3.4.5.

The <appusages> element MAY be present as a child element to the <list> element. If present, the element SHALL be inserted after the child elements as defined by the resource-lists namespace as the place for its extension.

### 5.1.7 Data Semantics

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

- The <appusages> element SHALL be used to store which other application usages that has a reference to this URI list. The <nodeuri> child element SHALL be used to store a reference to such an application usage. The attribute "uri" of this element SHALL contain a node URI as defined in [XCAP] to the document containing the reference. The attribute "auid" SHALL contain an Application Unique ID [XCAP] defined for the application usage that has the reference. XDM clients MAY insert a <nodeuri> element when inserting a reference to a URI List in any other application usage document.

Note:XDM clients that are using an application usage that has a reference to a URI list are recommended to check that the <appusages> element contains a <nodeuri> element with information about used application usage. If a client finds that such an element is not included the client is recommended to insert a <nodeuri> element with information about the application usage in order to keep the information up to date.

### 5.1.8 Naming conventions

The naming conventions for a URI List SHALL conform to those described in [XCAP_List] Section 3.4.7.

The XDMC SHALL use a single file for all shared URI Lists for a particular user. The file name SHALL be "index".

A XDMC may have a need to store a URI-List that has one well defined usage. A user can only have one list of this type. The "name" attribute of the <list> element is used to indicate the usage. The syntax used SHALL be a string of the format "oma_xyz where xyz is a string containing letters a to z. The naming convension SHALL only be used in a <list> element that is a child element to the root element <resource-lists>.This specification defines the following name attributes:

- oma_allcontacts : This name SHALL be used by an XDMC that has a need to store all users URI:s, that it knows about, in one list independent of how the URI:s are used.
- oma_buddylist : This name SHALL be used by an XDMC that has a need to store all users URI:s, that it wants to use for all types of communication, in one list.
- oma_pocbuddylist: This name SHALL be used by an XDMC that has a need to store users URI:s, that it wants to use for PoC communication, in one list.
- oma_blockedcontacts. This name SHALL be used by a XDMC that has a need to store URI:s to users, that it want to block/reject in a number of application usages, in one list.

Enablers that needs to define other types of usage can do this in their enabler specification as long as they are following the syntax above and make sure that no other enabler is using the same "xyz" string.

Editor's Note: need to provide reference where those values are enumerated once OMNA has created the appropriate registry.

The "name" attribute of a <list> element SHALL be present for referencing by other resources using <external> element. The value of "name" attribute of a <list> element SHALL be unique amongst all other <list> elements within the same parent element (as specified in [XCAP_List] Section 3.1)

### 5.1.9 Global documents

This application usage defines no global documents.

### 5.1.10 Resource interdependencies

The value of "name" attribute of a <list> element SHALL NOT be changed during the existence of the corresponding <list> element. This is because a modification to the value of "name" attribute of the <list> element would need all subsequent updates against wherever the <list> element is referred by other resources using <external> element. Otherwise, the reference would be broken.

### 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:xml:xdm: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 Group Usage List document SHALL conform to the XML schema for the “resource-lists” document described in [XCAP_List] Section 3.4.3 with the extension described in [XSD_URIUSAGE].

### 5.2.5 MIME Type

The MIME type SHALL be “application/vnd.oma.group-usage-list+xml”.

### 5.2.6 Validation constraints

In addition to the XML schema, the additional validation constraints on a Group Usage 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 Group Usage 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 | 5.1.4 | M | |
| Shared_XDM-AU-C-004 | URI list conforms to MIME type | 5.1.5 | M | |
| Shared_XDM-AU-C-005 | Validation constraints, in addition to the XML schema | 5.1.6 | M | |
| Shared_XDM-AU-C-006 | Data semantics of URI list | 5.1.7 | M | |
| Shared_XDM-AU-C-007 | Naming conventions for URI list | 5.1.8 | 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.

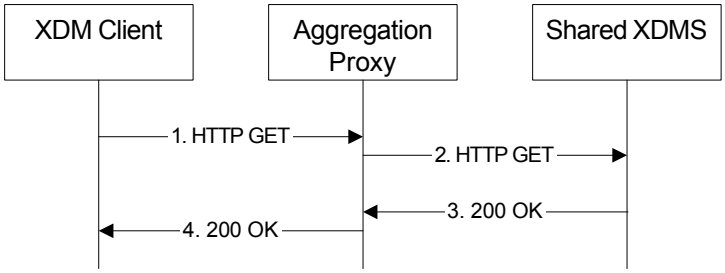


Figure B.1.1 XDM Client obtains URI lists

The details of the flows are as follows:

1) The user "sip:ronald.underwood@example.com" wants to obtain the document describing his URI Lists. For this purpose the XDMC sends a HTTP GET request to the Aggregation Proxy. Two main lists exist and one sublist. The sublist with the name "close-friends" is referenced from the poc group document "mypocgroup1" in the application usage org.openmobilealliance.poc-groups.

```
GET http://xcap.example.com/resource-lists/users/sip:ronald.underwood@example.com/index /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:para:xml:ns:resource-lists"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xmlns:oau="urn:oma:xml:xdm:resource-list:appusage">
  <list name="oma_buddylist">

    <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"/>
      <oau:appusages>
             <oau:nodeuri oau:uri="http://xcap.example.com/org.openmobilealliance.poc-
   groups/mypocgroup1/~~/group/list/list-
   service/list/external%5b@anchor=%22http://xcap.example.com/service/resource-
   lists/users/sip:ronald.underwood@example.com/index/~~resource-
   lists/list%5b@name=%22oma_buddylist%22%5d/list%5b@name=%22close-friends%22%5d%5d"
   oau:auid="org.opemmobilealliance.poc-groups"/>
      </oau:appusages>
    </list>
    <entry uri="sip:joe.blogs@example.com">
```

```
        <display-name>Joe</display-name>
    </entry>

  </list>
  <list name="oma_blockedcontacts">
  </list>
</resource-lists>
```

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

## B.1.2 Obtaining Group Usage Lists

Figure B.1.2 describes how an XDM client obtains Group Usage lists.

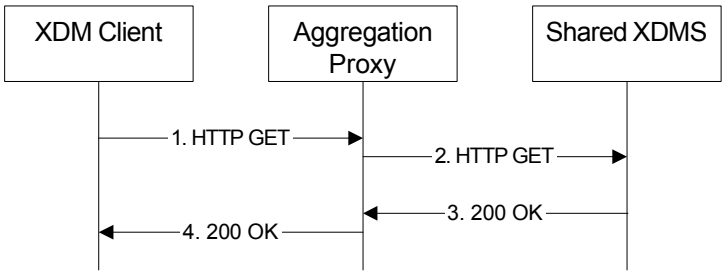


Figure B.1.2 XDM Client obtains Group Usage lists

The details of the flows are as follows:

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

```
GET http://xcap.example.com/org.openmobilealliance.group-usage-
   list/users/sip:ronald.underwood@example.com/index/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/vnd.oma.group-usage-list+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"
   xmlns:ou="urn:oma:xml:xdm:resource-list:oma-uriusage"
   xmlns:opu="urn:oma:xml:xdm:oma-pocusage">
  <list name="bookmarkedPoCGroups">
    <entry uri="sip:group1_joebloggs@example.com">
       <display-name>Joe's golf friends</display-name>
       <ou:uriusages>
          <opu:pocusage>chat</opu:pocusage>
       </ou:uriusages>
    </entry>
    <entry uri="sip:group1_bob@example.com">
       <display-name>Bob's ski friends</display-name>
       <ou:uriusages>
          <opu:pocusage>prearranged</opu:pocusage>
       </ou:uriusages>
     </entry>
```

```
   </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 |
|---|---|---|
| Approved Version<br>OMA-TS-XDM_Shared-V1_0 | 12 Jun 2006 | Status changed to approved OMA-TP-2006-0196R03-INP_XDM_V1_0_for_final_approval. |