



Converged Address Book XDM Specification

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1. Scope

The Converged Address Book XDMS specifies data formats and Application Usages of CAB XDM Documents.

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[CAB 1.0 TS]	“Converged Address Book Specification”, Version 1.0, Open Mobile Alliance™, OMA-TS-CAB-V1_0, URL: http://www.openmobilealliance.org/
[CAB 1.0 XDMS]	“Converged Address Book XDM Specification”, Version 1.0, Open Mobile Alliance™, OMA-TS-CAB_XDMS-V1_0, URL: http://www.openmobilealliance.org/
[CAB 1.1 AD]	“Converged Address Book Architecture”, Version 1.1, Open Mobile Alliance™, OMA-AD-CAB-V1_1, URL: http://www.openmobilealliance.org/
[CAB 1.1 RD]	“Converged Address Book Requirements”, Version 1.1, Open Mobile Alliance™, OMA-RD-CAB-V1_1, URL: http://www.openmobilealliance.org/
[CAB 1.1 TS]	“Converged Address Book Specification”, Version 1.1, Open Mobile Alliance™, OMA-RD-CAB-V1_1, URL: http://www.openmobilealliance.org/
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2.2 Informative References

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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

Definitions identified in Section 3.2 of [CAB 1.0 XDMS] apply to CAB 1.1 XDMS TS (i.e. this document) with the following additions:

Common Connections	Uses definition from [CAB 1.1 RD].
Favourite Contact	Uses definition from [CAB 1.0 RD].
Global Document	Uses definition from [XDM Core].
PCC Update Document	An XML Document containing updates to the CAB User’s PCC
Service Provider	Uses definition from [OMADICT].
XDCP Request	Uses definition from [XDM Core].
XDM Document	Uses definition from [XDM RD].
XDM Resource	Uses definition from [XDM RD].

3.3 Abbreviations

Abbreviations identified in Section 3.3 of [CAB 1.0 XDMS] apply to CAB 1.1 XDMS TS (i.e. this document) with the following additions:

ACK	Acknowledgement (e.g. to acknowledge or “ack” the receipt of a message).
HTTP	HyperText Transfer Protocol
MIME	Multipurpose Internet Mail Extensions
RSS	Really Simple Syndication (i.e. data feed for publishing frequently updated works – e.g. blog-entries)
UPP	User Preference Profile
URI	Uniform Resource Identifier
URL	Uniform Resource Locator

4. Introduction

The CAB XDMS Technical Specification provides the Application Usages for CAB XDM Documents.

4.1 Version 1.0

CAB XDMS TS version 1.0 supports the following Application Usages:

- AB Application Usage
- PCC Application Usage
- CAB User Preferences Application Usage
- CAB Feature Handler Application Usage

4.2 Version 1.1

CAB XDMS TS version 1.1 builds on the App Usages specified in [CAB 1.0 XDMS], with no additional (i.e. no new) Application Usages. However, the structures and semantics of the Application Usages have been enhanced with new features included as part of CAB 1.1 Enabler, while remaining backwards compatible with CAB 1.0 Enabler

5. CAB XDM Application Usages

5.1 Address Book

5.1.1 AB Application Usage

5.1.1.1 Structure

The Address Book SHALL conform to the structure described in this sub-clause. The schema definition is provided in sub-clause [5.1.1.3](#) “XML Schema”.

The <address-book> element:

1. MAY contain one or more <contact> elements, each element indicating a Contact Entry.

Each <contact> element SHALL have an ‘id’ attribute and a ‘timestamp’ attribute. The structure of the <contact> element is as follows:

- a) SHALL include one or more child elements of the <pcc> as defined in sub-clause [5.2.1.1](#) “Structure”, with the following clarifications:
 - i The data semantics of the included <pcc> child elements (i.e. <person-details>, <org-details>, and <group-details>) SHALL be supported as described in sub-clause [5.2.1.7](#) “Data Semantics”.
- b) SHALL contain a <contact-status> element, which contains one or more of the following child elements:
 - i zero or one <contact-type> element, which SHALL contain the following child elements:
 1. a <type> element indicating whether the contact is a CAB or Non-CAB User.
 2. zero or one <contact-type-source> elements, indicating the procedure by which the contact type information was obtained. The value for this element is populated by the system and SHALL NOT be displayed to the CAB User.
 - ii zero or one <entry-status> element indicating the type of the entry, and containing either of the following child element types:
 - 1) zero or more <updated> elements, each indicating that the contact has been updated by the CAB Server, as a result of notifications from incoming subscription request(s) and Contact Share data, Contact Subscription, contact import by the contact into his/her address book. The <updated> elements SHALL include ‘ack’ attribute to indicate the whether the <updated> contact has been acknowledged or read by the CAB Client or not.
 - 2) zero or one <temporary> element indicating that the contact is created by the CAB Server, when the contact is not in the User’s AB, and/or the contact requires interaction from CAB User (i.e. Contact Subscription for the cases where the CAB User disabled automatic updates to his/her AB and updates are received from the subscription to a contact’s PCC, contact import, Contact Share by the contact into his/her address book, contact-added, suggested contact data, incoming subscription invite, incoming subscription request, and deleted contact information). The <temporary> elements MAY include a ‘contactIdRef’ attribute. The <temporary> elements SHALL include ‘accept’ attribute to indicate whether the CAB Client has accepted or rejected the <temporary> contact. It MAY also include an ‘invite-message’ attribute to indicate the invitation message when the temporary element represents an incoming subscription invite.
 - iii zero or one <contact-subscription-status> element, indicating the outgoing subscription status for this contact;
 - iv zero or one <contact-source> element, indicating the latest source from which the contact data was obtained or updated;

- v zero or one <common-connections> element, indicating the list of Common Connections associated with this contact. It SHALL include one or more <connection> elements with each identifying a Common Connection.

Each <connection> element:

- 1) SHALL include a <display-name> element indicating the display name of the Common Connection
- 2) SHALL include a <XUI> element indicating the XUI of the Common Connection.
- 3) SHALL include a <type-list> element indicating a list of Common Connection types for this contact. The <type-list> SHALL contain one or more <type> elements, each indicating a type of Common Connection.

- vi zero or one <service-suggestions> element, indicating the list of relevant service suggestions associated with this contact, which are provided by the Service Provider. It SHALL include one or more <suggestion> elements, each indicating a single service suggestion.

Each <suggestion> element:

- 1) SHALL include a <description> element indicating a free-text description of the suggested service
- 2) MAY include a <label> element indicating the name of the suggested service
- 3) MAY include a <url> element indicating a URL of the suggested service
- 4) MAY include an <address> element indicating the address and/or location of the suggested service

The structure and data semantics of the <address> element SHALL be supported as described in sub-clause [5.2.1.7](#) “Data Semantics”.

- 5) MAY include an <comm-addr> element indicating the communication address for the suggested service

The structure and data semantics of the <comm-addr> element SHALL be supported as described in sub-clause [5.2.1.7](#) “Data Semantics”.

- 6) MAY include a <icon> element indicating a URL of the service icon representing the suggested service
- 7) MAY include an <expiration> element indicating the validity period expressed as an absolute time, of the suggested service.

- vii zero or one <public-content> element, indicating public content associated with this contact, which is provided by the Service Provider. It SHALL include one or more <content-entry> elements with each indicating a public content entry.

Each <content-entry> element:

- 1) SHALL include a <type> element indicating the type of public content (e.g. blog, RSS, news, etc)
- 2) SHALL include a <url> element indicating the URL to the public content entry
- 3) MAY include a <title> element indicating the title of the public content entry
- 4) MAY include a <source> element indicating the source of the public content entry
- 5) MAY include a <time> element indicating the date and time of the public content entry

- c) MAY contain a <favourite> element to indicate Favourite Contacts. A <favourite> element:

- i SHALL include a <list> element which contains a sequence of one or more <favourite-type> elements as defined in sub-clause [5.1.1.7](#) “Data Semantics”.

5.1.1.2 Application Unique ID

The AUID SHALL be “org.openmobilealliance.cab-address-book”.

5.1.1.3 XML Schema

The AB Document SHALL conform to the XML schema described in [XSD_cab_1.1_AB].

5.1.1.4 Default Namespace

The AB Document default element namespace is "urn:oma:xml:cab:address-book".

5.1.1.5 MIME Type

The MIME type for the Address Book document SHALL be “application/vnd.oma.cab-address-book+xml”.

5.1.1.6 Validation Constraints

The child elements person-details, organization-details, and group-details elements of the <contact> parent element can occur zero or an unbounded number of times. The child <contact-status> element of the <contact> element can occur zero or one time. If this constraint is violated, 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 to “Cardinality of this element is exceeded”, and the name of the element SHALL be included, as well.

The child elements of the <contact-status> can appear zero or one time. If this constraint is violated, 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 to “Cardinality of this element is exceeded”, and the name of the element SHALL be included, as well.

In the <entry-status> element, the child element <updated> can appear zero or an unbounded number of times. The child element <temporary> can appear zero or one times. If this constraint is violated, 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 to “Cardinality of this element is exceeded”, and the name of the element SHALL be included, as well.

The value of the ‘id’ attribute of a <contact> element generated by the XDM Agent in the CAB Server SHALL be unique within the AB Document. The AB Application Usage SHALL ensure the uniqueness of the ‘id’ attribute as defined in sub-clause 5.2.1.7 “Data Semantics”. If this ‘id’ attribute value is not unique or does not conform to any local policy, the AB Application Usage SHALL respond with an error to the XDM Agent in the CAB Server as specified in [XDM Core] sub-clause 6.2.1 “Document Management”.

5.1.1.7 Data Semantics

The ‘id’ attribute of a <contact> element is a “token” and unique across all <contact> elements within an <address-book>. It SHALL be generated by the CAB Server.

The ‘timestamp’ attribute of a <contact> element indicates the time when the contact was created or last modified. It SHALL be generated by the CAB Server, and is of type ‘dateTime’.

Contact Type:

If the contact is a Non-CAB User, then the <contact-type> element SHALL NOT be present. The <type> element is of type String. If the contact is a CAB User, then the value of the <type> element SHALL be set to “CAB”.

The <contact-type-source> element is of type String. If present, the element SHALL have one of following possible values:

Value	Definition
“presence”	indicates that the contact type information was obtained by means of the Presence Enabler
“cab_subscription”	indicates that the contact type information was obtained by means of the

	subscription to that contact's PCC
"cab_search"	indicates that the contact type information was obtained by means of a search
"other"	indicates that the contact type information was obtained by other means, not specified by this specification.

Table 1: <contact-type-source> element values**Contact Entry Status:**

If the <entry-status> element is not present, the Contact Entry is considered to be in normal state.

The <updated> element value is of type "String", and SHALL include one of the following enumeration values:

Value	Definition
incoming subscription request	value indicates that an incoming subscription request is received from the associated contact (that is a CAB User).
contact subscription	value indicates that the contact was updated as a result of outgoing Contact Subscription updates
contact imported	value indicates that the contact was updated as a result of importing non-CAB data
contact share	value indicates that accepted contact share data received has resulted in an updated Contact Entry.

Table 2 : <updated> element values

The 'ack' attribute value is of type "Boolean" with one of the following values:

true – to indicate that CAB Client has acknowledged the <updated> contact

false – to indicate that CAB Client has not acknowledged the <updated> contact. The default value is 'false'.

The <temporary> element value is of type "String" and SHALL include one of the following enumeration values:

Value	Definition
contact subscription	Value indicates that the contact was created as a result of outgoing Contact Subscription updates
contact imported	Value indicates that the contact was created as a result of importing non-CAB data
incoming subscription request	Value indicates that the contact was created as result of incoming subscription request from another CAB User.
incoming subscription invite	Value indicates that the contact was created as a result of a received subscription invitation from another CAB User.
contact share	Value indicates that contact share data that was received needs to be confirmed and has resulted in a temporary Contact Entry.
contact added	Value indicates that the contact was created as a result of 'contact-added' operation, and the contact that has added the CAB User to his/her AB is not already present in the CAB User's AB.
suggested	Value indicates that the contact represents suggested data provided by the Service Provider.

deleted	Value indicates that the contact was marked 'deleted' as a result of a deleted operation
---------	--

Table 3 : <temporary> element values

The 'accept' attribute value is of type "String" and SHALL be set to one of the following values: "yes" or "no".

yes – to indicate that the CAB User has accepted the <temporary> contact.

no – to indicate that the CAB User has rejected the <temporary> contact.

The 'contactIdRef' attribute is of type "String". In the case where <temporary> element is used for user interaction, this attribute indicates a reference to the Contact Entry to which the temporary contact <entry-status> is associated with. It SHALL be set to a valid reference i.e. to an 'id' attribute value of the existing <contact> element.

The 'invite-message' attribute is of type "String", and represents the invitation message (in free-text form) associated with the received subscription invitation.

Contact Subscription Status:

The <contact-subscription-status> element is of type String. If the element is not present, it implies that there is no Contact Subscription to this contact that has been setup. If present, the element SHALL have one of following possible values based on the [RFC3265] sub-clause 3.2.2 "Notifier NOTIFY Behavior" and extended with the following additions and clarifications:

Value	Definition
"active"	value indicates that the subscription has been accepted and has been authorized by the contact;
"pending"	value indicates that the subscription has been received, but that the information in contact's PCC Access Permissions is insufficient to accept or deny the subscription at this time.
"denied"	value indicates that the subscription is not active since it is not allowed by the access permission or service provider policy. The value "terminated" from [RFC3265] MAY be mapped to this value.
"invalid_filter"	value indicates an invalid filter-set element
"not_found"	value indicates the subscription is not active since the target contact could not be identified as a CAB User. The value "terminated" from [RFC3265] MAY be mapped to this value.
"other_error"	value indicates that the subscription is not active. The value "terminated" from [RFC3265] MAY be mapped to this value.

Table 4: <contact-subscription-status> element values

Contact Source:

The <contact-source> element SHALL indicate the source from which the contact data was obtained or updated (e.g. name of the external source) and it is of type "String". If the element is not present, the contact source is CAB.

Common Connections:

The <display-name> element is of type 'String'.

The <XUI> element is of type 'anyURI' and SHALL be a valid XUI of the connection.

The <type> element is of type 'String' and SHALL include one of the following enumerations:

Value	Definition
address book	Value indicates a Common Connection of type 'address book'. This indicates a connection wherein a contact is present in both the CAB User's AB and this contact's AB.
watcher	Value indicates a Common Connection of type 'watcher'. This indicates a connection wherein a contact is subscribed to (or 'watching') both the CAB User and this contact.
contact-added-mutual	Value indicates a Common Connection of type 'contact-added-mutual'. This indicates a connection wherein this contact has added the CAB User to his/her AB and implies that the contact and the CAB User have mutually added each other to their address books.
contact-added-non-mutual	Value indicates a Common Connection of type 'contact-added-non-mutual'. This indicates a connection wherein this contact has not added the CAB User to his/her AB, and implies that the contact and the CAB User have not mutually added each other to their address books. This is the default value.

Table 5: <type> element values

Service Suggestions:

The <description> and <label> elements are of type 'String'.

The <url> and <icon> elements are of type 'anyURI'.

The <expiration> element is of type 'dateTime'.

Public Content:

The <type> element is of type "String" and SHALL include one of the following enumerations: "rss", "blog", "news", "other".

The <url> is of type 'anyURI'.

The <title> and <source> elements are of type "String".

The <time> element is of type 'dateTime'.

Favourite Contacts:

The value of <favourite-type> element is of type "String".

Note: the value supplied for the <favourite-type> element is out of scope.

5.1.1.8 Naming conventions

There SHALL be only one AB Document per XUI. The name of the AB Document SHALL be "address-book.xml".

5.1.1.9 Global Documents

This Application Usage defines no Global Document.

5.1.1.10 Resource interdependencies

This Application Usage defines no resource interdependencies.

5.1.1.11 Access Permissions

The Access Permissions for manipulating AB Documents, i.e. create, delete, retrieve and modify, SHALL conform to [XDM Core] sub-clause 5.6 “*Access Permissions Document*”

The Access Permissions document SHALL conform to [XDM Core] sub-clause 5.6 “*Access Permissions Document*” with the following restrictions:

1. The <document-rule> element SHALL include a “path” attribute specifying the AB Document Selector for which the rule applies
2. The <actions> child element of <rule> element SHALL only include the <allow-any-operation-own-data> element or/and the <allow-retrieve> element and/or the <allow-modify> element and/or <allow-delete> element as specified in [XDM Core] sub-clause 5.6.1 “*Structure*”.

By default, the Access Permissions document SHALL contain full access rights to the AB Document for the CAB User (owner) and the CAB Server.

The ‘xui-type’ attribute SHALL be set to read-only, as it transparently reflects the value received from contact’s PCC structure. However, the ‘xui-type’ attribute may also be modified by the CAB Server when the contact is identified to be a CAB User, prior to an established contact subscription e.g. when a new contact is added to the AB and the <contact-type> is determined to be of type ‘CAB’.

5.1.1.12 Search Capabilities

The AB Application Usage SHALL support Search Requests on the AB Documents and the following rules apply in addition to the procedures defined in [XDM Core]:

1. support a collection “org.openmobilealliance.cab-address-book/users/[XUI]/AB” where [XUI] represents the XUI of a CAB User and AB represents the Address Book document name, subject to Access Permissions as specified in sub-clause [5.1.1.11](#) “*Access Permissions*”.
2. The basic XQuery expression [XDM Core] supported by the AB Application Usage SHALL be as follows:

```
xquery version "1.0";
declare default element namespace "urn:oma:xml:cab:-address-book";
```

All Search Requests that do not comply with the basic XQuery expression as defined in this chapter SHALL be responded to with an HTTP “409 Conflict” error response as defined by [XDM Core].

5.1.1.13 XDM Preferences Document

The AB Application Usage SHALL support XDM Preferences Document as described in [XDM Core] section 5.8 “*XDM Preferences Document*” if it supports Forwarding as described in sub-clause [5.1.1.15](#) “*Forwarding*”.

5.1.1.14 History Information Document

The AB Application Usage SHALL support a Request History Information document as described in [XDM Core], sub-clause 5.7.2 “*Request History Information Document*” for an AB Document.

The AB Application Usage SHALL support a Modification History Documents as described in [OMA XDM Core], sub-clause 5.7.1 “*Modification History Information Document*” for an AB Document.

5.1.1.15 Forwarding

The AB Application Usage SHALL support forwarding of AB Document as specified in [XDM Core] sub-clause 6.1.1.3.2 “*XDM Resource Forwarding Operations*”. The AB Application Usage SHALL support forwarding of one or more Contact Entries

The AB Application on the receiving side SHALL handle the received Forward XDCCP Request as specified in [XDM Core], sub-clause 6.1.1.3.2 “*XDM Resource Forwarding Operations*” with the following clarifications:

- SHALL update the AB Document of the recipient by storing the received contact shared data (i.e. AB Data) into a <contact> element and setting the <updated> element of the <contact-status> to the value “contact share”, if the preference set by the CAB User in the XDM Preferences Document is “accept”.
- SHALL update the AB Document of the recipient by stroing the received contact shared data (i.e. AB Data) into a <contact> and setting <temporary> child element of the <contact-status> to the value “contact share”, if the preference set by the CAB User in the XDM Preferences Document is “confirm”.

5.1.1.16 Document Reference

The AB Application Usage MAY support Document Reference of an AB document as described in [XDM_Core] sub-clause 6.2.6.1 “Document Reference”.

5.1.1.17 Restore

The AB Application Usage SHALL support restore of an AB Document as described in [XDM Core] sub-clause 6.2.6.5 “XDM Restore”.

5.2 PCC

5.2.1 PCC Application Usage

5.2.1.1 Structure

The PCC Document SHALL conform to the structure of the CAB PCC Document described in this sub-clause. The XML schema definition is provided in sub-clause [5.2.1.3](#).

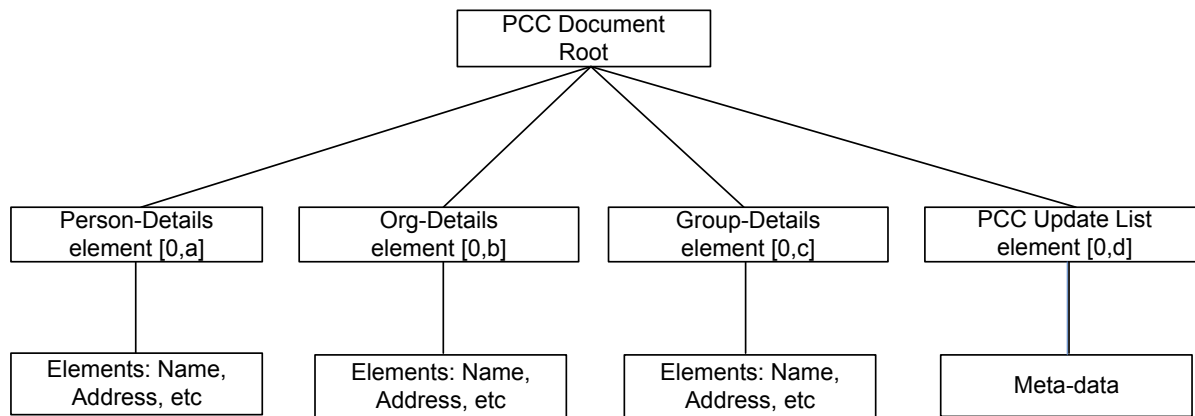


Figure 1: High Level PCC Document Schema

The <pcc> document SHALL be populated with <person-details>, <org-details>, and/or <group-details> elements in accordance with sub-clause [5.2.1.7](#) “Data Semantics” for the ‘pcc-type’ attribute. Each detail element represents the information pertinent to a known entity. The <pcc> document MAY also include a <pcc-update-list> element that contains meta-data containing references to PCC Update Document e.g. as a result of External Profile requests such as Import of External Profile and Subscription of External Profile as described in sub-clause 5.4.1 “CAB Feature Handler Application Usage”. The PCC Update Document SHALL be stored in the CAB User’s Tree of the PCC XDMS, separate from the PCC Document.

The document SHALL include one root element <pcc> that SHALL have a 'pcc-type' attribute. All elements of PCC Document MAY support an 'xml:lang' attribute as specified in [W3C-XML], sub-clause 2.12 "*Language Identification*" and [RFC5645], [RFC5646], unless specified otherwise in the structure below. The language associated by 'xml:lang' attribute to a parent element applies to all its child elements unless overridden with another 'xml:lang' attribute to a child elements.

The structure of the <person-details>, <org-details>, and <group-details> elements are as follows:

1. The <person-details> element SHALL have an 'index' attribute. The structure of the element is as follows:
 - a) SHALL include one or more <name> element(s), each containing one or more <name-entry> elements and an "index" attribute. Each <name-entry> element contains a set of child elements, MAY include 'pref', and/or 'name-type' attribute(s) and SHALL have an 'index' attribute. The <name-entry> element contains one or more of the elements below as follows:
 - i. zero or more <title> elements, indicating the title (e.g., Mr., Ms., Miss.). This element SHALL have a 'display-order' attribute, which provides the order of the title elements. Each <title> element MAY have:
 - i. a <phonetic> element, indicating the phonetic spelling (e.g., pinyin) of the title. This element SHALL have an 'xml:lang' attribute, which SHALL identify the appropriate phonetic;
 - ii. zero or more <given> elements, indicating the given name. This element SHALL have a 'display-order' attribute, which provides the order of the given elements. Each <given> element MAY have:
 - i. a <phonetic> element, indicating the phonetic spelling (e.g., pinyin) of the given name. This element SHALL have an 'xml:lang' attribute, which SHALL identify the appropriate phonetic;
 - iii. zero or more <middle> elements, indicating the middle name. This element SHALL have a 'display-order' attribute, which provides the order of the title elements. Each <middle> element MAY have:
 - i. a <phonetic> element, indicating the phonetic spelling (e.g., pinyin) of the middle name. This element SHALL have an 'xml:lang' attribute, which SHALL identify the appropriate phonetic;
 - iv. zero or more <family> elements, indicating the family name. This element SHALL have an 'display-order' attribute, which provides the order of the family elements. Each <family> element MAY have:
 - i. a <phonetic> element, indicating the phonetic spelling (e.g., pinyin) of the family name. This element SHALL have an 'xml:lang' attribute, which SHALL identify the appropriate phonetic;
 - v. zero or more or more <gen-id> elements, indicating the generation identifier (e.g., Jr., Sr., III). This element SHALL have a 'display-order' attribute, which provides the order of the generation identifiers. Each <gen-id> element MAY have:
 - i. a <phonetic> element, indicating the phonetic spelling (e.g., pinyin) of the generation identifier. This element SHALL have an 'xml:lang' attribute, which SHALL identify the appropriate phonetic;
 - vi. zero or more <degree> elements, indicating the degree/license (e.g., PhD, MD, RN, CPA). This element SHALL have an 'display-order' attribute, which provides the order of the degrees/licenses elements. Each <degree> element MAY have:
 - i. a <phonetic> element, indicating the phonetic spelling (e.g., pinyin) of the degree name. This element SHALL have an 'xml:lang' attribute, which SHALL identify the appropriate phonetic;
 - vii. one <display-name> element, indicating the display name associated with this name.
 - b) MAY include an <address> element containing one or more <address-entry> elements, each representing physical address. The <address-entry> element SHALL have an 'index', and MAY contain a 'pref' and an 'addr-type' attribute. Each <address-entry> element MAY contain:
 - i. a <location> element, indicating location information related to this address. For structure of <location> element, see structure of the <location> element (below);
 - ii. a <label> element, containing a free-text description of the address;

Each <address-entry> element SHALL also contain one of the following:

- i. an <addr-string> element, containing a free-text representation of the address in one String;
- ii. an <addr-details> structure, that MAY contain the following elements:
 - 1) a <country> element, corresponding to the country in which this address is located;
 - 2) a <region> element, corresponding to the region (e.g., state, province...) and sub-region in which the address is located. The <region> element:
 - (a) SHALL contain a <region-name> element which SHALL have a 'region-type' attribute; and
 - (b) MAY contain a <sub-region> element that SHALL have a 'sub-region-type' attribute.
 - 3) a <locality> element, which represents the locality in which this address is located (e.g. city, town...). The element:
 - (a) SHALL contain a <locality-name> element that SHALL have a 'locality-type' attribute that indicates the type of the locality (e.g. town, suburb) and
 - (b) MAY have a <sub-locality> element (e.g., municipality, village), if needed, that SHALL have a 'sub-locality-type' attribute.
 - 4) a <street> element, which represents street name and additional detailed information. The <street> element:
 - (a) SHALL contain a <str-name> element, indicating the street name
 - (b) SHALL contain a <str-number> element, indicating the street number
 - (c) MAY contain an <intersection> element, indicating additional information related to the street and:
 - (i) SHALL contain an <int-name> element, indicating the intersecting street name
 - (ii) MAY contain an <int-number> element, indicating the intersecting street number.
 - 5) a <post-code> element, which represents the code for postal delivery (e.g., ZIP code) for this address. The <post-code> element:
 - (a) SHALL contain a <post-code-main> element
 - (b) MAY contain a <sub-post-code> element
 - 6) a <postal-delivery-point> element, which represents delivery point information for this address (e.g., P.O. Box). The <postal-delivery-point> element SHALL contain:
 - (a) one or more <postal-delivery-point-name> elements, each SHALL have an 'index' and MAY have a 'pref' attribute.
 - 7) a <post-office> element, which represents delivery point and pickup information for this address (e.g., a post office containing post office boxes or personal mail boxes). The <post-office> element contains the following
 - (a) one or more <postal-office-name> elements, each SHALL have an 'index' and MAY have a 'pref' attribute.
 - 8) a <rural-delivery-point> element that represents delivery point information for this address (e.g., name of a farm or rural area). The <rural-delivery-point> element contains the following
 - (a) one or more <rural-delivery-name> elements, each SHALL have an 'index' and MAY have a 'pref' attribute.
 - 9) One or more <extended-address> elements, which represents additional addressing information, and SHALL have an 'index' attribute. The element contains the following:
 - (a) A <premises> element, which SHALL have a 'premises-type' attribute and indicates the subdivision of the locality in which this address is located (e.g. apartment number, floor,

neighbourhood, etc.). The <premises> element SHALL contain at least one of the following elements:

- (i) a <premises-name> element,
- (ii) a <premises-number> element,
- (iii) and it MAY contain a <sub-premises> element. The <sub-premises> element SHALL have a 'sub-premises-type' attribute and it MAY contain if needed a sequence of <sub-premises-name> and <sub-premises-number> elements.

c) MAY include a <location> element that MAY include:

- i. a <location-label> element, describing the location information using free text.
- ii. a <latitude> element, indicating the latitude. This element SHALL contain the following:
 - 1) a <degrees-measure> element
 - 2) a <minutes-measure> element
 - 3) a <seconds-measure> element
 - 4) a <lat-sign> element
- iii. a <longitude> element, indicating the longitude. The element SHALL contain the following:
 - 1) a <degrees-measure> element
 - 2) a <minutes-measure> element
 - 3) a <seconds-measure> element
 - 4) a <long-sign> element
- iv. an <altitude> element, indicating the altitude of the location. The element SHALL contain:
 - 1) a <meters-measure> element
 - 2) an <alt-sign> element
- v. a <time-zone> element contains the time zone information associated with the location. This element MAY have the following child elements:
 - 1) a <tz-label> element that contains the description of the time zone
 - 2) a <utc-offset> element representing the time offset from UTC
 - 3) a <tz-url> element pointing to the location where the detailed time zone information is stored

d) SHALL include a <comm-addr> element containing communication addresses, with at least one of the <addr-uri> or <tel> element corresponding to the CAB XUI.

The <comm-addr> element MAY include the following child elements:

- i. zero or more <uri-entry> elements, each of which SHALL have an 'addr-uri-type' and 'index' attributes, MAY have 'pref' attributes. Each <uri-entry> element:
 - 1) SHALL contain a <addr-uri> element containing a URI of a communication means of the CAB User. If the <addr-uri> element is a 'SIP URI' and it is used as an XUI, then the element SHALL have a 'xui-type' attribute.
 - 2) MAY contain a <label> element that provides text based description of the communication address URI.

- ii. zero or more <tel> elements, each indicating one telephone number associated with the CAB User. If one of the <tel> elements is used as an XUI, then that element SHALL have an 'xui-type' attribute. Each <tel> element SHALL have 'index' and 'tel-type' attributes, and MAY have a 'pref' attribute. The <tel> element:
 - 1) SHALL contain a <tel-nb> element,
 - 2) MAY contain an <extension> element that represents a PBX extension.
 - 3) MAY have a <label> element that provides descriptive information of the communication address.The <tel-nb> element SHALL contain one of the following structures:
 - 1) a <tel-str> element, containing the telephone number in String format,
 - 2) a <tel-uri> element containing a tel URI formatted telephone number,
 - 3) a <E.164> element containing a parsed structure:
 - (a) MAY contain an <intl-prefix-symbols> element, indicating a string that is an international prefix symbol,
 - (b) MAY contain a <cc> element, indicating the country code,
 - (c) MAY contain a <ndc>, indicating the national destination code or area code,
 - (d) SHALL contain a <sn>, indicating the subscriber number,
- e) MAY include one <birth> element. The element SHALL contain at least one of the following:
 - i. MAY have a <birth-date> element, indicating the date of birth. Each <birth-date> element contains:
 - 1) zero or one <date> elements, representing the Gregorian calendar, and
 - 2) zero or more <non-greg-date> elements. The <non-greg-date> element represents any calendar type that is not Gregorian and SHALL contain a 'cal-type' attribute that indicates the calendar type applied to each <birth-date> element instance (e.g., Bengali, Chinese, etc) and an 'index' attribute.
 - ii. one or more <place> elements, each containing the user's birthplace in different languages or names. Each <place> element SHALL have an 'index' attribute.
- f) MAY include an <anniversary-list> element containing one or more child <anniversary-entry> elements of dates related to the user, such as marriage, etc. Each <anniversary-entry> element SHALL have an 'index' attribute. Each <anniversary-entry> element:
 - i. SHALL have an <anniversary-date> element, indicating the date of the anniversary. Each <anniversary-date> element contains
 - 1) zero or one <date> element representing Gregorian type calendar, and
 - 2) zero or more <non-greg-date> element. The <non-greg-date> element represents any calendar type that is not Gregorian and SHALL contain a 'cal-type' attribute that indicates the calendar type applied to each <anniversary-date> element instance (e.g., Bengali, Chinese, etc) and an 'index' attribute.
 - ii. MAY have a <label> element, indicating the anniversary name.
- g) MAY include one <gender> element, containing the gender of the CAB user.
- h) MAY include a <language-list> element containing one or more <language-entry> elements.

- i. Each <language-entry> element MAY have a 'language-proficiency-type' and 'language-fluency-type' attributes, it SHALL have a 'index' attribute. Each <language-entry> element indicates a description of the language;
- i) MAY include a <media-list> element containing one or more <media-entry> elements.
 - i. Each <media-entry> element SHALL have a 'media-content' attribute, MAY have a 'media-type' attribute, SHALL have an 'index' attribute, MAY have a 'pref' attribute.
Each <media-entry> element:
 - 1) SHALL contain a <media> element that contains either the media content, or a URI that references the media content.
 - 2) MAY contain a <label> element containing a description of the media.
- j) MAY include a <category-list> element of one or more <category-entry> elements.
 - i. Each <category-entry> element contains a description of the category, SHALL have an 'index' attribute.
- k) MAY include a <web-resources> element that contains one or more <web-entry> elements.
 - i. Each <web-entry> element SHALL have an 'index' attribute. This element:
 - 1) SHALL contain a <url> element with the Uniform Resource Locator associated to the user.
 - 2) MAY contain a <label> element, containing the name assigned to the uniform resource locator.
- l) MAY include a <key-list> element that includes one or more <key-entry> elements. Each <key-entry> element SHALL have 'key-type' and 'index' attributes. Each <key-entry>:
 - i. SHALL contain a <key> element with a public key or authentication certificate,
 - ii. MAY contain a <label> element containing the name assigned to the specific public key or authentication certificate
- m) MAY include a <service-list> element, which includes:
 - i. one or more <service-entry> elements which SHALL have an 'index' attribute. Each <service-entry> element MAY contain:
 - 1) a <label> element indicating a free-text description of the service,
 - 2) an <alias> element, indicating the alias identifier string used for a service,
 - 3) a <url> element, indicating the URL pointing to the service resource.
- n) MAY include an <expertise-list> element containing a listing of the areas of expertise, which include :
 - i. one or more <expertise-entry> elements and each element MAY have an 'e-level' attribute that ranks the multiple <expertise-entry> elements. The element SHALL have an 'index' attribute.
- o) MAY include a <hobby-list> element containing one or more <hobby-entry> elements.
 - i. Each <hobby-entry> element SHALL have an 'index' attribute, and MAY have an 'h-level' attribute. Each of these elements contains a string based text description of the hobby.

- p) MAY include an <interests-list> element containing one or more <interest-entry> elements.
- i. Each <interest> element SHALL have an 'index' attribute, and MAY have an 'i-level' attribute. Each of these elements contains a string based text description of the current interests.
- q) MAY include a <career-history> element, containing one or more <history-entry> elements that SHALL have an 'index' attribute. Each <history-entry> element MAY have a 'history-type' that describes a qualification, school, certification, occupation, license, etc:
- i. SHALL include a <history-description> element indicating a free-text description of a career history.
 - ii. MAY contain a <start-date> element that MAY have a 'cal-type' attribute. This element describes the start of the history entry
 - iii. MAY contain a <end-date> element that MAY have a 'cal-type' attribute. This element describes the end date of the history entry.
- r) MAY include one <note> element containing free-style information stored by the CAB User.
- s) MAY include a <service-provider-specific-list> elements containing free style information regarding to the CAB user defined by the operator. It SHALL contain one or more <sp-specific-entry> elements that SHALL have an 'index' attribute. Each <sp-specific-entry> element:
- i. SHALL include <sp-specific-label> element to describe the nature of this information.
 - ii. SHALL include <sp-data> element that contains any information defined by the Service Provider.
- t) MAY include a <organization-list> element describing the list of organizations associated with this <person-details>. It SHALL include one or more <organization-entry> elements that SHALL have an 'index' attribute, and MAY include a 'pref' attribute.
- Each <organization-entry> element:
- i. SHALL include a <display-name> element, containing the display name of the organization
 - ii. MAY include an <entity> element, indicating the official company or an organization name.
 - iii. MAY include a <unit> element, indicating a subdivision of the organization entity.
 - iv. MAY include a <position> element, indicating a position within the organization entity.
 - v. MAY include a <role> element, indicating a role of the member within the organization entity
 - vi. MAY include a <url> element, indicating the URL representing the organization.
- u) MAY include a <group-list> element describing the list of groups associated with this <person-details>. It SHALL include one or more <group-entry> elements that SHALL have an 'index' attribute, and MAY include a 'pref' attribute.
- Each <group-entry> element:
- i. SHALL include a <display-name> element, containing the display name of the group
 - ii. MAY include an <entity> element, indicating the official group name.
 - iii. MAY include a <url> element, indicating the URL representing the group.
- v) MAY include a <net-storage-content-list> element that contains one or more <net-storage-content-entry> elements, each representing meta-information to identify personal content stored in external network repositories.
- Each <net-storage-content-entry> element SHALL contain an 'index' attribute, and:
- i. SHALL contain a <url> element with the Uniform Resource Locator associated to the network storage service.
 - ii. MAY contain a <label> element, containing the name assigned to the uniform resource locator.

- iii. MAY contain a <file-list> element, containing a file list responding to the contents stored in above network storage service. It SHALL contain one or more <file-list-entry> elements, each indicating a file stored in the network storage service and SHALL have an 'index' attribute.

Each <file-list-entry> element:

- 1) SHALL contain a <file-name> element, indicating the file name;
- 2) SHALL have a <file-path> element, indicating the file path relative to the service url;
- 3) MAY contain a 'content-type' attribute to indicate the content type associate with the file;
- 4) MAY contain a <creation-time> element corresponding to when the content was initially stored in the network storage service;
- 5) MAY contain an <expiration-time> element corresponding to when the content will become unavailable from the network storage service.

- w) Any other elements from any other namespaces for the purpose of extensibility.

2. The <org-details> element represents organization details and SHALL have an 'index' attribute. The structure of the element is as follows:

- a) SHALL include one or more <org-name> element(s), each containing child elements. The <org-name> element SHALL include an 'index' attribute and MAY include 'pref', and/or 'org-name-type' attribute(s). The <org-name> element SHALL include at least one of the following elements:
 - i. a <display-name> element, containing the display name.
 - ii. an <entity> element, indicating a company or an organization name.
 - iii. a <unit> element, indicating a subdivision of the organization entity.
- b) MAY include an <org-members-list> element that includes one or more <org-member> elements, each element containing person related information. The <org-member> element SHALL have an 'index' attribute.

Each <org-member> element:

- i. SHALL contain a <member-details-url> element, which is a URL identifying person related information. The <member-details-url> element MAY have an attribute "mime-type". If the reference is of type <person-details> element or of type <org-details> element, the attribute value SHALL be "application/vnd.oma.cab-pcc+xml".
- ii. MAY contain a <position> element, indicating a position of the member within the organization entity.
- iii. MAY contain a <role> element, indicating a role of the member within the organization entity.
- c) MAY include an <org-directory> element that indicates the URI of the organization directory information.
- d) MAY include a <comm-addr> element containing communication addresses of the organization (see <person-details> element as specified above for the attributes and internal structure of the <comm-addr> element).
- e) MAY include a <media-list> element containing media that is related to the organization (see <person-details> element specified above for the attributes and internal structure of <media-list> element).
- f) MAY include a <web-resources> element containing web information related to the organization (see <person-details> element specified above for the attributes and internal structure of the <web-resources> element).
- g) MAY include a <key-list> element containing public key or authentication certificate information related to the organization (see <person-details> element as specified above for the attributes and internal structure of the <key-list> element).
- h) Any other elements from any other namespaces for the purpose of extensibility.

3. The <group-details> element SHALL have an 'index' attribute. The structure of the element is as follows:

- a) SHALL include one or more <group-name> elements, each containing child elements. The <group-name> element SHALL have an 'index' attribute and MAY include a 'pref' attribute.

The <group-name> element SHALL include at least one of the following elements:

- i. a <display-name> element, containing the display name.
 - ii. an <entity> element, indicating a description of the group
- b) MAY include a <group-members-list> element containing one or more <group-member> elements, each of which identifies person or organization related information. The <group-member> SHALL have an 'index' attribute.

Each <group-member> element:

- i. SHALL contain < member-details-url> element, which is a URL identifying person or organization related information. The <member-details-url> element MAY have an attribute "mime-type". If the reference is of type <person-details> element or of type <org-details> element, the attribute value SHALL be "application/vnd.oma.cab-pcc+xml".
- c) MAY include a <group-uri> element that indicates the URI to the group data.
- d) MAY include <comm-addr> element containing communication addresses related to the group (see <person-details> element as specified above for the attributes and internal structure of the <comm-addr> element).
- e) MAY include a <media-list> element related to the group (see <person-details> element as specified above for the attributes and internal structure of the <media-list> element).
- f) MAY include a <web-resources> element related to the group (see <person-details> element as specified above for the attributes and internal structure of the <web-resources> element).
- g) MAY include a <key-list> element related to the group (see <person-details> element as specified above for the attributes and internal structure of the <key-list> element).
- h) Any other elements from any other namespaces for the purpose of extensibility.

Note: The group-details element can be used to implement a list of contacts.

4. The <pcc-update-list> element represents a list of updates to PCC Document. It SHALL include one or more <pcc-update> elements, each representing a reference to a PCC Update Document, and SHALL have an 'index' attribute.

Each <pcc-update> element

- a) SHALL include a <update-ref> element indicating the reference to the actual PCC Update Document;
- b) SHALL include a <update-type> element indicating the type of update that resulted in the creation of the PCC Update Document;
- c) SHALL include a <update-source> element indicating the source name from which the PCC Update Document was created;
- d) SHALL include a <time-stamp> element indicating the time when the PCC Update Document was created; and
- e) SHALL include a <approval-type> element indicating the type of update.

5. Any other elements from any other namespaces for the purpose of extensibility.

The PCC document MAY include a 'view-type' attribute on any element under the root <pcc> element which is used to associate the corresponding element of the PCC to one or more Contact Views. The view type associated by 'view-type' attribute to a parent element applies to all its child elements (by inheritance) unless overridden explicitly with another 'view-type' attribute to a child element, in which case the 'view-type' attribute assigned to the child takes precedence. This association can further be used to filter a subset of PCC data to establish Contact Views. The resulting filtered document SHALL follow the PCC schema and semantics.

See Appendix B "Contact Views" for informative examples describing the realization of Contact Views using filters and the 'view-type' attribute.

5.2.1.2 Application Unique ID

The AUID SHALL be “org.openmobilealliance.cab-pcc”.

5.2.1.3 XML Schema

The PCC Document and PCC Update Document SHALL conform to the XML schema described in [XSD_cab_1.1_PCC].

5.2.1.4 Default Namespace

The PCC Document default element namespace is "urn:oma:xml:cab:pcc".

5.2.1.5 MIME Type

The MIME type for the PCC Document SHALL be “application/vnd.oma.cab-pcc+xml”.

5.2.1.6 Validation Constraints

The child elements of the <pcc> element are the person-details, organization-details, and group-details elements, and these can occur zero or an unbounded number of times.

The cardinality of the person-details, org-details, and group-details elements behave in highly similar ways, as follows:

- The <name> child element of the person-details element SHALL occur one or more times. The <comm-addr> child elements of the person-details element SHALL occur one time. The other child elements of the person-details elements occur zero or one time. If these constraints are violated, 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 to “Cardinality of this element is exceeded”, and the name of the element SHALL be included, as well.
- The <org-name> and <comm.-addr> child elements of the org-details elements SHALL occur one time. The other child elements of the org-details elements occur zero or one time. If these constraints are violated, 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 to “Cardinality of this element is exceeded”, and the name of the element SHALL be included, as well.
- The <group-name> and <comm.-addr> child elements of the group-details elements SHALL occur one time. The other child elements of the group-details elements occur zero or one time. If these constraints are violated, 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 to “Cardinality of this element is exceeded”, and the name of the element SHALL be included, as well.

In the <name> element, the <display-name> element occurs one times. The other elements can occur zero or an unbounded number of times. If this constraint is violated, 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 to “Cardinality of this element is exceeded”.

In the <address-entry> element, the <label>, <location>, and <addr-details> elements can appear zero or one time. If this constraint is violated, 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 to “Cardinality of this element is exceeded”, and the name of the element SHALL be included, as well.

In the <org-name> element, the <display-name>, <unit>, and <entity> child elements can appear zero or one time. If this constraint is violated, 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 to “Cardinality of this element is exceeded”, and the name of the element SHALL be included, as well.

In the <group-name> element, the <display-name> and <entity> child elements can appear zero or one time. If this constraint is violated, 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 to “Cardinality of this element is exceeded”, and the name of the element SHALL be included, as well.

The <group-uri> element is mutually exclusive with the <group-members-list> element.

The <org-directory> is mutually exclusive with the <org-members-list> element.

The PCC Application Usage in the CAB XDMS SHALL ensure the uniqueness of the ‘index’ attribute as defined in the sub-class 5.2.1.7 “Data Semantics”. In case of collisions, the CAB XDMS (PCC Application Usage) SHALL send back an error to the CAB Client as specified in [XDM Core] sub-clause 6.2.1 “Document Management”.

The <comm-addr> element SHALL contain only one element with the attribute ‘xui-type’ set to “CAB”. The value of the ‘xui-type’ attribute to “CAB” SHALL only be set by the PCC Application Usage in the CAB XDMS.

The ‘xui-type’ attribute value SHALL be set to “CAB”, if the <addr-uri> or the <tel> element value corresponds to the XUI used in the XCAP URI of the specific CAB User’s PCC in the CAB Users Tree. The value “CAB” assigned to the ‘xui-type’ attribute SHALL appear only once within the <comm-addr>, whether it is assigned to an <addr-uri> or a <tel> element.

5.2.1.7 Data Semantics

The ‘pcc type’ attribute value is set to one of the following enumeration value: “individual”, “organization” and “group”.

If the ‘pcc-type’ attribute is set to:

- a. “individual” then the PCC SHALL have at least one <person-details> element and MAY have zero or more <org-details> and/or <group-details>.
- b. “organization” then the PCC SHALL have one <org-details> element and MAY have zero or more <person-details> elements and zero or more <group-details>.
- c. “group” then the PCC SHALL have one <group-details> element and MAY have zero or more <person-details> elements and zero or more <org-details>.

The ‘pref’ attribute is assigned by the CAB User and it is used to indicate that the corresponding element associated with this attribute is preferred. Its value MUST be an integer between 1 and 100 and quantifies the ranking of elements with multiple occurrences, based on the order of preference. Different occurrences of the same element MUST NOT have the same ‘pref’ attribute value. Lower values correspond to a higher level of preference, “1” being most preferred.

The ‘index’ attribute is a “String” of a child element that must be unique within the parent element of that child element and SHALL be generated by the CAB Client. The CAB Client can use a unique identifier associated with a specific device (e.g. IMEI) in the ‘index’ generation procedure to ensure uniqueness in case of multiple devices.

The ‘view-type’ attribute is of type String and SHALL represent one or more view types with a comma-separated list e.g. “personal”, “personal, work”, “personal, friends, work”.

Person Details:

The <title>, <given>, <family>, <middle>, <gen-id>, <degree>, <phonetic>, and <display-name> element values are of type “String”.

The ‘name-type’ attribute is used to indicate the type of name, and SHALL include one of the following enumerations: “Alias”, “LegalName”, “KnownAs”, “MaidenName”, “FormerName”, “NameAtBirth”, “OfficialName” and “Other”.

The ‘display-order’ attribute value is of type integer and MUST be unique. The value “1” is first.

The ‘addr-type’ attribute SHALL be one of the following enumerations: “Home”, “Work”, “Business”, “Travel” and “Other”.

The <addr-string> element value is of type “String”.

The <country> element SHALL be used to indicate the country using a two-letter “Alpha-2” format, as specified in [ISO3166-1], The <country> element value is of type “String”.

The <tz-label> element value is of type “String”;

The <degrees-measure>, <seconds-measure> and <minutes-measure> element values are of type integers;

The <lat-sign> and <long-sign> element values are of type “String” and values are restricted as follows:

- 1) <lat-sign> element SHALL take one of the following enumerations: “N”, “S”.
- 2) <long-sign> element SHALL take one of the following enumerations: “W”, “E”.
- 3) <alt-sign> element SHALL take one of the following enumerations: “+” indicating above sea level and “-” indicating under sea level.

The <meters-measure> element value is of type “Float” and is specified in meters.

The <utc-offset> element value is of type “Integer”;

The <tz-url> element value is of type “String”, its value is a single URL;

The <region-name> element is of type “String”.

The ‘region-type’ can assume the values: "City", "State", "Territory", "Province" or "Other".

The ‘sub-region-type’ can assume the values: “County”, “District”, “Province”, “Region” and “Other”.

The <sub-region> element value is of type “String”.

The <locality> element value is of type “String”.

The ‘locality-type’ attribute SHALL be one of the following enumeration: “District”, “Municipality”, “PostTown”, “Place”, “Suburb”, “Town”, “City”, “Area”, “Zone” or "Other";

The <sub-locality> element value is of type “String”.

The ‘sub-locality-type’ attribute which can take the values of: “District”, “Municipality”, “Suburb”, “Town”, “City”, “Village” or "Other";

The <str-name> element value is of type “String”.

The <str-number> element value is of type “String”.

The <int-name> element value is of type “String”.

The <int-number> element value is of type “String”.

The <post-code-main> element value is of type “String”.

The <sub-post-code> element value is of type “String”

The <postal-delivery-name> element value is of type “String”.

The <postal-office-name> element value is of type “String”.

The <rural-delivery-name> element value is of type “String”.

The <premises-name>, <premises-number>, <sub-premises-number> and <sub-premises-name> element values are of type “String”.

The ‘premises-type’ attribute SHALL take one of the following enumerations: “Building”, “Floor”, “Apartment-complex”, “Farm” and “Other”.

The ‘sub-premises-type’ attribute SHALL be one of the following enumerations: “Room”, “Suite”, “Apartment”, “Apartment-building”, “Shop”, “Office”, “Unit” and “Other”;

The ‘addr-uri-type’ attribute is of type “String” and SHALL include one or more of the following enumerated values, separated by a white space: “Work”, “Home”, “Fax”, “Mobile”, “Fixed”, “Email”, “Pager”, “SIP-URI”, “IM”, “Pres-URI”, “Video” and “Other”.

The 'tel-type' attribute is of type "String" and SHALL include one or more of the following enumerated values, separated by a white space: "Work", "Home", "Fax", "Mobile", "Fixed", "Email", "Pager", "Video" and "Other".

The 'xui-type' attribute is of type "String" and it SHALL take the "CAB" value when it is associated with CAB.

The <addr-uri> element is of type "anyURI". The syntax of the URI is based on a defining standard, as follows:

- 1) SIP URI as defined in [RFC3261];
- 2) IM URI as defined in [RFC3860];
- 3) Pres URI as defined in [RFC3859];
- 4) Mailto URI as defined in [RFC2368]
- 5) HTTP URI as defined in [RFC2616].

The <tel-str> element is of type "String".

The <tel-uri> is of type "anyURI" and SHALL be defined as specified in [RFC3966];

The <E.164> element is a telephone number in the format defined in [ITU-E.164].

The <cc>, <ndc> and <sn> elements contain numeric string data.

The <intl-prefix-symbols> element contains string data.

The <extension> element value is of type "String";

The <date> element value is of type dateTime.

The <non-greg-date> element value is of type "String".

The <place> element value is of type "String".

The <label> element value is of type "String".

The 'cal-type' attribute is of type "String" and indicates the calendar type. In case the calendar type is included in the following list, the attribute SHOULD take a value from the following enumeration list: "Akan", "Assyrian", "Armenian", "Aztec", "Babylonian", "Bahá'í", "Bengali", "Berber", "Bikram Savat", "Buddhist", "Burmese", "Byzantine", "Celtic", "Chinese", "Coptic", "Egyptian", "Ethiopian", "French Republican", "Germanic", "Hebrew", "Hellenic", "Hindu", "Igbo", "Indian", "Iranian", "Irish", "Islamic", "Japanese", "Javanese", "Juche", "Julian", "Korean", "Kurdish", "Lithuanian", "Malayalam", "Maya", "Nanakshahi", "Nepal Sambat", "Soviet", "Tamil", "Tibetan", "Thai", "Vietnamese", "Xhosa", "Yoruba" and "Other".

Otherwise, the attribute value is set as the name of calendar type in a text form.

The <gender> element value is of type "integer".

- 1) "0" indicates "not known".
- 2) "1" indicates "male"
- 3) "2" indicates "female".
- 4) "3" indicates "other".
- 5) "9" indicates "not applicable"

The <language> element value is of type "String".

The 'language-proficiency-type' attribute SHALL be one of the following enumerations: "read-only" "speak" "read-write"

The 'language-fluency-type' attribute SHALL be one of the following enumerations: "beginner", "average", or "fluent".

The 'media-content' attribute SHALL be one of the following enumerations: "Video", "Photo", "Sound", "Logo" or "Other".

The <media> element contains either a media content of type "base64Binary" or a URI of type "anyURI".

The 'media-type' attribute is of type String and SHALL follow the types specified in [RFC4288], respectfully.

The <category-entry> element value is of type "String".

The <url> element value is of type "anyURI".

The <key> element value is of type either "base64Binary" or "anyURI".

The <alias> element value is of type "String".

The <expertise-entry> value is of type "String". The 'e-level' attribute rates the <expertise> level among multiple occurrences and SHALL be one of the following enumerations: "Beginner", "Average" or "Expert".

The <hobby-entry> element value is of type "String". The 'h-level' attribute value SHALL be one of the following enumerations: "High", "Medium" or "Low".

The <interest> element value is of type "String". The 'i-level' attribute value ranks the <interest> among multiple occurrences and SHALL be one of the following enumerations: "High", "Medium" or "Low".

The <history-description> element value is of type "String".

The 'history-type' attribute SHALL be one of the following enumerations: "School", "Occupation", "Certification", "License", "Qualification", or "Other".

The <start-date> element value is of type "dateTime".

The <end-date> element value is of type "dateTime".

The <note> element value is of type "String".

The <sp-specific-label> element value is of type "String".

The <sp-data> element value is of type "base64Binary".

The <file-name> element is of type "String".

The 'file-path' attribute is of type "String" and SHALL specify the location of the content stored relative to the network storage service.

The 'content-type' attribute is of type "String". The value SHALL follow the definition of 'Content-Type' as specified in [RFC2045].

The <creation-time> and <expiration-time> is of type "Date".

Organization and Group Details:

The 'org-name-type' attribute is used to indicate the type of organization name and SHALL include one of the following enumerations: "LegalName", "FormerName" and "OfficialName".

The <position> and <role> element values are of type "String".

The <org-directory> element value is of type "anyURI".

The <entity> element value is of type "String".

The <member-details-url> element value is of type "anyURI", and identifies a <person-details> type element, a <org-details> element or an "any" type element. Examples of <member-details-url> elements include: An XDM Shared Reference [XDM Core], an XCAP URI [RFC4284], or a reference to a <person-details> or <org-details> element. If internal references within the same PCC document are used, then a relative URI to the XML node is recommended.

The <group-uri> element value is of type “anyURI”.

PCC Update List:

The <update-ref> element value is of type “anyURI” and SHALL point to a valid XCAP URI of the stored PCC Update Document.

The <update-type> element value is of type “String”, and SHALL be one of the following values:

- ‘import-profile’ to indicate that the update-type is Import of External Profile from 3rd party systems.
- ‘subscribe-profile’ to indicate that the update-type is Subscription to External Profile from 3rd party systems.

The <update-source> element value is of type “String” and SHALL indicate the name of source for the PCC Update Document.

The <time-stamp> element value is of type “dateTime” and SHALL indicate the timestamp of the available PCC Update Document

The <approval-type> element value is of type “String”, and SHALL be one of the following values;

- ‘manual’ to indicate that the CAB User must first approve changes to the PCC Document before they are applied by the CAB Enabler; or,
- ‘automatic’ to indicate that the CAB Enabler SHALL apply the changes to the PCC Document without any interaction with the CAB User

5.2.1.8 Naming conventions

There SHALL be only one PCC Document per XUI. The name of the PCC Document SHALL be “PCC.xml”. There MAY be one or more PCC Update Documents, which SHALL be stored in the CAB User’s Tree with a suffix “.update”, and each PCC Update Document SHALL have a unique name e.g. pccUpdate1.update, pccUpdate2.update, etc.

5.2.1.9 Global Documents

This Application Usage defines no Global Document.

5.2.1.10 Resource interdependencies

This Application Usage defines no resource interdependencies.

5.2.1.11 Access Permissions

The Access Permissions for manipulating PCC Documents, i.e. create, delete, retrieve and modify, SHALL conform to [XDM Core] sub-clause 5.6 “*Access Permissions Document*”

If the Access Permissions document is used, it SHALL conform to [XDM Core] sub-clause 5.6 “*Access Permissions Document*” with the following restrictions:

1. The <document-rule> element SHALL include a “path” attribute specifying the PCC Document Selector for which the rule applies
2. The <actions> child element of <rule> element SHALL only include the <allow-any-operation-own-data> element or/and the <allow-retrieve> element and/or the <allow-modify> element, and/or <allow-delete> element as specified in [XDM Core].

Access Permissions SHALL be used to authorize Contact Views for incoming Contact Subscriptions. See Appendix B “Contact Views”, for more information and examples.

The Access Permissions filters SHALL NOT allow Contact Views to be established over data fields across multiple <person-details> for a single Contact View.

When the ‘xui-type’ attribute is set to “CAB” it SHALL be read-only except for the PCC Application Usage in CAB XDMS.

The Contact Views generated from Access Permissions SHALL NOT include the 'index' and 'view-type' attributes. These attributes are meta-data that are used for PCC management and therefore not meant to be shared or published as part of the Contact Views.

The <service-provider-specific> element and its child elements are not accessible by default by the CAB User owner of the PCC Document.

The <pcc-update-list> and all its sub-elements SHALL be read-only for the CAB Client since they are populated by the network (i.e. CAB Server).

5.2.1.12 Search Capabilities

The PCC Application Usage SHALL support Search Requests on the PCC Documents and the following rules apply in addition to the procedures defined in [XDM Core]:

1. Support a collection "org.openmobilealliance.cab-pcc/users/", subject to Access Permissions as specified in sub-clause [5.2.1.11](#) "Access Permissions".
2. The basic XQuery expression [XDM Core] supported by the PCC Application Usage SHALL be as follows:

```
xquery version "1.0";
```

```
declare default element namespace "urn:oma:xml:cab:pcc";
```

All Search Requests that do not comply with the basic XQuery expression as defined in this chapter SHALL be responded with an HTTP "409 Conflict" error response as defined by [XDM Core].

5.2.1.13 XDM Preferences Document

The PCC Application Usage SHALL support a Request History Information document as described in [XDM Core], sub-clause 5.7.2 "Request History Information Document" for a PCC Document.

The PCC Application Usage SHALL support a Modification History Documents as described in [OMA XDM Core], sub-clause 5.7.1 "Modification History Information Document" for a PCC Document.

5.2.1.14 History Information Documents

The PCC Application Usage SHALL support a Request History Information document as described in [XDM Core], sub-clause 6.1.4 "Retrieval of History Information" for a PCC Document.

5.2.1.15 Forwarding

The PCC Application Usage SHALL support forwarding of a PCC Document as described in [XDM Core] sub-clause 6.1.1.3.2 "XDM Resource Forwarding Operations" with the following clarifications:

1. The PCC Application Usage SHALL support forwarding of a complete stored PCC or forwarding of a PCC Document with one or more <pcc> elements included selected from a stored PCC Document and
2. The PCC Application Usage on the receiving side SHALL handle the received Forward XDCP Forward requests and do the following:
 - a. Store the received content in the ContactSharePCC.xml document in the corresponding User's Tree of the recipient, if needs to be stored, subject to the recipient's preferences residing in the XDM Preferences Document of AB Application Usage;
 - b. Update the <request-notification-list> element corresponding to the AB Application Usage in Forwarding Notification List Document [XDM List] of the recipients.

5.2.1.16 Restore

The PCC Application Usage SHALL support restore of a PCC Document as described in [XDM Core] sub-clause 6.2.6.5 “XDM Restore”.

For undo operations the PCC Application Usage SHALL support restore of a PCC Document as described in [XDM Core] sub-clause 6.2.6.5 “XDM Restore” with the following clarifications:

- The PCC Application Usage SHALL restore a PCC Document to the version right before the current version, based upon the <current-etag> element value. Further, the PCC Application Usage SHALL also remove all change details stored in the Modification History Information Document associated with the E-Tag value specified by the <current-etag> element of the XDCP Document and add an XDM restore XDCP operation as last XDM operation applied to the XDM Document; if the <restore> element has a “type” attribute with the value set to “undo” to indicate the request is intended to perform an undo operation.

5.3 CAB User Preferences

5.3.1 CAB User Preferences Application Usage

5.3.1.1 Structure

The CAB User Preferences Document SHALL conform to the structure described in this sub-clause. If the UPP Directory XDMS is used to reference a CAB profile, then its use in the context of CAB User Preferences profile SHALL conform to [XDM UPP].

The document SHALL contain one root element <cab-upp> that SHALL include:

1. one <cab-upp-set> element:
 - a) MAY include one or more <profile> elements which contain the details of each CAB User Preferences profile available to the user. The <profile> element
 - i. SHALL include an ‘id’ attribute that uniquely identifies the CAB user preference profile. If the UPP Directory XDMS [XDM UPP] is used, the ‘id’ attribute value MAY be used as value of the ‘upp-id’ attribute of the CAB profile referenced in the UPP Directory XDMS [XDM UPP], to uniquely identify the CAB <profile> element among other <upp> elements of the UPP Directory;
 - ii. MAY include a <display-name> element, containing a suggested name to display for this specific profile (e.g. Home). If the UPP Directory XDMS [XDM UPP] is used, the element can also be used to populate the corresponding <display-name> element of the CAB profile element referenced in the UPP Directory XDMS;
 - iii. MAY include any other attributes or elements from any other namespaces for the purpose of extensibility;
 - iv. MAY include a <auto-synchronize-ab> element indicating whether the AB is synchronized automatically or manually;
 - v. MAY include a <send-notification--contact-added> element indicating whether to send a notification to a new contact when the CAB User adds the new contact (which is a CAB User) in his AB;
 - vi. MAY include a <receive-notification-when-contact-added> element indicating whether to notify the CAB User when another CAB User adds the CAB User in his AB;
 - vii. MAY include a <notify-when-contact-becomes-cab-user> element indicating whether to notify the CAB User when a contact in AB, who was a Non-CAB User, becomes a CAB User;
 - viii. MAY include a <notify-when-receive-contact-subscription> element indicating whether to notify the CAB User for incoming Contact Subscription request;

- ix. MAY include a <notify-on-contact-subscription-update> element indicating whether to notify the CAB User when information resulting from Contact Subscription is received;
 - x. MAY include a <update-ab> element indicating whether the AB is updated automatically when information resulting from different CAB events that cause AB update (e.g. Contact Subscription,) is received;
 - 1) <contact-subscription-update> sub-element indicating whether the AB is updated automatically when information resulting from Contact Subscription is received;
 - 2) <import-update> sub-element indicating whether the AB is updated automatically when information resulting from import is received;
 - xi. SHALL include a <contact-share-format> element indicating the default format to be used for all Contact Share requests for a Non-CAB User;
 - xii. MAY include a <allow-suggested-contact-info> element indicating whether to allow the service provider to suggest supplemental contact information;
 - xiii. MAY include a <notify-service-suggestions> element indicating whether to notify service suggestions to the CAB User;
 - xiv. MAY include a <notify-common-connections> element indicating whether to notify Common Connections to the CAB User;
 - xv. MAY include a <notify-public-content> element indicating whether to notify public content to the CAB User;
 - xvi. MAY include a <notify-contact-subscription-invite> element indicating whether to notify the CAB User of incoming Contact Subscription invites.
 - xvii. MAY include an <update-pcc> element indicating whether the PCC is updated automatically when information resulting from CAB external requests cause a PCC update:
 - 1. <pcc-import-update> sub-element indicating whether the PCC is updated automatically when information resulting from Import of External Profile requested is received;
 - 2. <pcc-subscribe-update> sub-element indicating whether the PCC is updated automatically when information resulting from Subscription to External Profile requested is received.
2. one <subscription-list> element:
- a) MAY contain one or more <entry> elements. Each <entry> SHALL contain a 'id' attribute indicating the XCAP User Identifier (XUI) of the contact to subscribe to, and is of type "anyURI". Each <entry> element:
 - i. MAY contain a <filter-set> element per sub-clause 6.1.2.1.2 "XDMC" of [XDM Core].

5.3.1.2 Application Unique ID

The AUID SHALL be "org.openmobilealliance.cab-user-prefs".

5.3.1.3 XML Schema

CAB User Preferences Document SHALL conform to the XML schema defined in [XSD_cab_1.1_user_preferences].

5.3.1.4 Default Namespace

The default element namespace used in the CAB User Preferences Application Usage is "urn:oma:xml:cab:user-prefs".

5.3.1.5 MIME Type

The MIME type for the CAB User Preferences Document SHALL be “application/vnd.oma.cab-user-prefs+xml”

5.3.1.6 Validation Constraints

Not applicable.

5.3.1.7 Data Semantics

The <profile> element SHALL indicate the details of each CAB User Preference profile. The ‘id’ attribute of <profile> element indicates the unique identifier of the CAB User Preference profile and is of type “token”.

The <display-name> element value is of type “String”.

The <auto-synchronize-ab> element SHALL indicate whether the AB is synchronized automatically or manually. (See CAB-HLF-005 in [CAB 1.0 RD]). The value is of type “Boolean”. The possible values are:

“false” indicates that the AB is synchronized manually.

“true” indicates that the AB is synchronized automatically.

The default value is “false”.

The <send-notification-contact-added> element SHALL indicate whether to send a notification to a new contact when the CAB User adds the new contact in his AB. (See CAB-HLF-012 in [CAB 1.1 RD]). The value is of type “Boolean”. The possible values are:

“false” indicates that the notification is not sent to the new contact.

“true” indicates that the notification is sent to the new contact.

The default value is “false”.

The <receive-notification-when-contact-added> element SHALL indicate whether to notify the CAB User when another CAB User adds the CAB User in his AB. (See CAB-HLF-012 in [CAB 1.1 RD]). The value is of type “Boolean”. The possible values are:

“false” indicates that the CAB User is not notified.

“true” indicates that the CAB User is notified.

The default value is “false”.

The <notify-when-contact-becomes-cab-user> element SHALL indicate whether to notify the CAB User when a contact in AB, who was a Non-CAB User, becomes a CAB User. (See CAB-HLF-013 in [CAB 1.0 RD]). The value is of type “Boolean”. The possible values are:

“false” indicates that the CAB User is not notified.

“true” indicates that the CAB User is notified.

The default value is “false”.

The <notify-when-receive-contact-subscription> element SHALL indicate whether to notify the CAB User for incoming Contact Subscription request. (See CAB-SUBS-003 in [CAB 1.0 RD]). The value is of type “Boolean”. The possible values are:

“false” indicates that the CAB User is not notified.

“true” indicates that the CAB User is notified.

The default value is “false”.

The <notify-on-contact-subscription-update> element SHALL indicate whether to notify the CAB User when information resulting from Contact Subscription is received. (See CAB-SUBS-005 in [CAB 1.0 RD]). The value is of type “Boolean”. The possible values are:

“false” indicates that the CAB User is not notified.

“true” indicates that the CAB User is notified.

The default value is “false”.

The <update-ab> element SHALL indicate whether the AB is updated automatically when information resulting from different CAB events that cause AB update (e.g. Contact Subscription,) is received. It has a <contact-subscription-update> and <import-update> sub-elements.

The <contact-subscription-update> sub-element of the <update-ab> element SHALL indicate whether the AB is updated automatically when information resulting from Contact Subscription is received. (See CAB-SUBS-003 in [CAB 1.0 RD]). The value is of type “Boolean”. The possible values are:

“false” indicates that the AB is not updated automatically..

“true” indicates that the AB is updated automatically to incorporate the received Contact Subscription updates.

The default value is “false”.

The <import-update> sub-element of the <update-ab> element SHALL indicate whether the AB is updated automatically when information resulting from import is received. The value is of type “Boolean”. The possible values are:

“false” indicates that the AB is not updated automatically..

“true” indicates that the AB is updated automatically to incorporate the received Contact Subscription updates.

The default value is “false”.

The <contact-share-format> SHALL indicate the default format to be used for all Contact Share requests for a Non-CAB User. The value is of type String, with possible values of :

“CAB1.0” to indicate the CAB Format as specified in this document, or

“vCard” to indicate that IETF vCard format SHALL be used for encoding and delivery of Contact Share data.

The default is “CAB1.0”.

The <allow-suggested-contact-info> element SHALL indicate whether the CAB User wishes to allow the service provider to suggest supplemental contact information (e.g. from within the CAB system or external public contact databases). The value is of type “Boolean”. The possible values are:

“false” indicates that the CAB User would not like to receive contact suggestions.

“true” indicates that the CAB User would like to receive contact suggestions.

The default value is “false”.

The <notify-service-suggestions> SHALL indicate whether the CAB User wishes to receive service suggestions from the Service Provider. The value is of type “Boolean”. The possible values are:

“false” indicates that the CAB User is not notified of service suggestions.

“true” indicates that the CAB User is notified of service suggestions.

The default value is “false”.

The <notify-common-connections> SHALL indicate whether the CAB User wishes to receive Common Connections to be identified in his/her AB from the Service Provider. The value is of type “Boolean”. The possible values are:

“false” indicates that the CAB User is not notified of Common Connections.

“true” indicates that the CAB User is notified of Common Connections.

The default value is “false”.

The <notify-public-content> SHALL indicate whether the CAB User wishes to receive public content for contacts in the AB from the Service Provider. The value is of type “Boolean”. The possible values are:

“false” indicates that the CAB User is not notified of public content.

“true” indicates that the CAB User is notified of public content.

The default value is “false”.

The <notify-contact-subscription-invite> element SHALL indicate whether to notify the CAB User of incoming Contact Subscription invitations. The value is of type “Boolean”. The possible values are:

“false” indicates that the CAB User is not notified.

“true” indicates that the CAB User is notified.

The default value is “false”.

The <update-pcc> element SHALL indicate whether the PCC is updated automatically when information resulting from CAB external requests causes a PCC update. It has a <pcc-import-update> and <pcc-subscribe-update> sub-elements.

The <pcc-import-update> sub-element of the <update-pcc> element SHALL indicate whether the PCC is updated automatically when information resulting from Import of External Profile requested is received. The value is of type “Boolean”. The possible values are:

“false” indicates that the PCC is not updated automatically..

“true” indicates that the PCC is updated automatically to incorporate the updates from Import of External Profile request.

The default value is “false”.

The <pcc-subscribe-update> sub-element of the <update-pcc> element SHALL indicate whether the PCC is updated automatically when information resulting from Subscription to External Profile requested is received. The value is of type “Boolean”. The possible values are:

“false” indicates that the PCC is not updated automatically..

“true” indicates that the PCC is updated automatically to incorporate the updates from Subscribe to External Profile request

The default value is “false”.

The <subscription-list> element SHALL indicate the list of <entry> elements to be subscribed. The ‘id’ attribute value indicates a XCAP User Identifier (XUI) and is of type anyURI.

The <filter-set> element is specified in [XDM Core].

5.3.1.8 Naming conventions

There SHALL be only one CAB User Preferences Document per XUI. The name of the CAB User Preferences Document SHALL be “CAB-UP.xml”.

5.3.1.9 Global Documents

This Application Usage defines no Global Document.

5.3.1.10 Resource interdependencies

This Application Usage defines no resource interdependencies.

5.3.1.11 Access Permissions

The Access Permissions for manipulating CAB User Preferences Documents, i.e. create, delete, retrieve and modify, SHALL conform to [XDM Core] sub-clause 5.6 “*Access Permissions Document*”

If the Access Permissions document is used, it SHALL conform to [XDM Core] sub-clause 5.6 “*Access Permissions Document*” with the following restrictions:

1. The <document-rule> element SHALL include a “path” attribute specifying the CAB User Preferences Document Selector for which the rule applies
2. The <actions> child element of <rule> element SHALL only include the <allow-any-operation-own-data> element or/and the <allow-retrieve> element and/or the <allow-modify> element.

5.3.1.12 Search Capabilities

Not applicable.

5.3.1.13 XDM Preferences Document

Not applicable.

5.3.1.14 History Information Documents

Not applicable.

5.3.1.15 Forwarding

Not applicable.

5.3.1.16 Restore

Not applicable.

5.4 CAB Feature Handler

5.4.1 CAB Feature Handler Application Usage

This section defines the Application Usage for storing data for CAB User’s feature requests and their response status for the following CAB service features:

- Contact Share
- Scheduled import from non-CAB address book system(s)
- Import of External Profile from 3rd party systems
- Export of PCC information to 3rd party systems

- Subscription to External Profile from 3rd party systems
- Subscription invitations
- Contact suggestions

5.4.1.1 Structure

The CAB Feature Handler document SHALL conform to the structure of the “feature handler” document described in this sub-clause. The schema definition is provided in sub-clause [5.4.1.3](#).

The <feature-handler> element:

1. MAY include one or more <cab-feature> elements indicating an instance of a CAB feature request

Each <cab-feature> element SHALL have an ‘id’ attribute representing a unique ID within the document assigned to each request and:

- a) SHALL include either a <contact-share>, <import-non-cab>, <import-profile>, <export-profile>, <subscribe-profile>, <subscription-invite> or <contact-suggest> element indicating the type of CAB feature request.
- b) SHALL include a <response> element indicating a CAB feature response indicating the status of corresponding CAB feature request type e.g. <contact-share> or <import-non-cab>

Each <contact-share> element indicating a Contact Share request:

- i SHALL contain the <recipients-list> element which includes the <list> child element, indicating the list of recipients to which the contact data is to be shared with. The <list> element SHALL include one or more:
 - 1) <entry> elements with a ‘uri’ attribute indicating the recipient URI
- ii MAY include <note> element which carries the information set by the CAB User.
- iii MAY include <display-name> element which carries the name suggested by the CAB User.
- iv MAY include <format> element to indicate the explicit format to be used for this request, if the recipient is a Non-CAB User.
- v MAY include <delivery-report-request> element to indicate whether the CAB User sharing the contact data would like to request delivery report for the Contact Share request from each of the recipients.
- vi MAY include <delivery-report-status> element to indicate the status of the delivery report for the Contact Share request. The <delivery-report-status> element MAY include one or more <delivery-report> elements each indicating the delivery report for the corresponding <recipient-URI>.

Each <delivery-report> element

- 1) SHALL include <entry-report> element with a ‘uri’ attribute to indicate the recipient for which the delivery status is being reported.
- 2) SHALL include <delivery-status> element to indicate the delivery status. The <delivery-status>:
 - (a) SHALL contain a <code> indicating a response status code,
 - (b) MAY contain a <phrase> indicating a phrase associated with the response.

If recipient is a CAB User the <delivery-status> value is aligned with the <delivery-notification-list> in [XDM Core].

- ii SHALL contain a <data> element containing the data or reference to data to be shared

Each <data> element:

- 1) SHALL contain <PCC> and/or <AB> elements. An empty <PCC> or <AB> element(s) (i.e. in the absence of the child elements) SHALL indicate that the CAB User would like to share the entire PCC or AB document.

The <PCC> element MAY contain either of the following:

- (a) a <contact-view-list> element, containing one or more <contact-view> elements, each element indicating a contact view (or portions of a contact view through filters) within a PCC, to be shared.

Each <contact-view> element:

- (i) SHALL contain a 'contact-view-reference' attribute indicating the reference to the contact view.
- (ii) MAY include a <filter-set> element which contains information about filters to be applied to the referenced contact view *before* being shared with recipients.
- (b) a <filter-set> element that contains information about filters to be applied directly to the CAB User's PCC before sharing with the recipients.

The <AB> element MAY contain either of the following:

- (a) a <contact-entry-list> element, containing one or more <contact-entry> elements, each indicating the contact entry (or parts of a contact entry through filters) within the CAB User's address book to be shared.

Each <contact-entry> element:

- (i) SHALL contain a 'contact-entry-reference' attribute indicating the reference to the contact within the CAB User's AB.
- (ii) MAY include <filter-set> element that contains information about filters to be applied to the associated <contact-entry> before sharing with the recipients.
- (b) a <filter-set> element that contains information about filters to be applied directly to the CAB User's AB before sharing with the recipients

Each <import-non-cab> element contains import data for scheduled non-CAB address book requests:

- i SHALL contain a <non-CAB-source> element indicating the source (e.g. domain name) of the non-CAB address book system to import the address book data from
- ii SHALL contain a <scheduled-interval> element indicating the interval between the successive accesses to the non-CAB address book system.
- iii MAY contain an <expiration-time> element indicating the maximum duration of scheduled non-CAB address book imports requested by the user.
- iv SHALL contain either an encrypted <credentials> element indicating the credentials necessary to authorize access to the non-CAB address book system; or a <token> element containing a valid token, able to access the non-CAB address book system.

Each <credentials> element:

- 1) SHALL contain a <username> element containing the user name that is used to access the non-CAB address book system.
- 2) SHALL contain a <password> element containing the password that is used to access the non-CAB address book system.

Each <import-profile> element indicating an import request of External Profile information from a 3rd party system:

- i SHALL contain a <non-CAB-source> element indicating the source (e.g. domain name) of the 3rd party system to import the profile information from
- ii SHALL contain a <scheduled-interval> element indicating the interval between the successive accesses to the 3rd party system.
- iii MAY contain an <expiration-time> element indicating the maximum duration of scheduled profile imports requested by the user.

- iv SHALL contain either an encrypted <credentials> element indicating the credentials necessary to authorize access to the 3rd party system; or a <token> element containing a valid token, able to access the non-CAB address book system.

Each <credentials> element:

- a. SHALL contain a <username> element containing the user name that is used to access the non-CAB address book system.
 - b. SHALL contain a <password> element containing the password that is used to access the non-CAB address book system.
- v MAY contain a <filter-set> element identifying the specific profile information requested to be imported from the 3rd party system

Each <export-profile> element indicating an export request of PCC information to a 3rd party system:

- i SHALL contain a <non-CAB-source> element indicating the destination (e.g. domain name) of the 3rd party system to export the PCC information to
- ii SHALL contain a <scheduled-interval> element indicating the interval between the successive accesses to the 3rd party system.
- iii MAY contain an <expiration-time> element indicating the maximum duration of scheduled profile exports requested by the user.
- iv SHALL contain either an encrypted <credentials> element indicating the credentials necessary to authorize access to the 3rd party system; or a <token> element containing a valid token, able to access the non-CAB address book system.

Each <credentials> element:

- a. SHALL contain a <username> element containing the user name that is used to access the non-CAB address book system.
 - b. SHALL contain a <password> element containing the password that is used to access the non-CAB address book system.
- vi MAY contain a <filter-set> element filtering the PCC information to be exported to the 3rd party system

Each <subscribe-profile> element indicating a subscription request to External Profile information in a 3rd party system:

- i SHALL contain a <non-CAB-source> element indicating the destination (e.g. domain name) of the 3rd party system to subscribe the External Profile information to.
- ii MAY contain an <expiration-time> element indicating the maximum duration of scheduled profile subscriptions requested by the user.
- iii SHALL contain either an encrypted <credentials> element indicating the credentials necessary to authorize access to the 3rd party system; or a <token> element containing a valid token, able to access the non-CAB address book system.

Each <credentials> element:

- a. SHALL contain a <username> element containing the user name that is used to access the non-CAB address book system.
 - b. SHALL contain a <password> element containing the password that is used to access the non-CAB address book system.
- iv MAY contain a <filter-set> element identifying the specific profile information in the 3rd party system requested to be subscribed

Each <subscription-invite> element indicating contact subscription invitation request:

- a. SHALL contain the <recipients-list> element which includes the <list> child element, indicating the list of recipients to which the contact subscription invite is be sent. The <list> element SHALL include one or more:
 - i. <entry> elements with a 'uri' attribute indicating the recipient URI.
- b. MAY include a <contact-view> element indicating the Contact View to be used for the subscription invitation. The same Contact View will be authorized for the incoming Contact Subscription. The <contact-view> element:
 - i. SHALL contain a 'contact-view-reference' attribute indicating the reference to the Contact View.
 - ii. MAY include <filter-set> element that contains information about filters to be applied to the referenced Contact View.
- c. MAY include a <invitation-message> element containing a personal invitation message to be associated with the invitation request.

Each <contact-suggest> element indicating a request of contact suggestions information from an external source.

- i. SHALL contain a <non-CAB-source> element to indicate the source(s) (e.g. domain name) of the external source to receive a contact suggestions
- ii. MAY contain a <scheduled-interval> element indicating the interval between the successive accesses to the external source.
- iii. MAY contain an <expiration-time> element indicating the maximum duration of scheduled contact suggest requested by the user.
- iv. MAY contain a <criteria> element indicating suggestion criteria to retrieve suggestions from the external source.
- v. MAY contain a <filter-set> element identifying the specific contact information requested to be suggested from the external source.
- vi. MAY contain either an encrypted <credentials> element indicating the credentials necessary to authorize access to the external source; or a <token> element containing a valid token, able to access the non-CAB address book system.

Each <credentials> element:

- a. SHALL contain a <username> element containing the user name that is used to access the external source
- b. SHALL contain a <password> element containing the password that is used to access the external source

The security procedures defined in sub clause 5.1.1 "Authentication" [XDM Core] SHALL be supported to ensure secure transfer of <username>, <password> and <token> elements over XDM interfaces.

Each <response> element:

- i. SHALL contain a <code> indicating a response status code.
- ii. MAY contain a <phrase> indicating a phrase associated with the response.

5.4.1.2 Application Unique ID

The AUID SHALL be "org.openmobilealliance.cab-feature-handler".

5.4.1.3 XML Schema

The CAB Feature Handler Document SHALL conform to the XML schema in [XSD_cab_1.1_feature_handler].

5.4.1.4 Default Namespace

The default element namespace used in the CAB Feature Handler Application Usage is "urn:oma:xml:cab:feature-handler".

5.4.1.5 MIME Type

The MIME type for the CAB Feature Handler Document SHALL be “application/vnd.oma.cab-feature-handler+xml”

5.4.1.6 Validation Constraints

The CAB Feature Handler Document SHALL conform to the XML Schema described in sub clause [5.4.1.3](#) “XML Schema”,

The <feature-handler> element represents the root node of the CAB Feature Handler Application Usage. A ‘Feature Handler’ document stored in the Users Tree SHALL contain no more than one <feature-handler> element.

If the document proposed by the XDMS includes multiple <feature-handler> elements, then an HTTP “409 Conflict” response including the XCAP error element <constraint-failure> SHALL be returned. If included, the ‘phrase’ attribute SHOULD be set to “No more than one feature-handler element allowed”.

Each <feature-handler> element MAY contain one or more <cab-feature> elements.

Each <cab-feature> element SHALL contain only one of either a <contact-share> or an <import-non-cab>, or an <import-profile>, or an <export-profile> or a <subscribe-profile> element indicating the feature request type.

The <contact-share> element SHALL contain at least one <recipient-uri> element and a <data> element.

The <data> element SHALL contain at least one <PCC> or <AB> element and MAY contain both <PCC> and <AB> elements.

Each <import-non-cab>, <import-profile> or <export-profile> element SHALL contain only one of each <non-CAB-source>, <credentials>, <scheduled-interval> and <expiration-time> elements. And each <credentials> element SHALL contain either only one <token> element or a single set of only one of each <username> and <password> elements.

Each <subscribe-profile> element SHALL contain only one of each <non-CAB-source>, <expiration-time> and <credentials> elements. And each <credentials> element SHALL contain either only one <token> element or a single set of only one of each <username> and <password> elements.

5.4.1.7 Data Semantics

The <feature-handler> element contains a list of one or more <cab-feature> elements in sequence, each representing an instance of a CAB feature request.

The <contact-share> element SHALL indicate that the feature request type is Contact Share.

The ‘uri’ attribute of the <entry> element and of the <entry-report> indicates the URI of the User to which the Contact Share request is targeted. The value SHALL be a valid URI format to support underlying messaging schemes. Example values are “SIP URI”, “TEL URI”, and “mailto” uri.

The <note> element contains free text data to be shared in the Contact Share request. The value SHALL be of type “String”.

The <display-name> element indicates the name suggested by the CAB User to be send with the shared data. The value is of type “String”. This element is intended to be used in the headers of the Contact Share message.

The <format> element indicates the explicit format to be used for this request, if the recipient is a Non-CAB User. The value is of type String, with possible values of “CAB1.0” or “CAB 1.1” to indicate CAB Format and “vCard” to indicate that IETF vCard format SHALL be used for encoding and delivery of Contact Share data.

The <delivery-report-request> element indicates the delivery report request preference for the Contact Share request. The value is of type “Boolean”. The possible values:

- “true” if the CAB User requests the delivery report from each of the recipients.
- “false” if the CAB User does not want to receive the delivery report from each of the recipients. This is the default value taken in the absence of <delivery-report-request> element.

The access to <delivery-status> element and its child elements SHALL be set to “read-only” for the CAB Client.

The <code> element of the <delivery-status> is of type String and SHALL contain one of the following values:

“Pending”	indicating that the Contact Share delivery report request is pending
“Successful”	indicating that the Contact Share request is delivered to the recipient
“Failure”	indicating that the Contact Share request could not be delivered to the recipient

The <phrase> element under <delivery-status> indicates a phrase associated with the delivery status. The value SHALL be of type “String”.

The <data> element indicates the data (i.e. PCC and/or AB data) to be shared in the Contact Share request. The <data> element SHALL contain the reference to the data stored in Users Tree of either AB and/or PCC Application Usage.

The <PCC> element indicates that the CAB User’s own PCC data is being shared with the recipient(s).

Each <contact-view> element SHALL include a ‘contact-view-reference’ attribute that indicates a reference to contact view within the CAB User’s PCC Access Permissions document. The attribute value SHALL be a valid XCAP node selector pointing to a contact view rule in the PCC Application Usage.

The <AB> element indicates that the CAB User’s own AB data is being shared with the recipients.

Each <contact-entry> SHALL include a ‘contact-entry-reference’ attribute that indicates a reference to contact entry within the CAB User’s address book. The attribute value SHALL be a valid XCAP URI identifying a contact entry reference in the AB.

The <filter-set> element semantics SHALL conform to [RFC 4661] and [XDM Core] sub-clause 6.1.1.3.2

The <import-non-cab>, <import-profile>, <export-profile> or <subscribe-profile> element SHALL indicate respectively that the feature request type is scheduled import from a non-CAB address book system, import request of profile information from a 3rd party system, export request of PCC information to a 3rd party system or subscription request to profile information in a 3rd party system.

The <non-CAB-source> element indicates the source name (e.g. domain name/address) of the non-CAB address book/ 3rd party system. The value SHALL be of type “String”. The possible values used for <non-CAB-source> is out of scope of this specification and SHOULD be implemented in an enumeration of values that are subject to service provider’s policy.

The <credentials> element indicates the credentials necessary to authorize access to the non-CAB address book/ 3rd party system, and contains the following elements:

- a <username> element containing a username identifying the user of the non-CAB address book/ 3rd party system. The value SHALL be of type “String”; and
- a <password> element containing a password used for authentication purposes. The value SHALL be of type “String”.

The <token> element contains a valid token, able to access the non-CAB address book /3rd party system. The value SHALL be of type “String”.

The <expiration-time> element indicates the maximum duration requested by the user for periodic requests (i.e. when the value of <schedule-interval> element is greater than zero). The value SHALL be of type “Integer”, and represents the time in number of hours. This time SHALL be overridden by the maximum duration determined by the Service Providers local policy if this latter time is shorter. If <expiration-time> element is not present the default duration determined by the Service Providers local policy SHALL apply.

The <scheduled-interval> element indicates the interval between successive accesses to the non-CAB address book/ 3rd party system. The value SHALL be of type “Integer”, and represents the time in number of hours between each interval. The default value is “0” and SHALL indicate that the request is a one-time import/export request.

The <contact-suggest> element SHALL indicate a request for contact suggestion information from an external source.

The <criteria> element indicates the contact suggestion criteria. The value is of type “String”. The values may be for example, “soccer”, “golf buddies”, etc.

The <subscription-invite> element SHALL indicate that the feature request type is contact subscription invitation.

The ‘uri’ attribute of the <entry> element indicates the URI of the User to which the contact subscription invitation request is targeted. The value SHALL be a valid XUI of the recipient CAB User.

The <invitation-message> indicates a custom personal message to be associated with invitation request. The value is of type “String”.

The <response> element SHALL indicate the status of the corresponding CAB feature request. The access to <response> element and its child elements SHALL be set to “read-only” for the CAB Client.

The <code> element SHALL indicate the response status code. The value is of type “String” and SHALL contain one of the following values:

- a) “Success” indicating that the CAB feature request has been successfully processed by the CAB Server.
- b) “Pending” indicating that the CAB feature request is in progress by the CAB Server
- c) “Failure” indicating that the CAB feature request could not be processed by the CAB Server

The <phrase> element indicates a phrase associated with the response. The value SHALL be of type “String”.

The ‘id’ attribute under each of the <contact-share>, <import-non-cab>, <import-profile>, <export-profile> or <subscribe-profile> elements, represents a unique ID within this Application Usage that is assigned to each of the request(s). The value SHALL be of type “String” and SHALL be generated by the CAB Client. The CAB Client can use a unique identifier associated with a specific device (e.g. IMEI) in the ‘id’ generation procedure to ensure uniqueness in case of multiple devices assigned by the XDMS at the time of the request. The CAB Feature Handler Application Usage returns the assigned id value in the XCAP response (e.g. 200 OK, 201 Created, 202 Accepted) back to the CAB Client, for each successfully stored request. In case of collisions, the Feature Handler Application Usage SHALL send back an error to the CAB Client as specified in [XDM Core] sub-clause 6.2.1 “*Document Management*”.

Note: The CAB Feature Handler Application Usage may remove the older <cab-feature> requests (e.g. Contact Share or import) with the reference of the “id” attribute if the storage reaches the limit based on the Service Provider’s policy.

5.4.1.8 Naming conventions

There SHALL be only one CAB Feature Handler Document per XUI. The name of the CAB Feature Handler Document SHALL be “feature-handler.xml”.

5.4.1.9 Global Documents

This Application Usage defines no Global Document.

5.4.1.10 Resource interdependencies

This Application Usage defines no resource interdependencies.

5.4.1.11 Access Permissions

The Access Permissions for manipulating CAB Feature Handler Documents, i.e. create, delete, retrieve and modify, SHALL conform to [XDM Core] sub-clause 5.6 “*Access Permissions Document*”

If the Access Permissions document is used, it SHALL conform to [XDM Core] Section 5.6 “*Access Permissions Document*” with the following restrictions:

1. The <document-rule> element SHALL include a ‘path’ attribute specifying the CAB Feature Handler Document Selector for which the rule applies
2. The <actions> child element of <rule> element SHALL only include the <allow-any-operation-own-data> element or/and the <allow-retrieve> element and/or the <allow-modify> element.

5.4.1.12 Search Capabilities

The CAB Feature Handler Application Usage SHALL support search requests on the CAB Feature Handler Documents and the following rules apply in addition to the procedures defined in [XDM Core]:

1. support a collection “org.openmobilealliance.cab-feature-handler/users/[XUI]”, subject to Access Permissions as specified in sub-clause [5.4.1.11](#) “*Access Permissions*”.
2. The basic XQuery expression [XDM Core] supported for this Application Usage SHALL be as follows:

```
xquery version "1.0";
```

```
declare default element namespace "urn:oma:xml:cab:feature-handler";
```

All Search Requests that do not comply with the basic XQuery expression as defined in this chapter SHALL be responded with an HTTP “409 Conflict” error response as defined by [XDM Core].

5.4.1.13 XDM Preferences Document

Not applicable.

5.4.1.14 History Information Documents

Not applicable.

5.4.1.15 Forwarding

Not applicable.

5.4.1.16 Restore

Not applicable.

Appendix A. Change History (Informative)

A.1 Approved Version History

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

A.2 Draft/Candidate Version 1.1 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-TS-CAB_XDMS-V1_1	11 Oct 2011	All	Initial draft, based on OMA-TS-CAB_XDMS-V1_0-20111004-D.
	12 Jan 2012	All	Incorporated following CRs: OMA-COM-CAB-M-2011-0290R01-CR_CAB_XDMS_TS_AI_065 OMA-COM-CAB-M-2011-0291R01-CR_CAB_XDMS_TS_AI_066 OMA-COM-CAB-M-2011-0300R01-CR_Fix_of_Member_List_for_PCC OMA-COM-CAB-M-2011-0283R02-CR_Bug_Fix_for_CAB_TS_XDM OMA-COM-CAB-M-2011-0299R03-CR_CAB_XDMS_TS_Changes OMA-COM-CAB-M-2011-0301R01-CR_Bug_Fix_For_CAB_XDMS_TS_E2 OMA-COM-CAB-M-2011-0303-CR_Resolution_to_Public_cmmts_nb4
	18 Jan 2012	All	Incorporated following CRs: OMA-COM-CAB-2011-0016R01-CR_TS_XDMS_for_CAB_IWG_005_and_006 OMA-COM-CAB-2011-0041-CR_TS_XDMS_Expiry_Time OMA-COM-CAB-2011-0042R01- CR_Index_of_contents_stored_in_net_repository OMA-COM-CAB-2011-0045-CR_Common_Connections
	23 Feb 2012	3.2, 5.1	Minor editorials Incorporated following CRs: OMA-COM-CAB-M-2012-0003-CR_TS_XDMS_Contact_Type_Schema OMA-COM-CAB-2012-0018-CR_TS_XDMS_Contact_Type_Schema OMA-COM-CAB-2012-0020R01-CR_TS_XDMS_XUI_Type OMA-COM-CAB-2012-0034R01-CR_HLF_019_TS_XDMS_favor_contact_list
	10 Apr 2012	5.1, 5.2, 5.3, 5.4, Appendix E	Minor editorials Incorporated following CRs: OMA-COM-CAB-M-2011-0243R01- CR_CAB_1.0_XDMS_Address_Book_XML_Example OMA-COM-CAB-M-2012-0010-CR_CAB_Feature_Handler_bug_fix OMA-COM-CAB-M-2012-0017R01- CR_TS_CABXDM_PCC_Document_AI0067 OMA-COM-CAB-M-2012-0020- CR_TS_CABXDM_Bugfix_PCCDocuments_Appendix_B OMA-COM-CAB-M-2012-0023R01-CR_PCC_note_and_public_note_elements OMA-COM-CAB-2012-0045R01-CR_Solution_for_SN_007_XDMS
	24 Apr 2012	5.1, 5.2, 5.4	Minor editorials Incorporated following CRs: OMA-COM-CAB-2012-0030R03- CR_TS_XDMS_Subscription_Invite_FH_App_Usage OMA-COM-CAB-2012-0057R01-CR_Solution_for_SN_009_CAB_XDMS OMA-COM-CAB-2012-0067R02-CR_TS_XDMS_Restore OMA-COM-CAB-2012-0068R01-CR_Subscription_Invite_delivery_TS_XDMS
	02 May 2012	5.1, 5.2	Incorporated following CRs: OMA-COM-CAB-2012-0085-CR_TS_XDMS_Restore
	16 May 2012	All	Editorial cleanup as a pre-cursor to addressing CONR comments.
	15 Jun 2012	All	Editorial fixes, including: - Fixing table of contents - CONR's H002...012, 017, 020, 024, 029 resolved. - OMA-COM-CAB-2012-009R01, resolved CONR H031, H034, and H039. - OMA-COM-CAB-2012-0028, resolved CONR H036.

Document Identifier	Date	Sections	Description
	28 Jun 2012	2.1, 5	Incorporated following CRs: - OMA-COM-CAB-2012-0110-CR_huawei_CONR_Comments_resolution_TS_XDMS_section_2.1 - OMA-COM-CAB-2012-0111-CR_Huawei_CONR_comments_resolution_TS_XDMS_section_5.3.1
	17 Jul 2012	5.1, 5.2	Incorporated following CRs: - OMA-COM-CAB-2012-0117-CR_CONR_H018_timestamp_XDMS_TS - OMA-COM-CAB-2012-0119-CR_CONR_H021_XDMS_TS - OMA-COM-CAB-2012-0138R02-CR_CONR_H019 - OMA-COM-CAB-2012-0139R02-CR_CONR_H027 - OMA-COM-CAB-2012-0146-CR_CONR_H025_H026_XDMS_TS - OMA-COM-CAB-2012-0148-CR_CONR_H033_H043_XDMS_TS
	25 Jul 2012	5.1, 5.2, App B, E	Incorporated following CRs: - OMA-COM-CAB-2012-0149R01-CR_CONR_H044_H045_Address_XML_example_XDMS_TS - OMA-COM-CAB-2012-0151R01-CR_Subscription_Invite_bug_fix_XDMS_TS - OMA-COM-CAB-2012-0156-CR_CONR_H041_H046_XDMS_TS
	01 Aug 2012	5.3, 5.4, App C, E	Incorporated following CRs: - OMA-COM-CAB-2012-0154-CR_CONR_H042_SCR_table_updates_XDMS_TS - OMA-COM-CAB-2012-0157-CR_CONR_H035_XDMS_TS - OMA-COM-CAB-2012-0159-CR_CAB_Feature_Handler_Bug_Fix - OMA-COM-CAB-2012-0168-CR_CAB_User_Prefs_bug_fix_XDMS_TS - OMA-COM-CAB-2012-0169R01-CR_CONR_H047_UserPrefs_XML_Example_XDMS_TS
	10 Aug 2012	5.2.1.16, App E	Incorporated following CRs: - OMA-COM-CAB-2012-0170R02-CR_CONR_H048_FH_XML_Example_XDMS_TS - OMA-COM-CAB-2012-0174R02-CR_TS_XDMS_AI_A009
	15 Aug 2012	3.2, 5.2, 5.3	Editorial fixes (i.e. removed 'stale' Editor's Note in 5.3.1.7) Incorporated following CRs: - OMA-COM-CAB-2012-0177R01-CR_CONR_PCC_Manual_Update_XDMS_TS
Candidate Version: OMA-TS-CAB_XDMS-V1_1	04 Sep 2012	All	Status changed to Candidate by TP: OMA-TP-2012-0327-INP_CAB_V1_1_ERP_for_Candidate_Approval

Appendix B. Contact Views (Informative)

This sub clause describes the realization of Contact Views based on Access Permissions and filters as described in [XDM Core].

B.1 XML Instance - PCC sample with 'view-type' association.

```
<?xml version="1.0" encoding="UTF-8"?>
<pcc pcc-type="individual" xmlns="urn:oma:xml:cab:pcc" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" >
  <person-details index="gt4fd890bu8">
    <name index="fg4fd890der">
      <name-entry index="dslkhdskj" name-type="LegalName" view-type="work">
        <title display-order="1">Mr.</title>
        <given display-order="1">Joe</given>
        <family display-order="1">Smith</family>
        <gen-id display-order="1">Jr.</gen-id>
        <degree display-order="1">PhD</degree>
        <display-name>Joe Smith</display-name>
      </name-entry>
      <name-entry index="riuetutl" name-type="KnownAs" view-type="personal">
        <given display-order="1">Joe</given>
        <family display-order="1">Smith</family>
        <display-name>Joe</display-name>
      </name-entry>
    </name>
    <address>
      <address-entry index="dasfdhas1" addr-type="Work" view-type="work">
        <location>
          <location-label>GPS for ABC Consulting</location-label>
          <latitude>
            <degrees-measure>25</degrees-measure>
            <minutes-measure>50</minutes-measure>
            <seconds-measure>00</seconds-measure>
            <lat-sign>N</lat-sign>
          </latitude>
          <longitude>
            <degrees-measure>93</degrees-measure>
            <minutes-measure>31</minutes-measure>
            <seconds-measure>00</seconds-measure>
            <long-sign>W</long-sign>
          </longitude>
          <altitude>
            <meters-measure>60</meters-measure>
            <alt-sign>+</alt-sign>
          </altitude>
          <timezone>
            <tz-label>My work timezone</tz-label>
            <utc-offset>-8</utc-offset>
            <tz-url>maps.example.com/1234</tz-url>
          </timezone>
        </location>
        <label>Work Address</label>
        <addr-details>
          <country>US</country>
          <region>
            <region-name region-type="State">Alabama</region-name>
          </region>
          <locality>
            <locality-name locality-type="City">Huntsville</locality-name>
          </locality>
          <street>
            <str-name>Washington Avenue</str-name>
            <str-number>1000</str-number>
          </street>
          <post-code>
            <post-code-main>11111</post-code-main>
            <sub-post-code>1111</sub-post-code>
          </post-code>
        </addr-details>
      </address-entry>
    </address>
  </person-details>
</pcc>
```

```

</address-entry>
<address-entry index="ludskhf" addr-type="Work" view-type="personal">
  <location>
    <timezone>
      <tz-label>My home timezone</tz-label>
      <utc-offset>-8</utc-offset>
      <tz-url>maps.example.com/5678</tz-url>
    </timezone>
  </location>
  <label>My Home Address</label>
  <addr-details>
    <country>US</country>
    <region>
      <region-name region-type="State">Alabama</region-name>
    </region>
    <locality>
      <locality-name locality-type="City">Huntsville</locality-name>
    </locality>
    <street>
      <str-name>Colorado Blvd</str-name>
      <str-number>1000</str-number>
    </street>
    <post-code>
      <post-code-main>22222</post-code-main>
      <sub-post-code>222</sub-post-code>
    </post-code>
  </addr-details>
</address-entry>
</address>
<comm-addr xml:lang="en">
  <uri-entry index="glrjgil" addr-uri-type="Home SIP-URI" XUI="CAB" view-type="personal">
    <addr-uri>sip:joe.smith@example.com;</addr-uri>
    <label>My IP Phone</label>
  </uri-entry>
  <uri-entry index="asdhfdsag" addr-uri-type="Email">
    <addr-uri>mailto:jboggs@example.com</addr-uri>
    <label>My personal Email</label>
  </uri-entry>
  <tel index="nbvfjf" tel-type="Mobile" view-type="work">
    <tel-nb>
      <tel-str>1-222-222-2222</tel-str>
    </tel-nb>
    <label>My mobile Phone at work</label>
  </tel>
  <tel index="ijlfushf" tel-type="Home" view-type="personal">
    <tel-nb>
      <tel-str>1-111-111-1111</tel-str>
    </tel-nb>
    <label>My phone at home</label>
  </tel>
  <tel index="ijlfdferf" tel-type="Other" view-type="personal,work">
    <tel-nb>
      <tel-str>+1-333-333-3333</tel-str>
    </tel-nb>
    <label>Other</label>
  </tel>
</comm-addr>
<birth xml:lang="en" view-type="personal">
  <birth-date>
    <date>1957-07-09T06:01:00</date>
  </birth-date>
  <place index="hgdfersx">Saint Joesph Hospital Little Rock, Arkansas</place>
</birth>
</person-details>
</pcc>

```

B.2 Example 1 – Creation of ‘Personal’ Contact View using a filter that selects particular elements by position.

```
<?xml version="1.0" encoding="UTF-8"?>
<ap-rules xmlns="urn:oma:xml:xdm:ap"
  xmlns:cp="urn:ietf:params:xml:ns:common-policy"
  xmlns:ocp="urn:oma:xml:xdm:common-policy"
  xmlns:fi="urn:ietf:params:xml:ns:simple-filter">
<document-rule path="pcc">
  <cp:ruleset>
    <cp:rule cp:id="Personal View">
      <cp:conditions>
        <cp:identity>
          <cp:one id="sip:joe.smith@example.com"/>
        </cp:identity>
      </cp:conditions>
      <cp:actions>
        <allow-retrieve/>
      </cp:actions>
      <cp:transformations>
        <fi:filter-set>
          <fi:ns-bindings>
            <fi:ns-binding prefix="pcc" urn="urn:oma:xml:cab:pcc"/>
          </fi:ns-bindings>
          <fi:filter id="Personal View">
            <fi:what>
              <fi:include type="xpath"//pcc:pcc/pcc:person-details/pcc:name[1]/pcc:name-
entry[2]</fi:include>
              <fi:include type="xpath"//pcc:pcc/pcc:person-details/pcc:address/pcc:address-
entry[2]</fi:include>
              <fi:include type="xpath"//pcc:pcc/pcc:person-details/pcc:comm-addr/pcc:uri-
entry[1]</fi:include>
              <fi:include type="xpath"//pcc:pcc/pcc:person-details/pcc:comm-
addr/pcc:tel[2]</fi:include>
              <fi:include type="xpath"//pcc:pcc/pcc:person-details/pcc:comm-
addr/pcc:tel[3]</fi:include>
              <fi:include type="xpath"//pcc:pcc/pcc:person-details/pcc:birth</fi:include>
            </fi:what>
          </fi:filter>
        </fi:filter-set>
      </cp:transformations>
    </cp:rule>
  </cp:ruleset>
</document-rule>
</ap-rules>
```

B.3 Example 2 – Creation of ‘Work’ Contact View using a filter that selects particular elements by position.

```
<?xml version="1.0" encoding="UTF-8"?>
<ap-rules xmlns="urn:oma:xml:xdm:ap"
  xmlns:cp="urn:ietf:params:xml:ns:common-policy"
  xmlns:ocp="urn:oma:xml:xdm:common-policy"
  xmlns:fi="urn:ietf:params:xml:ns:simple-filter">
<document-rule path="pcc">
  <cp:ruleset>
    <cp:rule cp:id="Work View">
      <cp:conditions>
        <cp:identity>
          <cp:one id="sip:joe.smith@example.com"/>
        </cp:identity>
      </cp:conditions>
      <cp:actions>
        <allow-retrieve/>
      </cp:actions>
      <cp:transformations>
        <fi:filter-set>
          <fi:ns-bindings>
            <fi:ns-binding prefix="pcc" urn="urn:oma:xml:cab:pcc"/>
          </fi:ns-bindings>
        </fi:filter-set>
      </cp:transformations>
    </cp:rule>
  </cp:ruleset>
</document-rule>
</ap-rules>
```

```

    </fi:ns-bindings>
    <fi:filter id="Work View">
      <fi:what>
        <fi:include type="xpath"//pcc:pcc/pcc:person-details/pcc:name[1]/pcc:name-
entry[1]</fi:include>
        <fi:include type="xpath"//pcc:pcc/pcc:person-details/pcc:address/pcc:address-
entry[1]</fi:include>
        <fi:include type="xpath"//pcc:pcc/pcc:person-details/pcc:comm-
addr/pcc:tel[1]</fi:include>
        <fi:include type="xpath"//pcc:pcc/pcc:person-details/pcc:comm-
addr/pcc:tel[3]</fi:include>
      </fi:what>
    </fi:filter>
  </fi:filter-set>
</cp:transformations>
</cp:rule>
</cp:ruleset>
</document-rule>
</ap-rules>

```

B.4 Example 3 – Creation of ‘Personal’ Contact View using a filter filter that utilizes the ‘view-type’ attribute.

```

<?xml version="1.0" encoding="UTF-8"?>
<ap-rules xmlns="urn:oma:xml:xdm:ap"
  xmlns:cp="urn:ietf:params:xml:ns:common-policy"
  xmlns:ocp="urn:oma:xml:xdm:common-policy"
  xmlns:fi="urn:ietf:params:xml:ns:simple-filter">
<document-rule path="pcc">
  <cp:ruleset>
    <cp:rule cp:id="Personal View">
      <cp:conditions>
        <cp:identity>
          <cp:one id="sip:joe.smith@example.com"/>
        </cp:identity>
      </cp:conditions>
      <cp:actions>
        <allow-retrieve/>
      </cp:actions>
      <cp:transformations>
        <fi:filter-set>
          <fi:ns-bindings>
            <fi:ns-binding prefix="pcc" urn="urn:oma:xml:cab:pcc"/>
          </fi:ns-bindings>
          <fi:filter id="Personal View">
            <fi:what>
              <fi:include type="xpath"//*[contains(@view-type, 'personal')]</fi:include>
            </fi:what>
          </fi:filter>
        </fi:filter-set>
      </cp:transformations>
    </cp:rule>
  </cp:ruleset>
</document-rule>
</ap-rules>

```

B.5 Example 4 – Creation of ‘Work’ Contact View using a filter that utilizes the ‘view-type’ attribute.

```

<?xml version="1.0" encoding="UTF-8"?>
<ap-rules xmlns="urn:oma:xml:xdm:ap"
  xmlns:cp="urn:ietf:params:xml:ns:common-policy"
  xmlns:ocp="urn:oma:xml:xdm:common-policy"
  xmlns:fi="urn:ietf:params:xml:ns:simple-filter">
<document-rule path="pcc">
  <cp:ruleset>
    <cp:rule cp:id="Work View">
      <cp:conditions>
        <cp:identity>

```

```
<cp:one id="sip:joe.smith@example.com"/>
  </cp:identity>
</cp:conditions>
<cp:actions>
  <allow-retrieve/>
</cp:actions>
<cp:transformations>
  <fi:filter-set>
    <fi:ns-bindings>
      <fi:ns-binding prefix="pcc" urn="urn:oma:xml:cab:pcc"/>
    </fi:ns-bindings>
    <fi:filter id="Work View">
      <fi:what>
        <fi:include type="xpath"//*[contains(@view-type, 'work')]/>
      </fi:what>
    </fi:filter>
  </fi:filter-set>
</cp:transformations>
</cp:rule>
</cp:ruleset>
</document-rule>
</ap-rules>
```

Appendix C. 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:

- AB Application Usage
- PCC Application Usage
- CAB User Preferences Application Usage
- CAB Feature Handler Application Usage

Note: All the Requirements that prefix with “XDM_Core” are a reference to the [XDM Core] specification.

C.1 AB Application Usages for XDMS

Item	Function	Reference	Requirement
CAB_AB-XOP-S-001-M	Support AB Application Usage	5.1.1	CAB_AB-XOP-S-002-M and CAB_AB-XOP-S-003-M and CAB_AB-XOP-S-004-M and CAB_AB-XOP-S-005-M and CAB_AB-XOP-S-006-M and CAB_AB-XOP-S-007-M and CAB_AB-XOP-S-008-M and CAB_AB-XOP-S-009-M and CAB_AB-SEC-S-001-M and CAB_AB-SRC-S-001-M and CAB_AB-XP-S-001-M and CAB_AB-HIS-S-001-M and CAB_AB-FW-S-001-M and CAB_AB-REF-S-001-O and CAB_AB-RES-S-001-M
CAB_AB-XOP-S-002-M	Support AB Document structure	5.1.1.1	CAB_AB-XOP-S-001-M and XDM_Core-XOP-S-001-M
CAB_AB-XOP-S-003-M	Support Application Unique ID of AB Document	5.1.1.2	
CAB_AB-XOP-S-004-M	Support XML schema of AB Document	5.1.1.3	
CAB_AB-XOP-S-005-M	Support default name space of AB Document	5.1.1.4	
CAB_AB-XOP-S-006-M	Support MIME type of AB Document	5.1.1.5	
CAB_AB-XOP-S-007-M	Support validation constraints of AB Document	5.1.1.6	
CAB_AB-XOP-S-008-M	Support data semantics of AB Document	5.1.1.7	
CAB_AB-XOP-S-009-M	Support naming conventions for AB Document	5.1.1.8	

Item	Function	Reference	Requirement
CAB_AB-SEC-S-001-M	Support access permissions of AB Document	5.1.1.11	CAB_AB-XOP-S-001-M and XDM_Core-SEC-S-003-O
CAB_AB-SRC-S-001-M	Support search capabilities for AB Document	5.1.1.12	CAB_AB-XOP-S-001-M and XDM_Core-SRC-S-001-O and XDM_Core-SRC-S-002-O and XDM_Core-SRC-S-003-O
CAB_AB-XP-S-001-M	Support for XDM Preferences	5.1.1.13	XDM_Core-PRF-S-001-O
CAB_AB-HIS-S-001-M	Support History for AB Document	5.1.1.14	CAB_AB-XOP-S-001-M and XDM_Core-MHI-S-001-O and XDM_Core-RHI-S-001-O
CAB_AB-FW-S-001-M	Support Forwarding for AB document	5.1.1.15	CAB_AB-XOP-S-001-M and XDM_Core-FWD-S-002-O and XDM_Core-FWD-S-003-O and XDM_Core-FWD-S-004-O and XDM_Core-FWD-S-005-O and XDM_Core-FWD-S-006-O and XDM_Core-FWD-S-007-O and XDM_Core-FWD-S-008-O
CAB_AB-REF-S-001-O	Support for Document Reference	5.1.1.16	XDM_Core-REF-S-001-O
CAB_AB-RES-S-001-M	Support for AB Restore	5.1.1.17	XDM_Core-RES-S-001-O

C.2 AB Application Usages for XDMC

Item	Function	Reference	Requirement
CAB_AB-XOP-C-001-O	Support AB Application Usage	5.1.1	CAB_AB-XOP-C-002-O and CAB_AB-XOP-C-003-O and CAB_AB-XOP-C-004-O and CAB_AB-XOP-C-005-O and CAB_AB-XOP-C-006-O and CAB_AB-XOP-C-007-O and CAB_AB-XOP-C-008-O and CAB_AB-XOP-C-009-O and CAB_AB-SEC-C-001-M and CAB_AB-SRC-C-001-M and CAB_AB-XP-C-001-O and CAB_AB-HIS-C-001-O and CAB_AB-FW-C-001-O and CAB_AB-REF-C-001-O and CAB_AB-RES-C-001-O
CAB_AB-XOP-C-002-O	Support AB Document structure	5.1.1.1	CAB_AB-XOP-C-001-O and XDM_Core-XOP-C-001-O
CAB_AB-XOP-C-003-O	Support Application Unique ID of AB Document	5.1.1.2	
CAB_AB-XOP-C-004-O	Support XML schema of AB Document	5.1.1.3	

Item	Function	Reference	Requirement
CAB_AB-XOP-C-005-O	Support default name space of AB Document	5.1.1.4	
CAB_AB-XOP-C-006-O	Support MIME type of AB Document	5.1.1.5	
CAB_AB-XOP-C-007-O	Support validation constraints of AB Document	5.1.1.6	
CAB_AB-XOP-C-008-O	Support data semantics of AB Document	5.1.1.7	
CAB_AB-XOP-C-009-O	Support naming conventions for AB Document	5.1.1.8	
CAB_AB-SEC-C-001-M	Support access permissions of AB Document	5.1.1.11	CAB_AB-XOP-C-001-O and XDM_Core-SEC-C-005-O
CAB_AB-SRC-C-001-M	Support search capabilities for AB Document	5.1.1.12	CAB_AB-XOP-C-001-O and XDM_Core-SRC-C-001-O and XDM_Core-SRC-C-002-O and XDM_Core-SRC-C-003-O
CAB_AB-XP-S-001-O	Support for XDM Preferences	5.1.1.13	XDM_Core-PRF-C-001-O
CAB_AB-HIS-S-001-O	Support History for AB Document	5.1.1.14	CAB_AB-XOP-S-001-M and XDM_Core-MHI-C-001-O and XDM_Core-RHI-C-001-O
CAB_AB-RES-S-001-O	Support for AB Restore	5.1.1.17	XDM_Core-RES-C-001-O

C.3 AB Application Usages for XDM Agent

Item	Function	Reference	Requirement
CAB_AB-XOP-A-001-M	Support AB Application Usage	5.1.1	CAB_AB-XOP-A-002-M and CAB_AB-XOP-A-003-M and CAB_AB-XOP-A-004-M and CAB_AB-XOP-A-005-M and CAB_AB-XOP-A-006-M and CAB_AB-XOP-A-007-M and CAB_AB-XOP-A-008-M and CAB_AB-XOP-A-009-M and CAB_AB-ERR-A-001-M and CAB_AB-SEC-A-001-M and CAB_AB-SRC-A-001-M and CAB_AB-XP-A-001-M and CAB_AB-HIS-A-001-M and CAB_AB-FW-A-001-M and CAB_AB-REF-A-001-O and CAB_AB-RES-A-001-M
CAB_AB-XOP-A-002-M	Support AB Document structure	5.1.1.1	CAB_AB-XOP-A-001-M and XDM_Core-XOP-A-003-M
CAB_AB-XOP-A-003-M	Support Application Unique ID of AB Document	5.1.1.2	

Item	Function	Reference	Requirement
CAB_AB-XOP-A-004-M	Support XML schema of AB Document	5.1.1.3	
CAB_AB-XOP-A-005-M	Support default name space of AB Document	5.1.1.4	
CAB_AB-XOP-A-006-M	Support MIME type of AB Document	5.1.1.5	
CAB_AB-XOP-A-007-M	Support validation constraints of AB Document	5.1.1.6	
CAB_AB-XOP-A-008-M	Support data semantics of AB Document	5.1.1.7	
CAB_AB-XOP-A-009-M	Support naming conventions for AB Document	5.1.1.8	
CAB_AB-SEC-A-001-M	Support access permissions of AB Document	5.1.1.11	CAB_AB-XOP-A-001-M and XDM_Core-SEC-A-004-O
CAB_AB-SRC-A-001-M	Support search capabilities for AB Document	5.1.1.12	CAB_AB-XOP-A-001-M and XDM_Core-SRC-A-001-O and XDM_Core-SRC-A-002-O and XDM_Core-SRC-A-003-O
CAB_AB-XP-A-001-M	Support for XDM Preferences	5.1.1.13	XDM_Core-PRF-A-001-O
CAB_AB-HIS-A-001-M	Support History for AB Document	5.1.1.14	CAB_AB-XOP-A-001-M and XDM_Core-MHI-A-001-O and XDM_Core-RHI-A-001-O
CAB_AB-FW-A-001-M	Support Forwarding for AB Document	5.1.1.15	CAB_AB-XOP-A-001-M and XDM_Core-FWD-C-001-O and XDM_Core-FWD-C-001-O
CAB_AB-REF-A-001-O	Support for Document Reference	5.1.1.16	XDM_Core-REF-A-001-O
CAB_AB-RES-A-001-M	Support for AB Restore	5.1.1.17	XDM_Core-RES-A-001-O

C.4 PCC Application Usages for XDMS

Item	Function	Reference	Requirement
CAB_PCC-XOP-S-001-M	Support PCC Application Usages	5.2.1	CAB_PCC-XOP-S-002-M and CAB_PCC-XOP-S-003-M and CAB_PCC-XOP-S-004-M and CAB_PCC-XOP-S-005-M and CAB_PCC-XOP-S-006-M and CAB_PCC-XOP-S-007-M and CAB_PCC-XOP-S-008-M and CAB_PCC-XOP-S-009-M and CAB_PCC-SEC-S-001-M and CAB_PCC-SRC-S-001-M and CAB_PCC-PRF-S-001-M and CAB_PCC-HIS-S-001-M and CAB_PCC-FW-S-001-M and

Item	Function	Reference	Requirement
			CAB_PCC-RES-S-001-M
CAB_PCC-XOP-S-002-M	Support PCC Document structure	5.2.1.1	CAB_PCC-XOP-S-001-M and XDM_Core-XOP-S-001-M
CAB_PCC-XOP-S-003-M	Support Application Unique ID of PCC Document	5.2.1.2	
CAB_PCC-XOP-S-004-M	Support XML schema of PCC Document	5.2.1.3	
CAB_PCC-XOP-S-005-M	Support default name space of PCC Document	5.2.1.4	
CAB_PCC-XOP-S-006-M	Support MIME type of PCC Document	5.2.1.5	
CAB_PCC-XOP-S-007-M	Support validation constraints of PCC Document	5.2.1.6	
CAB_PCC-XOP-S-008-M	Support data semantics of PCC Document	5.2.1.7	
CAB_PCC-XOP-S-009-M	Support naming conventions for PCC Document	5.2.1.8	
CAB_PCC-SEC-S-001-M	Support access permissions of PCC Document	5.2.1.11	CAB_PCC-XOP-S-001-M and XDM_Core-SEC-S-003-O
CAB_PCC-SRC-S-001-M	Support search capabilities for PCC Document	5.2.1.12	CAB_PCC-XOP-S-001-M and XDM_Core-SRC-S-001-O and XDM_Core-SRC-S-002-O and XDM_Core-SRC-S-003-O
CAB_PCC-PRF-S-001-M	Support XDM Preference Document for PCC Document	5.2.1.13	CAB_PCC-XOP-S-001-M and XDM_Core-PRF-S-001-O
CAB_PCC-HIS-S-001-M	Support History for PCC Document	5.2.1.14	CAB_PCC-XOP-S-001-M and XDM_Core-MHI-S-001-O and XDM_Core-RHI-S-001-O
CAB_PCC-FW-S-001-M	Support Forwarding for PCC Document	5.2.1.15	CAB_PCC-XOP-S-001-M and XDM_Core-FWD-S-002-O and XDM_Core-FWD-S-003-O and XDM_Core-FWD-S-004-O and XDM_Core-FWD-S-005-O and XDM_Core-FWD-S-006-O and XDM_Core-FWD-S-007-O and XDM_Core-FWD-S-008-O
CAB_PCC-RES-S-001-M	Support for PCC Restore	5.2.1.16	XDM_Core-RES-C-001-O

C.5 PCC Application Usages for XDMC

Item	Function	Reference	Requirement
CAB_PCC-XOP-C-001-M	Support PCC Application Usages	5.2.1	CAB_PCC-XOP-C-002-M and CAB_PCC-XOP-C-003-M and CAB_PCC-XOP-C-004-M and CAB_PCC-XOP-C-005-M and CAB_PCC-XOP-C-006-M and CAB_PCC-XOP-C-007-M and CAB_PCC-XOP-C-008-M and CAB_PCC-XOP-C-009-M and CAB_PCC-SEC-C-001-M and CAB_PCC-SRC-C-001-M and CAB_PCC-PRF-C-001-M and CAB_PCC-HIS-C-001-M and CAB_PCC-RES-C-001-M
CAB_PCC-XOP-C-002-M	Support PCC Document structure	5.2.1.1	CAB_PCC-XOP-C-001-M and XDM_Core-XOP-C-003-M
CAB_PCC-XOP-C-003-M	Support Application Unique ID of PCC Document	5.2.1.2	
CAB_PCC-XOP-C-004-M	Support XML schema of PCC Document	5.2.1.3	
CAB_PCC-XOP-C-005-M	Support default name space of PCC Document	5.2.1.4	
CAB_PCC-XOP-C-006-M	Support MIME type of PCC Document	5.2.1.5	
CAB_PCC-XOP-C-007-M	Support validation constraints of PCC Document	5.2.1.6	
CAB_PCC-XOP-C-008-M	Support data semantics of PCC Document	5.2.1.7	
CAB_PCC-XOP-C-009-M	Support naming conventions for PCC Document	5.2.1.8	
CAB_PCC-SEC-C-001-M	Support access permissions of PCC Document	5.2.1.11	CAB_PCC-XOP-C-001-M and XDM_Core-SEC-C-005-O
CAB_PCC-SRC-C-001-M	Support search capabilities for PCC Document	5.2.1.12	CAB_PCC-XOP-C-001-M and XDM_Core-SRC-C-001-O and XDM_Core-SRC-C-002-O and XDM_Core-SRC-C-003-O
CAB_PCC-PRF-C-001-M	Support XDM Preference Document for PCC Document	5.2.1.13	CAB_PCC-XOP-C-001-M and XDM_Core-PRF-C-001-O
CAB_PCC-HIS-C-001-M	Support History for PCC Document	5.2.1.14	CAB_PCC-XOP-C-001-M and XDM_Core-MHI-C-001-O and XDM_Core-RHI-C-001-O
CAB_PCC-RES-C-001-M	Support for PCC Restore	5.2.1.16	XDM_Core-RES-C-001-O

C.6 PCC Application Usages for XDM Agent

Item	Function	Reference	Requirement
CAB_PCC-XOP-A-001-M	Support PCC Application Usages	5.2.1	CAB_PCC-XOP-A-002-M and CAB_PCC-XOP-A-003-M and CAB_PCC-XOP-A-004-M and CAB_PCC-XOP-A-005-M and CAB_PCC-XOP-A-006-M and CAB_PCC-XOP-A-007-M and CAB_PCC-XOP-A-008-M and CAB_PCC-XOP-A-009-M and CAB_PCC-SEC-A-001-M and CAB_PCC-SRC-A-001-M and CAB_PCC-PRF-A-001-M and CAB_PCC-HIS-A-001-M and CAB_PCC-FW-A-001-M and CAB_PCC-RES-A-001-M
CAB_PCC-XOP-A-002-M	Support PCC Document structure	5.2.1.1	CAB_PCC-XOP-A-001-M and XDM_Core-XOP-A-003-M
CAB_PCC-XOP-A-003-M	Support Application Unique ID of PCC Document	5.2.1.2	
CAB_PCC-XOP-A-004-M	Support XML schema of PCC Document	5.2.1.3	
CAB_PCC-XOP-A-005-M	Support default name space of PCC Document	5.2.1.4	
CAB_PCC-XOP-A-006-M	Support MIME type of PCC Document	5.2.1.5	
CAB_PCC-XOP-A-007-M	Support validation constraints of PCC Document	5.2.1.6	
CAB_PCC-XOP-A-008-M	Support data semantics of PCC Document	5.2.1.7	
CAB_PCC-XOP-A-009-M	Support naming conventions for PCC Document	5.2.1.8	
CAB_PCC-SEC-A-001-M	Support access permissions of PCC Document	5.2.1.11	CAB_PCC-XOP-A-001-M and XDM_Core-SEC-A-004-O
CAB_PCC-SRC-A-001-M	Support search capabilities for PCC Document	5.2.1.12	CAB_PCC-XOP-A-001-M and XDM_Core-SRC-A-001-O and XDM_Core-SRC-A-002-O and XDM_Core-SRC-A-003-O
CAB_PCC-PRF-A-001-M	Support XDM Preferences Document for PCC Document	5.2.1.13	CAB_PCC-XOP-A-001-M and XDM_Core-MHI-A-001-O and XDM_Core-PRF-A-001-O
CAB_PCC-HIS-A-001-M	Support History for PCC Document	5.2.1.14	CAB_PCC-XOP-A-001-M and XDM_Core-RHI-A-001-O
CAB_PCC-FW-A-001-M	Support forwarding for PCC Document	5.2.1.15	CAB_PCC-XOP-A-001-M and XDM_Core-FWD-C-001-O and XDM_Core-FWD-C-002-O

Item	Function	Reference	Requirement
CAB_PCC-RES-A-001-M	Support for PCC Restore	5.2.1.16	XDM_Core-RES-A-001-O

C.7 CAB User Preferences Application Usages for XDMS

Item	Function	Reference	Requirement
CAB_UP-XOP-S-001-M	Support CAB User Preferences Application Usage	5.3.1	CAB_UP-XOP-S-002-M and CAB_UP-XOP-S-003-M and CAB_UP-XOP-S-004-M and CAB_UP-XOP-S-005-M and CAB_UP-XOP-S-006-M and CAB_UP-XOP-S-007-M and CAB_UP-XOP-S-008-M and CAB_UP-XOP-S-009-M and CAB_UP-SEC-S-001-M
CAB_UP-XOP-S-002-M	Support CAB User Preferences Document structure	5.3.1.1	CAB_UP-XOP-S-001-M and XDM_Core-XOP-S-001-M
CAB_UP-XOP-S-003-M	Support Application Unique ID of CAB User Preferences Document	5.3.1.2	
CAB_UP-XOP-S-004-M	Support XML schema of CAB User Preferences Document	5.3.1.3	
CAB_UP-XOP-S-005-M	Support default name space of CAB User Preferences Document	5.3.1.4	
CAB_UP-XOP-S-006-M	Support MIME type of CAB User Preferences Document	5.3.1.5	
CAB_UP-XOP-S-007-M	Support validation constraints of CAB User Preferences Document	5.3.1.6	
CAB_UP-XOP-S-008-M	Support data semantics of CAB User Preferences Document	5.3.1.7	
CAB_UP-XOP-S-009-M	Support naming conventions for CAB User Preferences Document	5.3.1.8	
CAB_UP-SEC-S-001-M	Support access permissions of CAB User Preferences Document	5.3.1.11	CAB_UP-XOP-S-001-M and XDM_Core-SEC-S-003-O

C.8 CAB User Preference Application Usages for XDMS

Item	Function	Reference	Requirement
CAB_UP-XOP-C-001-M	Support CAB User Preferences Application Usage	5.3.1	CAB_UP-XOP-C-002-M and CAB_UP-XOP-C-003-M and CAB_UP-XOP-C-004-M and CAB_UP-XOP-C-005-M and CAB_UP-XOP-C-006-M and

Item	Function	Reference	Requirement
			CAB_UP-XOP-C-007-M and CAB_UP-XOP-C-008-M and CAB_UP-XOP-C-009-M and CAB_UP-SEC-C-001-M
CAB_UP-XOP-C-002-M	Support CAB User Preferences Document structure	5.3.1.1	CAB_UP-XOP-C-001-M and XDM_Core-XOP-C-003-M
CAB_UP-XOP-C-003-M	Support Application Unique ID of CAB User Preferences Document	5.3.1.2	
CAB_UP-XOP-C-004-M	Support XML schema of CAB User Preferences Document	5.3.1.3	
CAB_UP-XOP-C-005-M	Support default name space of CAB User Preferences Document	5.3.1.4	
CAB_UP-XOP-C-006-M	Support MIME type of CAB User Preference s Document	5.3.1.5	
CAB_UP-XOP-C-007-M	Support validation constraints of CAB User Preferences Document	5.3.1.6	
CAB_UP-XOP-C-008-M	Support data semantics of CAB User Preferences Document	5.3.1.7	
CAB_UP-XOP-C-009-M	Support naming conventions for CAB User Preferences Document	5.3.1.8	
CAB_UP-SEC-C-001-M	Support access permissions of CAB User Preferences Document	5.3.1.11	

C.9 CAB User Preference Application Usages for XDM Agent

Item	Function	Reference	Requirement
CAB_UP-XOP-A-001-M	Support CAB User Preferences Application Usage	5.3.1	CAB_UP-XOP-A-002-M and CAB_UP-XOP-A-003-M and CAB_UP-XOP-A-004-M and CAB_UP-XOP-A-005-M and CAB_UP-XOP-A-006-M and CAB_UP-XOP-A-007-M and CAB_UP-XOP-A-008-M and CAB_UP-XOP-A-009-M and CAB_UP-SEC-A-001-M
CAB_UP-XOP-A-002-M	Support CAB User Preferences Document structure	5.3.1.1	CAB_UP-XOP-A-001-M and XDM_Core-XOP-A-003-M
CAB_UP-XOP-A-003-M	Support Application Unique ID of CAB User	5.3.1.2	

Item	Function	Reference	Requirement
	Preferences Document		
CAB_UP-XOP-A-004-M	Support XML schema of CAB User Preferences Document	5.3.1.3	
CAB_UP-XOP-A-005-M	Support default name space of CAB User Preferences Document	5.3.1.4	
CAB_UP-XOP-A-006-M	Support MIME type of CAB User Preferences Document	5.3.1.5	
CAB_UP-XOP-A-007-M	Support validation constraints of CAB User Preferences Document	5.3.1.6	
CAB_UP-XOP-A-008-M	Support data semantics of CAB User Preferences Document	5.3.1.7	
CAB_UP-XOP-A-009-M	Support naming conventions for CAB User Preferences Document	5.3.1.8	
CAB_UP-SEC-A-001-M	Support access permissions of CAB User Preferences Document	5.3.1.11	CAB_UP-XOP-A-001-M and XDM_Core-SEC-A-004-O

C.10 CAB Feature Handler Application Usage for XDMS

Item	Function	Reference	Requirement
CAB_FH-XOP-S-001-M	Support CAB Feature Handler Application Usage	5.4.1	CAB_FH-XOP-S-002-M and CAB_FH-XOP-S-003-M and CAB_FH-XOP-S-004-M and CAB_FH-XOP-S-005-M and CAB_FH-XOP-S-006-M and CAB_FH-XOP-S-007-M and CAB_FH-XOP-S-008-M and CAB_FH-XOP-S-009-M and CAB_FH-SEC-S-001-M and CAB_FH-SRC-S-001-M
CAB_FH-XOP-S-002-M	Support CAB Feature Handler Document structure	5.4.1.1	CAB_FH-XOP-S-001-M and XDM_Core-XOP-S-001-M
CAB_FH-XOP-S-003-M	Support Application Unique ID of CAB Feature Handler Document	5.4.1.2	
CAB_FH-XOP-S-004-M	Support XML schema of CAB Feature Handler Document	5.4.1.3	
CAB_FH-XOP-S-005-M	Support Default Namespace for CAB	5.4.1.4	

Item	Function	Reference	Requirement
	Feature Handler Document		
CAB_FH-XOP-S-006-M	Support MIME type of CAB Feature Handler Document	5.4.1.5	
CAB_FH-XOP-S-007-M	Support validation constraints of CAB Feature Handler Document	5.4.1.6	
CAB_FH-XOP-S-008-M	Support data semantics of CAB Feature Handler Document	5.4.1.7	
CAB_FH-XOP-S-009-M	Support naming conventions for Feature Handler Document	5.4.1.8	
CAB_FH-SEC-S-001-M	Support access permissions of CAB Feature Handler Document	5.4.1.11	CAB_FH-XOP-S-001-M and XDM_Core-SEC-S-003-O
CAB_FH-SRC-S-001-M	Support search capabilities for Feature Handler Document	5.4.1.12	CAB_FH-XOP-S-001-M and XDM_Core-SRC-S-001-O and XDM_Core-SRC-S-002-O and XDM_Core-SRC-S-003-O

C.11 CAB Feature Handler Application Usage for XDMC

Item	Function	Reference	Requirement
CAB_FH-XOP-C-001-M	Support CAB Feature Handler Application Usage	5.4.1	CAB_FH-XOP-C-002-M and CAB_FH-XOP-C-003-M and CAB_FH-XOP-C-004-M and CAB_FH-XOP-C-005-M and CAB_FH-XOP-C-006-M and CAB_FH-XOP-C-007-M and CAB_FH-XOP-C-008-M and CAB_FH-XOP-C-009-M and CAB_FH-SEC-C-001-M and CAB_FH-SRC-C-001-M and CAB_FH-ERR-C-001-M and CAB_FH-ERR-C-002-M
CAB_FH-XOP-C-002-M	Support CAB Feature Handler Document structure	5.4.1.1	CAB_FH-XOP-C-001-M and XDM_Core-XOP-C-003-M
CAB_FH-XOP-C-003-M	Support Application Unique ID of CAB Feature Handler Document	5.4.1.2	
CAB_FH-XOP-C-004-M	Support XML schema of CAB Feature Handler Document	5.4.1.3	

Item	Function	Reference	Requirement
CAB_FH-XOP-C-005-M	Support Default Namespace for CAB Feature Handler Document	5.4.1.4	
CAB_FH-XOP-C-006-M	Support MIME type of CAB Feature Handler Document	5.4.1.5	
CAB_FH-XOP-C-007-M	Support validation constraints of CAB Feature Handler Document	5.4.1.6	
CAB_FH-ERR-C-001-M	XDMC handling of HTTP “409 Conflict” response from the XDMS	5.4.1.6	
CAB_FH-XOP-C-008-M	Support data semantics of CAB Feature Handler Document	5.4.1.7	
CAB_FH-XOP-C-009-M	Support naming conventions for Feature Handler Document	5.4.1.8	
CAB_FH-SEC-C-001-M	Support access permissions of CAB Feature Handler Document	5.4.1.11	CAB_FH-XOP-C-001-M and XDM_Core-SEC-C-005-O
CAB_FH-SRC-C-001-M	Support search capabilities for Feature Handler Document	5.4.1.12	CAB_FH-XOP-C-001-M and XDM_Core-SRC-C-001-O and XDM_Core-SRC-C-002-O and XDM_Core-SRC-C-003-O

C.12 CAB Feature Handler Application Usage for XDM Agent

Item	Function	Reference	Requirement
CAB_FH-XOP-A-001-M	Support CAB Feature Handler Application Usage	5.4.1	CAB_FH-XOP-A-002-M and CAB_FH-XOP-A-003-M and CAB_FH-XOP-A-004-M and CAB_FH-XOP-A-005-M and CAB_FH-XOP-A-006-M and CAB_FH-XOP-A-007-M and CAB_FH-XOP-A-008-M and CAB_FH-XOP-A-009-M and CAB_FH-SEC-A-001-M and CAB_FH-SRC-A-001-M and
CAB_FH-XOP-A-002-M	Support CAB Feature Handler Document structure	5.4.1.1	CAB_FH-XOP-A-001-M and XDM_Core-XOP-A-003-M
CAB_FH-XOP-A-003-M	Support Application Unique ID of CAB Feature Handler Document	5.4.1.2	
CAB_FH-XOP-A-004-M	Support XML schema of CAB Feature Handler	5.4.1.3	

Item	Function	Reference	Requirement
	Document		
CAB_FH-XOP-A-005-M	Support Default Namespace for CAB Feature Handler Document	5.4.1.4	
CAB_FH-XOP-A-006-M	Support MIME type of CAB Feature Handler Document	5.4.1.5	
CAB_FH-XOP-A-007-M	Support validation constraints of CAB Feature Handler Document	5.4.1.6	
CAB_FH-ERR-A-001-M	XDMC handling of HTTP “409 Conflict” response from the XDMS	5.4.1.6	
CAB_FH-XOP-A-008-M	Support data semantics of CAB Feature Handler Document	5.4.1.7	
CAB_FH-XOP-A-009-M	Support naming conventions for Feature Handler Document	5.4.1.8	
CAB_FH-SEC-A-001-M	Support access permissions of CAB Feature Handler Document	5.4.1.11	CAB_FH-XOP-A-001-M and XDM_Core-SEC-A-004-O
CAB_FH-SRC-A-001-M	Support search capabilities for Feature Handler Document	5.4.1.12	CAB_FH-XOP-A-001-M and XDM_Core-SRC-A-001-O and XDM_Core-SRC-A-002-O and XDM_Core-SRC-A-003-O
CAB_FH-ERR-A-002-M	XDMC handling of HTTP “409 Conflict” response from the XDMS	5.4.1.12	

Appendix D. Flows

(Informative)

The CAB XDMS document management flows are described in the [CAB 1.1 TS].

Appendix E. CAB XDMS documents examples (Informative)

E.1 Address Book XML documents

The following is an example of an Address Book (AB) XML document. The AB document in this example represents an AB with two Contact Entries as follows:

- 1) A Contact Entry representing a CAB contact that is automatically updated with Contact Subscription updates
- 2) A temporary Contact Entry as a result of Import non-CAB operation, yet to be accepted by the CAB User
- 3) A temporary Contact Entry indicating an incoming subscription invitation towards the CAB User
- 4) A Contact Entry representing a CAB contact, showing identified Common Connections
- 5) A temporary Contact Entry representing a CAB contact, showing a contact suggestion provided by the Service Provider

```

<address-book xmlns="urn:oma:xml:cab:address-book" xmlns:pcc="urn:oma:xml:cab:pcc"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <contact id="aliudhjhd" timestamp="2012-07-17T06:01:00">      <!-- CONTACT ENTRY 1 -->
    <contact-status>
      <contact-type>
        <type>CAB</type>
        <contact-type-source>other</contact-type-source/>
      </contact-type>
      <entry-status>
        <updated ack="true">contact subscription</updated>
      </entry-status>
      <contact-subscription-status>active</contact-subscription-status/>
      <contact-source>CAB</contact-source>
    </contact-status>
    <pcc:person-details>
      <pcc:name-entry xml:lang="en" name-type="LegalName">
        <pcc:title>Mr.</pcc:title>
        <pcc:given>John</pcc:given>
        <pcc:family>Smith</pcc:family>
        <pcc:display-name>Jack</pcc:display-name>
      </pcc:name-entry>
      <pcc:address>
        <pcc:address-entry addr-type="Home" xml:lang="en">
          <pcc:location>
            <pcc:location-label>Alabama, USA</pcc:location-label>
          </pcc:location>
          <pcc:addr-string>XYZ Corporation, 111 Park Avenue, Huntsville AL 11111,
USA</pcc:addr-string>
        </pcc:address-entry>
      </pcc:address>
      <pcc:comm-addr xml:lang="en">
        <pcc:comm-addr xml:lang="en">
          <pcc:uri-entry pref="1" addr-uri-type="Home SIP-URI" XUI="CAB">
            <pcc:addr-uri>sip:john.smith@example.com</pcc:addr-uri>
            <pcc:label>John Smith IP Phone</pcc:label>
          </pcc:uri-entry>
          <pcc:uri-entry pref="2" addr-uri-type="Email">
            <pcc:addr-uri>mailto:jsmith@example.com</pcc:addr-uri>
            <pcc:label>Email</pcc:label>
          </pcc:uri-entry>
          <pcc:tel pref="1" tel-type="Home Mobile">
            <pcc:tel-nb>
              <pcc:tel-str>1-800-555-1213</pcc:tel-str>
            </pcc:tel-nb>
            <pcc:label>Personal Phone</pcc:label>
          </pcc:tel>
          <pcc:tel pref="2" tel-type="Pager">
            <pcc:tel-nb>
              <pcc:tel-uri>tel:+1-800-555-1214</pcc:tel-uri>
            </pcc:tel-nb>
            <pcc:label>Personal Pager</pcc:label>
          </pcc:tel>
        </pcc:comm-addr>
      </pcc:comm-addr>
    </pcc:person-details>
  </contact>
</address-book>

```

Contact Status

```

        </pcc:tel>
    </pcc:comm-addr>
    <pcc:birth xml:lang="en">
        <pcc:birth-date>
            <pcc:date>1957-07-09T06:01:00</pcc:date>
        </pcc:birth-date>
        <pcc:place>Saint Joesph Hospital Little Rock, Arkansas</pcc:place>
    </pcc:birth>
    <pcc:web-resources xml:lang="en">
        <pcc:web-entry>
            <pcc:url>http://example.com/index.html</pcc:url>
            <pcc:label>My Home Page</pcc:label>
        </pcc:web-entry>
    </pcc:web-resources>
    <pcc:interests-list xml:lang="en">
        <pcc:interest-entry i-level="High">Live TV </pcc:interest-entry>
        <pcc:interest-entry i-level="Low">Video Games</pcc:interest-entry>
    </pcc:interests-list>
    <pcc:organization-list>
        <pcc:organization-entry>
            <pcc:display-name>AB Inc.</pcc:display-name>
            <pcc:entity>Any Biz Inc.</pcc:entity>
            <pcc:unit>SE Region Sales</pcc:unit>
            <pcc:role>Sales Manager</pcc:role>
        </pcc:organization-entry>
    </pcc:organization-list>
    <pcc:note xml:lang="en">Another boring Monday :-(</pcc:note>
</pcc:person-details>
</pcc:contact>
<contact id="liadhfur" timestamp="2012-07-17T10:10:00" <!-- CONTACT ENTRY 2 -->
    <contact-status>
        <entry-status>
            <temporary accept="no">contact imported</temporary>
        </entry-status>
        <contact-source>Yahoo</contact-source>
    </contact-status>
    <pcc:person-details>
        <pcc:name-entry xml:lang="en" name-type="LegalName">
            <pcc:title>Mr.</pcc:title>
            <pcc:given>Joesph</pcc:given>
            <pcc:middle>Samuel</pcc:middle>
            <pcc:family>Bloggs</pcc:family>
            <pcc:gen-id>Jr.</pcc:gen-id>
            <pcc:degree>PE</pcc:degree>
            <pcc:display-name>Joesph Bloggs</pcc:display-name>
        </pcc:name-entry>
        <pcc:address>
            <pcc:address-entry pref="1" addr-type="Home" xml:lang="en">
                <pcc:location>
                    <pcc:location-label>Home Coordinates</pcc:location-label>
                    <pcc:latitude>
                        <pcc:degrees-measure>34</pcc:degrees-measure>
                        <pcc:minutes-measure>38</pcc:minutes-measure>
                        <pcc:seconds-measure>58</pcc:seconds-measure>
                        <pcc:lat-sign>N</pcc:lat-sign>
                    </pcc:latitude>
                    <pcc:longitude>
                        <pcc:degrees-measure>86</pcc:degrees-measure>
                        <pcc:minutes-measure>46</pcc:minutes-measure>
                        <pcc:seconds-measure>35</pcc:seconds-measure>
                        <pcc:long-sign>W</pcc:long-sign>
                    </pcc:longitude>
                    <pcc:altitude>
                        <pcc:meters-measure>60</pcc:meters-measure>
                        <pcc:alt-sign>+</pcc:alt-sign>
                    </pcc:altitude>
                    <pcc:timezone>
                        <pcc:tz-label>Central Time Zone</pcc:tz-label>
                        <pcc:utc-offset>-6</pcc:utc-offset>
                        <pcc:tz-url>timezoneinfo.example.com</pcc:tz-url>
                    </pcc:timezone>
                </pcc:location>
            </pcc:address-entry>
        </pcc:address>
    </pcc:person-details>
</contact>

```



```

    <pcc:label>Home Address</pcc:label>
    <pcc:addr-details>
      <pcc:country>US</pcc:country>
      <pcc:region>
        <pcc:region-name region-type="State">Texas</pcc:region-name>
        <pcc:sub-region sub-region-type="Other">Collin County</pcc:sub-region>
      </pcc:region>
      <pcc:locality>
        <pcc:locality-name locality-type="City">Plano</pcc:locality-name>
      </pcc:locality>
      <pcc:street>
        <pcc:str-name>NW Captial Ave</pcc:str-name>
        <pcc:str-number>54321</pcc:str-number>
        <pcc:intersection>
          <pcc:int-name>5th and NW Capital Ave</pcc:int-name>
          <pcc:int-number>1</pcc:int-number>
        </pcc:intersection>
      </pcc:street>
      <pcc:post-code>
        <pcc:post-code-main>75024</pcc:post-code-main>
        <pcc:sub-post-code>6811</pcc:sub-post-code>
      </pcc:post-code>
    </pcc:addr-details>
  </pcc:address-entry>
  <pcc:address-entry pref="2" addr-type="Work" xml:lang="en">
    <pcc:addr-string> XYZ Corp,111 Park Avenue,Irving TX 75029, USA</pcc:addr-string>
  </pcc:address-entry>
<pcc:address>
  <pcc:comm-addr xml:lang="en">
    <pcc:uri-entry pref="1" addr-uri-type="Home SIP-URI">
      <pcc:addr-uri>sip:joe.bloggs@example.com;</pcc:addr-uri>
      <pcc:label>Joe Bloggs IP Phone</pcc:label>
    </pcc:uri-entry>
    <pcc:uri-entry pref="2" addr-uri-type="Email">
      <pcc:addr-uri>mailto:jbloggs@example.com</pcc:addr-uri>
      <pcc:label>Email</pcc:label>
    </pcc:uri-entry>
    <pcc:tel pref="1" tel-type="Home Mobile" XUI="CAB">
      <pcc:tel-nb>
        <pcc:tel-str>1-800-555-1111</pcc:tel-str>
      </pcc:tel-nb>
      <pcc:label>Personal Phone</pcc:label>
    </pcc:tel>
    <pcc:tel pref="2" tel-type="Home Fixed">
      <pcc:tel-nb>
        <pcc:E164>
          <pcc:cc>1</pcc:cc>
          <pcc:ndc>800</pcc:ndc>
          <pcc:sn>5551000</pcc:sn>
        </pcc:E164>
      </pcc:tel-nb>
      <pcc:label>Home Phone</pcc:label>
    </pcc:tel>
  </pcc:comm-addr>
  <pcc:birth xml:lang="en">
    <pcc:birth-date>
      <pcc:date>1968-01-31T04:20:00</pcc:date>
    </pcc:birth-date>
    <pcc:place>Baylor Hospital, Irving, Texas</pcc:place>
  </pcc:birth>
  <pcc:web-resources xml:lang="en">
    <pcc:web-entry>
      <pcc:url>http://example.com/index.html</pcc:url>
      <pcc:label>My Blog</pcc:label>
    </pcc:web-entry>
  </pcc:web-resources>
  <pcc:interests-list xml:lang="en">
    <pcc:interest-entry i-level="High">Music </pcc:interest-entry>
    <pcc:interest-entry i-level="Medium">Sports</pcc:interest-entry>
  </pcc:interests-list>
  <pcc:organization-list>
    <pcc:organization-entry>

```



```

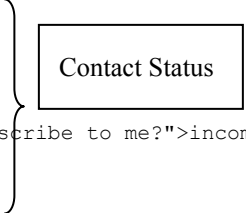
        <pcc:display-name>XYZ</pcc:display-name>
        <pcc:entity>XYZ Corporation</pcc:entity>
        <pcc:unit>Americas Retail</pcc:unit>
        <pcc:role>Head of Strategy</pcc:role>
    </pcc:organization-entry>
</pcc:organization-list>
    <pcc:note xml:lang="en">Too much work too little time!</pcc:note>
</pcc:person-details>
</contact>

<contact id="aliudhjhd" timestamp="2012-07-18T05:01:00">
    <contact-status>
        <contact-type>
            <type>CAB</type>
            <contact-type-source>other</contact-type-source/>
        </contact-type>
        <entry-status>
            <temporary accept="no" invite-message="Hi, do you want to subscribe to me?">incoming
            subscription invite</temporary>
        </entry-status>
        <contact-source>CAB</contact-source>
    </contact-status>
    <pcc:person-details>
        .....
        .....
        .....
    </pcc:person-details>
</contact>

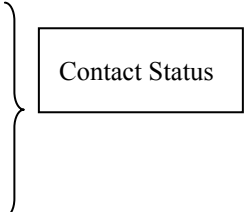
<contact id="aliudhjhd" timestamp="2012-07-18T10:01:00">
    <contact-status>
        <contact-type>
            <type>CAB</type>
            <contact-type-source>other</contact-type-source/>
        </contact-type>
        <common-connections>
            <connection>
                <display-name>Joe Smith</display-name>
                <XUI>sip:joe.smith@example.com</XUI>
                <type-list>
                    <type>address book</type>
                    <type>watcher</type>
                </type-list>
            </connection>
            <connection>
                <display-name>John</display-name>
                <XUI>sip:john.doe@example.com</XUI>
                <type-list>
                    <type>contact-added-mutual</type>
                </type-list>
            </connection>
        </common-connections>
        <contact-source>CAB</contact-source>
    </contact-status>
    <pcc:person-details>
        <pcc:name-entry xml:lang="en" name-type="LegalName">
            <pcc:title>Mr.</pcc:title>
            <pcc:given>John</pcc:given>
            <pcc:family>Doe</pcc:family>
            <pcc:display-name>John Doe</pcc:display-name>
        </pcc:name-entry>
        .....
        .....
        .....
    </pcc:person-details>
</contact>
.....
.....
.....
.....
.....

```

<!-- CONTACT ENTRY 3 -->



<!-- CONTACT ENTRY 4 -->



```

<contact id="aliudhjhd" timestamp="2012-07-18T05:01:00">
  <contact-status>
    <contact-type>
      <type>CAB</type>
      <contact-type-source>other</contact-type-source/>
    </contact-type>
    <entry-status>
      <temporary accept="no">suggested</temporary>
    </entry-status>
    <contact-source>CAB</contact-source>
  </contact-status>
  <pcc:person-details>
    <pcc:name-entry xml:lang="en" name-type="LegalName">
      <pcc:title>Mr.</pcc:title>
      <pcc:given>Mike</pcc:given>
      <pcc:family>Smith</pcc:family>
      <pcc:display-name>Mike Smith</pcc:display-name>
    </pcc:name-entry>
    .....
    .....
    .....
  </pcc:person-details>
</contact>
.....
.....
.....
</address-book>
    
```

<!-- CONTACT ENTRY 5 -->

Contact Status

E.2 PCC XML documents

The following is an example of a PCC XML document. . The PCC document in this example represents a PCC of type “individual” (i.e. ‘pcc-type’ attribute set to “individual”) with the following details:

- 1) one <personal-details> element populated with CAB User’s personal information
- 2) one <org-details> element populated with information related to two organizations
- 3) one <group-details> element populated with information related to one group

```

<?xml version="1.0" encoding="UTF-8"?>
<pcc pcc-type="individual" xmlns="urn:oma:xml:cab:pcc"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">

  <person-details index="gt4fd890bu8">
    <name index="fg4fd890der">
      <name-entry index="dslkhdskj" pref="1" xml:lang="en" name-type="LegalName">
        <title display-order="1">Mr.</title>
        <given display-order="1">Joesph</given>
        <middle display-order="1">Samuel</middle>
        <family display-order="1">Bloggs</family>
        <gen-id display-order="1">Jr.</gen-id>
        <degree display-order="1">PE</degree>
        <display-name>Joesph Bloggs</display-name>
      </name-entry>
      <name-entry index="riuetul" pref="2" xml:lang="en" name-type="KnownAs">
        <given display-order="1">Joe</given>
        <family display-order="1">Bloggs</family>
        <display-name>Joe Bloggs</display-name>
      </name-entry>
    </name>
  </address>
  <address>
    <address-entry index="dasfdhas1" pref="1" addr-type="home" xml:lang="en">
      <location>
        <location-label>Home Coordinates</location-label>
        <latitude>
          <degrees-measure>34</degrees-measure>
        </latitude>
      </location>
    </address-entry>
  </address>
    
```

```

        <minutes-measure>38</minutes-measure>
        <seconds-measure>58</seconds-measure>
        <lat-sign>N</lat-sign>
    </latitude>
    <longitude>
        <degrees-measure>86</degrees-measure>
        <minutes-measure>46</minutes-measure>
        <seconds-measure>35</seconds-measure>
        <long-sign>W</long-sign>
    </longitude>
    <altitude>
        <meters-measure>60</meters-measure>
        <alt-sign>+</alt-sign>
    </altitude>
    <time-zone>
        <tz-lable>Central Time Zone</tz-lable>
        <utc-offset>-6</utc-offset>
        <tz-url>timezoneinfo.example.com</tz-url>
    </time-zone>
</location>
<label>Home Address</label>
<addr-details>
    <country>US</country>
    <region>
        <region-name region-type="state">Alabama</region-name>
        <sub-region region-type="Other">XYZ County</sub-region>
    </region>
    <locality>
        <locality-name locality-type="City">Huntsville </locality-name>
        <sub-locality subloc-type="District">Historic District</sub-locality>
    </locality>
    <street>
        <str-name>SE Blossom Lane</str-name>
        <str-number>12345</str-number>
        <intersection>
            <int-name>5th and SE Blossom Lane</int-name>
            <int-number>1</int-number>
        </intersection>
    </street>
    <post-code>
        <post-code-main>35811</post-code-main>
        <sub-post-code>2367</sub-post-code>
    </post-code>
</addr-details>
</address-entry>
<address-entry index="ludskhf" pref="2" addr-type="work" xml:lang="en">
    <addr-string> XYZ Corporation,111 Park Avenue,Huntsville AL 11111, USA</addr-string>
</address-entry>
<address>
<comm-addr xml:lang="en">
    <uri-entry index="glrjgil" pref="1" addr-uri-type="Home SIP-URI" XUI="CAB">
        <addr-uri>sip:joe.bloggs@example.com</addr-uri>
        <label>Joe Bloggs IP Phone</label>
    </uri-entry>
    <uri-entry index="asdhfdsag" pref="2" addr-uri-type="Email">
        <addr-uri>mailto:jbloggs@example.com</addr-uri>
        <label>Email</label>
    </uri-entry>
    <tel index="fdsajghd" pref="1" tel-type="Home Fixed">
        <tel-nb>
            <E164>
                <cc>1</cc>
                <ndc>800</ndc>
                <sn>5551212</sn>
            </E164>
        </tel-nb>
        <label>Home Phone</label>
    </tel>
    <tel index="nbvfjf" pref="2" tel-type="Home Mobile">
        <tel-nb>
            <tel-str>1-800-555-1213</tel-str>

```

```

        </tel-nb>
        <label>Personal Phone</label>
    </tel>
    <tel index="ijlfushf" pref="3" tel-type="Pager">
        <tel-nb>
            <tel-uri>tel:+1-800-555-1214</tel-uri>
        </tel-nb>
        <label>Personal Pager</label>
    </tel>
</comm-addr>
<birth xml:lang="en">
    <birth-date>
        <date>1957-07-09T06:01:00</date>
        <non-greg-date index="sfkj" cal-type="Ethiopian">1949-11-02</non-greg-date>
        <non-greg-date index="lkjfd" cal-type="Hebrew">5717-04-10</non-greg-date>
        <place index="hgdfersx">Saint Joesph Hospital Little Rock, Arkansas</place>
    </birth-date>
</birth>
<anniversary-list xml:lang="en">
    <anniversary-entry index="kfdjshdk">
        <anniversary-date>
            <date>1987-11-14T00:00:00</date>
        </anniversary-date>
        <label>Marriage Anniversary</label>
    </anniversary-entry>
    <anniversary-entry index="akdshjr">
        <anniversary-date>
            <date>2010-05-04T00:00:00</date>
        </anniversary-date>
        <label>Child's Marriage Anniversary</label>
    </anniversary-entry>
</anniversary-list>
<gender xml:lang="en">1</gender>
<language-list xml:lang="en">
    <language-entry index="fluhfu" language-proficiency-type="read-write">English</language-
entry>
    <language-entry index="fdskjh" language-proficiency-type="speak" language-fluency-
type="beginner">Spanish</language-entry>
</language-list>
<media-list xml:lang="en">
    <media-entry index="dskjhf" pref="1" media-content="Photo" media-type="image/png">
        <media>http://example.com/myImage.png</media>
        <label>MyPhoto</label>
    </media-entry>
    <media-entry index="fdkuhf" pref="2" media-content="Video" media-type="video/ogg">
        <media>http://example.com/myVideo.og</media>
        <label>MyVideo</label>
    </media-entry>
</media-list>
<category-list xml:lang="en">
    <category-entry index="lidfhui">Personal</category-entry>
    <category-entry index="safdsdh">Friends</category-entry>
</category-list>
<web resources xml:lang="en">
    <web-entry index="kjdsdfa">
        <url>http://example.com/index.html</url>
        <label>My Home Page</label>
    </web-entry>
    <web-entry index="lijfajd">
        <url>http://example.com/myblog.html</url>
        <label>My Blog</label>
    </web-entry>
</web resources>
<keylist xml:lang="en">
    <key-entry index="fdskjd" key-type="RSA">
        <key>U4E636AF98E40F3A</key>
        <label/>
    </key-entry>
    <key-entry index="fdskjd" key-type="ECDSA">
        <key>U4E636AF98Ef0F3D</key>
        <label/>
    </key-entry>

```

```

</key-list>
<service-list xml:lang="en">
  <service-entry index="sdkjfh">
    <label>My Photo Service</label>
    <alias>XYZ Photos</alias>
    <url>xyz.example.com</url>
  </service-entry>
  <service-entry index="slkauhj">
    <label>My Social Network</label>
    <alias>JBloggs Social Network</alias>
    <url>social.example.com</url>
  </service-entry>
</service-list>
<expertise-list xml:lang="en">
  <expertise-entry index="rttelkk" e-level="Beginner">Auto Mechanic</expertise-entry>
  <expertise-entry index="rewiuri" e-level="Expert">Painting</expertise-entry>
</expertise-list>
<hobby-list xml:lang="en">
  <hobby-entry index="rttelkk" h-level="High">Coin collecting</hobby-entry>
  <hobby-entry index="rewiuri" h-level="Medium">Flying model planes</hobby-entry>
</hobby-list>
<interest-list xml:lang="en">
  <interest index="rttelkk" i-level="High">Live TV </interest>
  <interest index="rewiuri" i-level="Low">Video Games</interest>
</interest-list>
<career-history xml:lang="en">
  <history-entry index="sadlkj" history-type="School">
    <history-description>Hayden High School</history-description>
    <start-date>2002-09-01T00:00:00</start-date>
    <end-date>2006-05-31T00:00:00</end-date>
  </history-entry>
  <history-entry index="sadlkj" history-type="School">
    <history-description>University of Alabama</history-description>
    <start-date>2006-09-05T00:00:00</start-date>
    <end-date>2010-05-16T00:00:00</end-date>
  </history-entry>
  <history-entry index="sadlkj" history-type="Occupation">
    <history-description>Joes Tavern</history-description>
    <start-date>2011-06-16T00:00:00</start-date>
  </history-entry>
</career-history>
<note xml:lang="en"> Another boring Monday :-(</note>
<service-provider-specific-list>
  <sp-specific-entry index="sadldfget">
    <sp-specific-label>Upgrade your CAB Service!</service-provider-specific-label>
    <sp-data>Dial +1-800-555-1212</sp-data>
  </sp-specific-entry>
</service-provider-specific-list>
<net-storage-content-list>
  <net-storage-content-entry index="sdhfdv">
    <url>http://example.com/ABCPhotoService/JoeSmith</url>
    <label>My Personal Photos</label>
    <file-list>
      <file-list-entry index="khafd" content-type="image/png">
        <file-name>TimesSquare.png</file-name>
        <file-path>ProfilePhotos/NYC</file-path>
        <creation-time>2012-07-10T11:00:00</creation-time>
        <expiration-time>2013-07-09T10:59:59</expiration-time>
      </file-list-entry>
      <file-list-entry index="kjhdv" content-type="image/png">
        <file-name>Boorklyn.png</file-name>
        <file-path>ProfilePhotos/NYC</file-path>
        <creation-time>2012-07-11T8:00:00</creation-time>
        <expiration-time>2013-07-10T7:59:59</expiration-time>
      </file-list-entry>
    </file-list>
  </net-storage-content-entry>
</net-storage-content-list>
</person-details>
<org-details index="shjduhk">
  <org-name index="ifsiiiff" pref="1" org-name-type="OfficialName">
    <display-name>AB Inc.</display-name>
  </org-name>
</org-details>

```

```

    <entity>Any Biz Inc.</entity>
    <unit>SE Region Sales</unit>
  </org-name>
  <org-name index="loijdjd" pref="2" org-name-type="LegalName">
    <display-name>ABC</display-name>
    <entity>All Boston Consulting</entity>
    <unit>Transportation</unit>
  </org-name>
</org-details>
<group-details index="sdkjanhd">
  <group-name>
    <display-name>CAB Members</display-name>
    <entity>OMA Converged Address Book Members List</entity>
  </group-name>
  <group-member-list>
    <group-member index="sakhd">
      <member-details-url>http://openmobilealliance.org/OMACAB/List.html</member-details-url>
    </group-member>
  </group-member-list>
</group-details>
</pcc>

```

E.3 CAB User Preferences XML documents

The following is an example of a CAB User Preferences XML document. This example demonstrates the content of CAB User Preferences XML document as a result of following actions of the CAB User:

- 1) UPP profile with profile id set to “1234”
- 2) Populating the display name to “MyCABPreferences”, and other preferences set to either “true” or “false”.
- 3) Subscription list with two Contact Subscriptions; one entry each consisting of a SIP URI, and a TEL URI.

```

<cab-upp xmlns="urn:oma:xml:cab:user-prefs">
  <cab-upp-set>
    <profile id="1234">
      <display-name>MyCABPreferences</display-name>
      <auto-synchronize-ab>true</auto-synchronize-ab>
      <send-notification-contact-added>true</send-notification--contact-added>
      <receive-notification-when-contact-added>true</receive-notification-when-contact-added>
      <notify-when-contact-becomes-cab-user>true</notify-when-contact-becomes-cab-user>
      <notify-when-receive-contact-subscription>true</notify-when-receive-contact-subscription>
      <notify-on-contact-subscription-update>true</notify-on-contact-subscription-update>
      <update-ab>
        <contact-subscription-update>>false</contact-subscription-update>
        <import-update>>false</import-update>
      </update-ab>
      <contact-share-format>CAB1.1</contact-share-format>
      <allow-suggested-contact-info>true</allow-suggested-contact-info>
      <notify-service-suggestions>>false</notify-service-suggestions>
      <notify-public-content>>false</notify-public-content>
      <notify-common-connections>true</notify-common-connections>
      <notify-contact-subscription-invite>true</notify-contact-subscription-invite>
    </profile>
  </cab-upp-set>
  <subscription-list>
    <entry id="sip:firstname.lastname@example.com"/>
    <entry id="tel:+1-800-555-1212" />
  </subscription-list>
</cab-upp>

```

User Preferences

Subscription List

E.4 CAB Feature Handler XML documents

The following is an example of a CAB Feature Handler XML document. This example demonstrates the content of CAB Feature Handler XML document as a result of a CAB User named “Joe Bloggs” performing the following (i.e. three feature requests):

- 1) A Contact Share request with the following information set in the request:
 - a. Two recipients one each with a SIP and TEL URI
 - b. Populating the note, display name, format, and delivery report request elements
 - c. Sharing the entire CAB User’s PCC and the first two entries from the CAB User’s AB
- 2) An Import non-CAB request with the following information set in the request:
 - a. Domain Name
 - b. Indicating a “one time” import request
 - c. Providing the user credentials
- 3) A Subscription Invitation request with the following information set in the request:
 - a. A list of users (e.g. SIP URIs) who are to receive the corresponding subscription invitation request
 - b. An invitation message from the inviting CAB User
 - c. Contact View (‘Personal View’) of inviting CAB User to be shared/authorized corresponding to a subscription invitation request

Further, note that this example assumes that the response for each CAB feature request is successful.

