# Converged Address Book Architecture

Candidate Version 1.0 – 19 Oct 2010

**Open Mobile Alliance**

OMA-AD-CAB-V1_0-20101019-C

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# Contents

# Figures

# 1. Scope (Informative)

This document describes the architecture designed to fulfil the requirements outlined in [CAB RD]. The description of the architecture comprises the definition of functional components and the interfaces/reference points used or exposed by these functional components.

# 2. References

## 2.1 Normative References

| | |
|---|---|
| **[CAB RD]** | "Converged Address Book Requirements", Version 1.0, Open Mobile Alliance™, OMA-RD-CAB-V1_0, URL:http://www.openmobilealliance.org/ |
| **[OMA DM SO]** | "OMA Device Management Standardized Objects", Version 1.2, Open Mobile Alliance™, OMA-TS-DM-StdObj-V1_2, URL: http://www.openmobilealliance.org/ |
| **[OMA DM TND]** | "OMA Device Management Tree and Description", Version 1.2, Open Mobile Alliance™, OMA-TS-DM-TND-V1_2, URL: http://www.openmobilealliance.org/ |
| **[OMA DS]** | "SyncML Representation Protocol, Data Synchronization Usage", Version 1.2, Open Mobile Alliance™, OMA-TS-DS_DataSyncRep-V1_2, URL:http://www.openmobilealliance.org/ |
| **[OMA Push AD]** | "Push Architecture" Version 2.2, Open Mobile Alliance™, OMA-AD-Push-V2_2, URL: http://www.openmobilealliance.org/ |
| **[OMA XDM AD]** | "XML Document Management Architecture", Version 2.1, Open Mobile Alliance™, OMA-AD-XDM-V2_1, URL:http://www.openmobilealliance.org/ |
| **[RFC2119]** | "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt |

## 2.2 Informative References

| | |
|---|---|
| **[OMA DICT]** | "Dictionary for OMA Specifications", Version 2.7, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_7, URL:http://www.openmobilealliance.org/ |
| **[OMA DM SEC]** | "OMA Device Management Security", Version 1.2, Open Mobile Alliance™, URL:http://www.openmobilealliance.org/ |

# 3. Terminology and Conventions

## 3.1 Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except "Scope" and "Introduction", are normative, unless they are explicitly indicated to be informative.

## 3.2 Definitions

| | |
|---|---|
| **Access Permissions** | See [OMA XDM AD] |
| **Address Book** | See Converged Address Book in [CAB-RD]. |
| **CAB Client** | A Client (see [OMA DICT]) that is used to access CAB features. |
| **CAB User** | See [CAB RD]. |
| **Contact Share** | See [CAB RD]. |
| **Contact Status** | Information on the current state of contacts from CAB User's AB that is provided by the CAB service and cannot be changed by the CAB User. |
| **Contact Subscription** | See [CAB RD]. |
| **Contact View** | See [CAB RD]. |
| **DS Client** | See Client [OMA DS] |
| **DS Server** | See Server [OMA DS] |
| **External Directories** | Non-CAB data sources that are made available by the service provider (e.g. yellow pages, enterprise directories). |
| **History Information** | See [OMA XDM AD] |
| **Legacy Formats** | See [CAB RD]. |
| **Management Object** | See [OMA DM TND] |
| **Non-CAB Address Book System** | An address book system that does not comply with CAB Enabler. |
| **Personal Contact Card** | See [CAB RD]. |
| **Published Contact Card** | See [CAB RD]. |
| **XDMC** | See [OMA XDM AD]. |
| **XDM Agent** | See [OMA XDM AD]. |

## 3.3 Abbreviations

| | |
|---|---|
| **AB** | Address Book |
| **DM** | Device Management |
| **DS** | Data Synchronization |
| **OMA** | Open Mobile Alliance |
| **PCC** | Personal Contact Card |
| **SIP** | Session Initiation Protocol |
| **XDCP** | XDM Command Protocol |

| **XDM** | XML Document Management |
| **XDMS** | XML Document Management Server |
| **XML** | eXtensible Markup Language |

# 4. Introduction (Informative)

The CAB Enabler provides the CAB User with the features described in sub clause 4.1. This architecture utilizes data management and synchronization [OMA DS] and XML document management [OMA XDM AD] technologies to fulfil CAB requirements [CAB RD].

## 4.1 Version 1.0

CAB Enabler version 1.0 provides all the features described in sub clause 4.

Some CAB requirements are dealing with lawful interception. These capabilities are generic in nature and can be resolved in various ways in a solution implementation that do not require interoperability and hence should not be specific to CAB, or developed as part of CAB. The realization of those capabilities is left to the implementation or may become a topic of activity for a future OMA enabler.

1) Management of AB – The CAB Enabler allows a CAB User to store and manage (e.g. add, delete, modify) his/her AB in a network-based repository. The AB or subsets of the AB is/are kept up-to-date on all devices of the CAB User.

2) Management of PCC – The CAB Enabler allows a CAB User to publish and manage (e.g. add, delete, modify) his/her own contact information in terms of the PCC, which is stored in a network-based repository. The CAB User's PCC can be published to other CAB Users through the Contact Views, based on authorization rules established by the CAB User. The PCC information stored in the network may be kept up-to-date on all devices of the CAB User.

3) Contact Subscription – The CAB Enabler allows a CAB User to request the CAB Server to subscribe to other CAB User's contact information changes i.e. request to receive automatic updates of another CAB User's available Published Contact Card. The resulting information from a Contact Subscription may be processed further to combine with the information that the CAB User customizes about the subscribed contacts.

4) Notifications and status information – The CAB Enabler allows the CAB User A to receive notifications in the following cases:

   a. Incoming authorization request from other CAB User(s) for Contact Subscription (if CAB User A has not already established an authorization rule).

   b. When changes are made to the Published Contact Card of CAB User B to which the CAB User A is subscribed.

   c. When CAB User B adds CAB User A to his/her AB.

   d. Updates of Contact Status information for CAB or non-CAB contact, Contact Subscription status (e.g. pending, approved, changed) and other information (e.g. service provider defined).

   e. Change to his/her own AB and PCC in the network.

5) Sharing contact information – The CAB Enabler provides a CAB User with the ability to send contact information from his/her own AB or PCC to other users. The recipients of the information can be both CAB and non-CAB User(s).

6) Searching contact information – The CAB Enabler provides a mechanism to search for contact information. This mechanism allows a CAB User to search for contact information in:

   a. CAB User's own PCC,

   b. Other CAB User's Published Contact Cards in home and remote CAB systems,

    c.    CAB User's own AB,

    d.    External Directories.

The contact information made available for search operations is subject to the CAB User's authorization rules, CAB provider policies and other providers' policies.

7) Exposure of CAB information to external Enablers - The CAB Enabler provides the ability to expose CAB information related to CAB User's data contained in the AB and PCC to other Enablers or applications subject to user authorization and/or service provider policies.

8) Interaction with non-CAB Address Book systems – The CAB Enabler provides the ability to interact with non-CAB Address Book system(s). This allows the CAB User to import data into the AB from non-CAB Address Book and/or to exchange data with non-CAB Address Book systems. In order to exchange data with non-CAB systems:

    a.    An implementation of CAB Enabler could use published APIs of the non-CAB systems to access data from non-CAB systems.

    b.    3rd party systems can access CAB AB and PCC data via OMA published APIs.

## 4.2　Future Version

The XDM-3i use for AB management is to be explored in the future version.

# 5. Architectural Model

The CAB Enabler AD provides support for developing CAB based services, and is realized using a client-server concept. It interacts with other network elements and re-uses concepts and technologies specified by other OMA Enablers (e.g. OMA DS [OMA DS] and OMA XDM [OMA XDM AD]). The architecture is designed to support a wide range of devices independent of the access technology

The architecture is based on the requirements defined in [CAB RD].

## 5.1   Dependencies

The CAB Enabler depends on other OMA Enablers and external entities, including the following:

- OMA XDM [OMA XDM AD] that provides the support for the functions of the CAB XDMS(s).

- OMA DS Enabler [OMA DS] that provides support for the synchronization of the CAB User's address book.

- OMA DM [OMA DM SO] that provides the support for remote provisioning and management of the Management Object containing necessary configuration parameters for the CAB Client.

- OMA Push [OMA Push AD] that provides support for notifications to XDM Document changes.

- SIP/IP Core [OMA XDM AD] sect. 5.3.2.1 "SIP/IP Core", which performs a variety of services in support of the CAB functions.

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## 5.2   Architectural Diagram
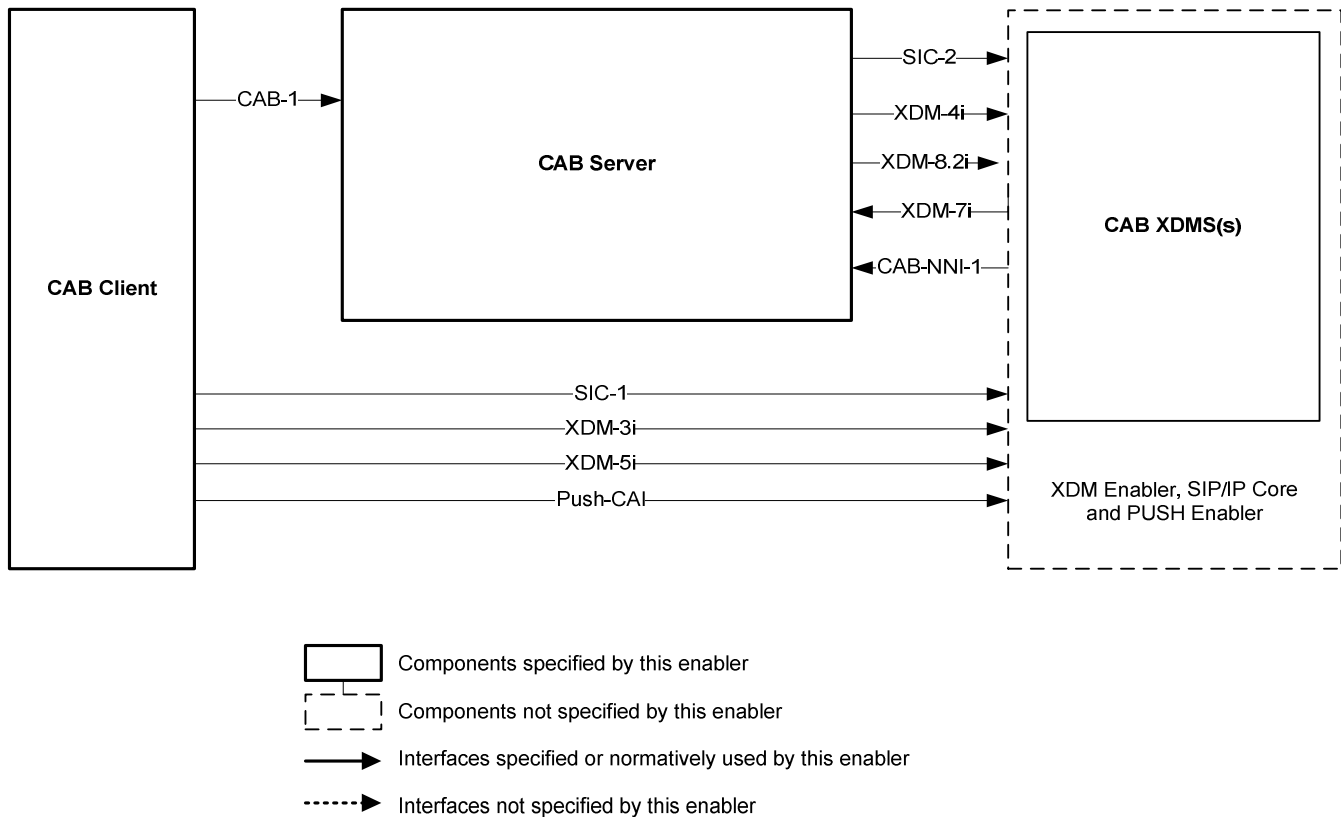
Figure 1: CAB Architecture Diagram

# 5.3  Functional Components and Interfaces/reference points definition

## 5.3.1  Functional Components

### 5.3.1.1  CAB Client

The CAB Client SHALL perform the following:

- Synchronize modifications (e.g. add, delete, modify) of a local subset of address book information that is contained in the network-based AB repository.

- Send and receive address book related contact information.

- Send and receive address book related contact information in vCard as a Legacy Format.

- Manage PCC information.

- Receive CAB Contact Status information.

- Request import of non-CAB address book information.

- Contact Subscription interaction (e.g. requesting the subscription, reactive authorization).

- Contact Share interaction (e.g. requesting the Contact Share, resolution of received Contact Shared data).

- Search for available contact information.

- Manage CAB User preference information.

- Manage CAB User Access Permissions information.

- Manage XDM Preferences information for AB and PCC Application Usages.

- Receive CAB related notifications.

- Support authentication requests and responses.


The CAB Client SHALL use:

- CAB-1 to synchronize address book modifications (e.g. add, delete, modify), with the network-based AB repository;

- XDM-3i to perform PCC, CAB User preference, CAB Feature Handler, XDM Preferences, and CAB User Access Permissions XML document interactions;

- XDM-5i to perform search;

- SIC-1 or XDM-3i/Push-CAI (XDCP/Push) to request to subscribe and receive change notification for CAB XML documents except AB;

## 5.3.1.2    CAB Server

The CAB Server is a network entity, and SHALL support the following functions:

- AB Synchronization Function performs the following:

  - o   Synchronizes the address book information stored in the AB with the CAB Client(s) via CAB-1 interface. The supported formats are CAB defined format and Legacy Format i.e. vCard format;

  - o   Manages (e.g. retrieve, create, modify, delete) AB information via XDM Agent in AB Application Usage;

- Contact Status Function performs the following:

  - o   Maintains (e.g. retrieve, create, modify, delete) the Contact Status information in AB Application Usage via XDM Agent;

  - o   Sends and receives 'CAB Contact Added' data using CAB-NNI-1 interface

- Contact Subscription Function performs the following:

  - o   Generates subscription either directly or via the XDM Enabler Subscription Proxy [OMA XDM AD] to the CAB User's contacts PCC based on CAB User's subscription list from the CAB User preferences and receives notifications of updates from subscribed contacts' Published Contact Card;

  - o   Filters information resulting from Contact Subscription based on information retrieved from CAB User preferences XDMS;

  - o   Updates (e.g. retrieve, create, modify, delete) the information changes resulting from Contact Subscription in the CAB User's AB Application Usage via XDM Agent;

  - o   Updates (e.g. retrieve, create, modify, delete) the CAB User's Contact Status information related to the Contact Subscriptions;

- o    Subscribe and receive notifications of changes to the data in CAB User Preferences Application Usage via XDM Agent.

- • CAB Interworking Function supports the following:

  - o    Import contact(s) information from non-CAB systems into CAB, using the CAB User's request retrieved from the CAB Feature Handler Application Usage (e.g. non-CAB address book systems related data);

  - o    Manages (e.g. retrieve, create, modify, delete) imported non-CAB address book information via XDM Agent in AB Application Usage;

  - o    Perform Contact Search towards External Directories, by acting as an XDMS and translating a CAB standard XML based search request received via XDM-7i into external search requests;

  - o    Format adaptation between CAB standardized data structure and Legacy Formats;

  - o    Retrieve or subscribe and receive notifications of changes to the data in CAB User Preferences and CAB Feature Handler Application Usage via XDM Agent;

- • Contact Share Function supports the following:

  - o    Process the Contact Share information based on CAB User's contact share request  information stored in CAB Feature Handler App Usage;

  - o    Retrieve the AB or PCC data from AB or PCC Application Usages when the recipient is a non-CAB User;

  - o     Use the XDM Forward operation to send Contact Share data towards a target CAB User. If the recipient is a non-CAB User, the shared data is converted into a Legacy Format by the Interworking Function and delivered through CPM Interworking Selection Function (ISF);

  - o    Update the result of the Contact Share in CAB Feature Handler Application Usage.


- • XDM Agent Function acts as a supporting entity to the other CAB Server functions by performing the following:

  - o    Supports interactions with CAB XDMS(s) on XDM-4i, XDM-8.2i and through SIC-2 interfaces.

### 5.3.1.3    CAB XDMS(s)

The CAB XDMS(s) are server entities as described in [OMA XDM AD] sub clause 5.3.1.6. CAB XDMS(s) are an CAB Enabler Specific XDMS(s) (see [OMA XDM AD], sub clause 5.3.1.12) , and specifies the following list of Application Usages which are logical in nature and may be implemented as one or more server entities.

#### 5.3.1.3.1    AB Application Usage

The AB Application Usage represents the network repository for the AB data and it SHALL support the following functions:

- • Document Management as described in [OMA XDM AD] sub clause 5.3.1.6.1;

- • Subscription and Notification of AB XML document changes as described in [OMA XDM AD] sub clause 5.3.1.6.2;

- • Access Permissions as described in [OMA XDM AD] sub clause 5.3.1.6.3;

- • Search as described in [OMA XDM AD] sub clause 5.3.1.6.4;

- • History as described in [OMA XDM AD] sub clause 5.3.1.6.5, based on CAB User's preferences;

- • Forwarding as described in [OMA XDM AD] sub clause 5.3.1.6.7, based on AB XDM preferences.

#### 5.3.1.3.2 PCC Application Usage

The PCC Application Usage represents a network repository for all PCC data and it SHALL support the following functions:

- Document Management as described in [OMA XDM AD] sub clause 5.3.1.6.1;

- Subscription and Notification of PCC XML document changes as described in [OMA XDM AD] sub clause 5.3.1.6.2;

- Access Permissions as described in [OMA XDM AD] sub clause 5.3.1.6.3;

- Search as described in [OMA XDM AD] sub clause 5.3.1.6.4;

- Request History as described in [OMA XDM AD] section 5.3.1.6.5, based on PCC XDM preferences; and

- Forwarding as described in [OMA XDM AD] section 5.3.1.6.7, based on PCC XDM preferences.

#### 5.3.1.3.3 CAB User Preferences Application Usage

The CAB User Preferences Application Usage represents a network repository for all CAB User preferences data and it SHALL support the following functions:

- Document management as described in [OMA XDM AD] sub clause 5.3.1.6.1;

- Subscription and Notification of CAB User preferences XML document changes as described in [OMA XDM AD] sub clause 5.3.1.6.2; and

- Access Permissions as described in [OMA XDM AD] sub clause 5.3.1.6.3.

#### 5.3.1.3.4 CAB Feature Handler Application Usage

The CAB Feature Handler Application Usage represents a network repository for the CAB feature handler data and it SHALL support the following functions:

- Document Management as described in [OMA XDM AD] sub clause 5.3.1.6.1;

- Subscription and Notification of feature handler XML document changes as described in [OMA XDM AD] sub clause 5.3.1.6.2;

- Access Permissions as described in [OMA XDM AD] sub clause 5.3.1.6.3.

### 5.3.2 Interfaces/definition

#### 5.3.2.1 Interface SIC-1: SIP/IP Core

CAB Client SHOULD use the SIC-1 interface, as defined in [OMA XDM AD] to authenticate, request subscription and receive notification of the modification to CAB User's own XML documents, except the AB XML document.

#### 5.3.2.2 Interface SIC-2: SIP/IP Core

CAB Server SHALL use the SIC-2 interface as defined in [OMA XDM AD], to request subscription and receive notification of the modification of CAB XML documents.

#### 5.3.2.3 Interface XDM-3i: Aggregation Proxy

CAB Client SHALL use the XDM-3i interface as defined in [OMA XDM AD] to perform the following:

- Management of CAB XML documents (e.g. create, modify, retrieve, delete,) handled by CAB XDMS(s), except AB XML document
;

- Access Permissions management for XDM Documents handled by CAB XDMS(s);

- Request History function related XDM Preferences management (e.g. enable/disable History function) for XDM Documents handled by CAB XDMS(s);

- Optional mutual authentication between XDMC and Aggregation Proxy;

- Optional compression according to the Service Provider's local policy.

CAB Client SHOULD use the XDM-3i interface as defined in [OMA XDM AD] to perform the following:
- XDCP-based subscription to XDM document changes to CAB User's own XML documents, except the AB XML document.

### 5.3.2.4     Interface XDM-4i: CAB XDMS(s)

CAB Server SHALL use the XDM-4i interface as defined in [OMA XDM AD] to perform the following:

- Management of CAB XML documents (e.g. create, modify, retrieve, delete) handled by CAB XDMS(s) residing in the same network as the XDM Agent, except PCC XML document for which only retrieval operations are supported;

- History Information management for CAB XDM Documents (i.e. retrieve the Request History Information related to a PCC Document).

### 5.3.2.5     Interface XDM-5i: Aggregation Proxy

CAB Client SHALL use the XDM-5i interface as defined in [OMA XDM AD] to perform the followings:

- Searching information from XDM Documents stored in CAB XDMS;

- Searching information from History Information XDM Documents stored in CAB XDMS;

- Optional mutual authentication of search requests between CAB Client and Aggregation Proxy;

- Optional compression according to the Service Provider's local policy.

CAB Client SHALL use the XDM-5i interface as defined in [OMA XDM AD] to search for available contact information in:

- CAB User's own PCC;

- Other CAB Users' Published Contact Cards in home and remote CAB systems;

- CAB User's own AB;

- External Directories;

### 5.3.2.6     Interface XDM-7i: CAB Server

CAB Server SHALL expose XDM-7i interface, as defined in [OMA XDM AD] to support searches into external directory(ies) (e.g. from XDM Search Proxy). Supported functionalities include:

- Receiving external search directory(ies) requests;

- Returning the results from the external directory(ies) searches.

### 5.3.2.7     Interface XDM-8.2i: Aggregation Proxy

The CAB Server uses the XDM-8.2i interface as defined in [OMA XDM AD] to perform the following:

- Forwarding of requests by CAB XDMS (i.e. AB and PCC Application Usages) to the Aggregation Proxy ;

- Receiving XDM Forwarding responses from the Aggregation Proxy.

### 5.3.2.8    Interface CAB-1: CAB Server

The CAB Server SHALL expose CAB-1 interface to allow the CAB Client to synchronize address book data modifications (e.g. add, delete, modify). Supported functionalities include:

- CAB data synchronization requests and responses;

- Request and receive CAB server information such as CAB Server credentials.

The protocol used for the CAB-1 interface is [OMA DS].

### 5.3.2.9    Interface Push-CAI: Push Enabler

The CAB Client SHOULD use Push-CAI interface as described in [OMA Push AD] for notification of XDM document changes to CAB User's own XML documents, except AB XML document.

Editor's Note: The use of Push CAI vs other Push interfaces by XDM 2.1 needs to be clarified.

### 5.3.2.10    Interface CAB-NNI-1: CAB Server

CAB Server SHALL expose CAB-NNI-1 interface to allow exchange of data between multiple CAB domains. The protocol used is SIP. Supported functionalities include:

- Sending of 'CAB Contact Added' data using SIP MESSAGE message

- Receiving of 'CAB Contact Added' data using SIP MESSAGE message

## 5.4    Security Considerations

The CAB Enabler provides confidentiality and integrity protection for the operations used to exchange personal contact and address book contact information. The CAB Enabler SHOULD support the following security aspects:

- OMA DS security;

- OMA XDM security;

- OMA DM security.

The security for CAB-1 interface is specified in [OMA DS] "Security Considerations".

The security applicable to CAB XDMS(s) and XDM interfacesis specified in [OMA XDM AD] "Security Considerations".

The security applicable to the device provisioning and configuration is specified in [OMA DM SEC].

Application layer security mechanisms between CAB components and authorized non-CAB systems are outside the scope of this enabler.

# Appendix A.   Change History                                        (Informative)

## A.1    Approved Version History

| Reference | Date | Description |
|---|---|---|
| n/a | n/a | No prior version –or- No previous version within OMA |

## A.2    Draft/Candidate Version 1.0 History

| Document Identifier | Date | Sections | Description |
|---|---|---|---|
| Draft Versions<br>OMA-AD-CAB-V1_0 | 28 Mar 2008 | All | Initial baseline version |
| | 24 July 2008 | 2,4 & 5 | Incorporated CRs<br>OMA-MWG-CAB-2008-0044R05<br>OMA-MWG-CAB-2008-0047R02. |
| | 27 July 2008 | 5 | Fix an error on index |
| | 25 Aug 2008 | 5& 2 | Incorporated CRs<br>OMA-MWG-CAB-2008-0048R02 |
| | 01 Sep 2008 | 1, 3 & 5. | Incorporated CRs<br>OMA-MWG-CAB-2008-0071R01<br>OMA-MWG-CAB-2008-0072R01<br>OMA-MWG-CAB-2008-0073R01<br>OMA-MWG-CAB-2008-0074R01 |
| | 27 Oct 2008 | 3& 5 | Change to new AD template: OMA-Template-ArchDoc-20081010-I<br>Incorporated CRs<br>OMA-MWG-CAB-2008-0076R01<br>OMA-MWG-CAB-2008-0077R01<br>OMA-MWG-CAB-2008-0078R02 |
| | 21 Dec 2008 | 3& 5 | Incorporated CRs and re-numbering in section 5.3.<br>OMA-MWG-CAB-2008-0161R02-CR_CAB_Client_definition (in 3.2)<br>OMA-MWG-CAB-2008-0157R01-CR_XDMC (into 5.3.1.1)<br>OMA-MWG-CAB-2008-0165R01-CR_CAB_Contact_Share_Function (as 5.3.1.3)<br>OMA-MWG-CAB-2008-0159R01-CR_Contact_Search.zip (as 5.3.2.2)<br>OMA-MWG-CAB-2008-0158R01-CR_PCC_Access (as 5.3.2.3, 5.3.2.4) |
| | 22 Jan 2009 | 5 & App B | Change to new AD template: OMA-Template-ArchDoc-20090101-I<br>Incorporated CRs.<br>OMA-MWG-CAB-2008-0168R01-CR_To_CAB_section_5<br>OMA-MWG-CAB-2008-0170R02-CR_To_CAB_AD_appendix_B |
| | 08 Feb 2009 | 5. | Incorporated CRS<br>OMA-MWG-CAB-2009-0018R02-CR_CAB_Architectural_Diagram (as diagram, 5.3.2.6)<br>OMA-MWG-CAB-2009-0039R01-CR_CAB_section5_per_architectureDiagram (modify 5.3.2.1, 5.3.2.3, 5.3.2.4, 5.3.2.5)<br>OMA-MWG-CAB-2009-0006R01-CR_CAB_Server (modify 5.3.1.2, remove contact subscription function & interworking function in 5)<br>OMA-MWG-CAB-2009-0011R02-CR_CAB_XDMS (expend 5.3.1.4 with 5.3.1.4.2)<br>OMA-MWG-CAB-2009-0012R02-CR_CAB_User_Preference_XDMS(remove User preference in 5, and add 5.3.1.4.3)<br>OMA-MWG-CAB-2009-0013R02-CR_CAB_Policy_XDMS.doc(add 5.3.1.4.4) |
| | 11 Feb 2009 | 3, 4 & 5 | Incorporated CRs<br>OMA-MWG-CAB-2009-0015R04-CR_Interaction_with_Legacy_Address_Books.zip (modify AD diagram, 5.3.1.4.3)<br>OMA-MWG-CAB-2009-0038R01-CR_CAB_Server_Functional_Description.zip (modify 3.2, 5.3.1.2)<br>OMA-MWG-CAB-2009-0019R01-CR_Security_Consideration.zip (modify 5.4)<br>OMA-MWG-CAB-2009-0047R01-CR_CAB_security_DS.zip (add 5.4.1)<br>OMA-MWG-CAB-2009-0049R01-CR_CAB_security_XDM.zip<br>OMA-MWG-CAB-2009-0058 (add 5.4.2)-CR_CAB_1.0_AddressBookSynchronization.zip (modify 4.2)<br>OMA-MWG-CAB-2009-0043R01-CR_Search_NonSip_SubNot_ReferencePoints (add 5.3.2.6) |

| Document Identifier | Date | Sections | Description |
|---|---|---|---|
| | 12 Feb 2009 | 4 & 5 | OMA-MWG-CAB-2009-0050R01-CR_CAB_version_description.zip (remove section 4.1 overview) |
| | | | OMA-MWG-CAB-2009-0051R01-CR_Section_5_Introduction.zip (modify introduce in section 5) |
| | | | OMA-MWG-CAB-2009-0061-CR_correct_on_editorial_error_5.3.2.2.zip (fix editorial error in 5.3.2.2) |
| | 18 Feb 2009 | All | Editorial for font, reading esay |
| | 05 Apr 2009 | 5 | Incorporated with |
| | | | OMA-MWG-CAB-2009-0077R01-CR_ADRR_Comments_about_Section_5.1 |
| | | | OMA-MWG-CAB-2009-0082R01-CR_ADRR_Comments_about_Section_5.3.2.4 |
| | 10 Apr 2009 | 2, 3 & 5 | Incorporated with |
| | | | OMA-MWG-CAB-2009-0074R01-CR_ADRR_Comments_about_DM |
| | | | OMA-MWG-CAB-2009-0075R01-CR_ADRR_Comments_about_Section_2.1 |
| | 20 Apr 2009 | 2, 3, 4, 5 | Edit according to ADRR comments assigned to ADRR editor, base on OMA-MWG-CAB-2009-0072R05-CR_ADRR_comments_assigned_for_ADRR_editor |
| | 04 May 2009 | 1, 2, 3, 4 & 5 | Incorporated with |
| | | | OMA-MWG-CAB-2009-0084R03-CR_Resolution_A0256_to_A0280 |
| | | | OMA-MWG-CAB-2009-0086R03-CR_Section4 |
| | | | OMA-MWG-CAB-2009-0089R03-CR_Resolution_Section_5_3_2_6 |
| | | | OMA-MWG-CAB-2009-0090R03-CR_ADRR_resolution_to_Interworking_Function |
| | | | OMA-MWG-CAB-2009-0100-CR_about_note_in_section_5.2 |
| | | | OMA-MWG-CAB-2009-0101R01-CR_about_ADRR_comment_A400 |
| | | | OMA-MWG-CAB-2009-0102R01-CR_about_CAB_format |
| | | | OMA-MWG-CAB-2009-0104-CR_ADRR_Comments_A017_A018_A019 |
| | | | OMA-MWG-CAB-2009-0105R01-CR_ADRR_Comments_A050_A058 |
| | | | OMA-MWG-CAB-2009-0106R02-CR_ADRR_Comments_A053_A059_A062_A066_A070 |
| | | | OMA-MWG-CAB-2009-0107R02-CR_ADRR_Comments_A065 |
| | | | OMA-MWG-CAB-2009-0108R02-CR_ADRR_Comments_A081_A0101_A0104_A0142_A0143 |
| | | | OMA-MWG-CAB-2009-0109R02-CR_ADRR_Comments_A083_A0106_A0134_A0136 |
| | | | OMA-MWG-CAB-2009-0110R01-CR_ADRR_Comments_A091_A0119_A0137 |
| | | | OMA-MWG-CAB-2009-0111R01-CR_CAB_ContactStatus |
| | | | OMA-MWG-CAB-2009-0115R01-CR_ADRR_Comments_A060 |
| | | | OMA-MWG-CAB-2009-0120R01-CR_nonCAB_ABS |
| | | | OMA-MWG-CAB-2009-0123R01-CR_ADRR_comments_resolution_to_A06_Lawful_Interception |
| | | | OMA-MWG-CAB-2009-0124-CR_ADRR_comments_resolution_to_section_2.1 |
| | | | OMA-MWG-CAB-2009-0125R01-CR_ADRR_comments_resolution_to_section_2.2 |
| | | | OMA-MWG-CAB-2009-0134R01-CR_ADRR_Comment_resolution_A098 |
| | | | OMA-MWG-CAB-2009-0136R01-CR_ADRR_Resolution_to_A100_A125_A141 |
| | | | OMA-MWG-CAB-2009-0137R02-CR_ADRR_Comments_on_Section5_3_1_4_1 |
| | | | OMA-MWG-CAB-2009-0138R01-CR_ADRR_Comments_about_Architecture_Model_section |
| | | | OMA-MWG-CAB-2009-0140R02-CR_ADRR_comments_A128_A148_A155 |
| | | | OMA-MWG-CAB-2009-0142R02-CR_ADRR_A007_Presence |
| | | | OMA-MWG-CAB-2009-0145R01-CR_Resolution_Search_ExternalDirectories |
| | | | OMA-MWG-CAB-2009-0151R05-CR_ADRR_resolution_to_CAB_arch_diagram_update |
| | 09 May 2009 | 5 | Incorporated with OMA-MWG-CAB-2009-0112R01-CR_CAB_ContactSubscription |
| | 11 May 2009 | 1 & 5 | Fix editor mistake for OMA-MWG-CAB-2009-0112R01-CR_CAB_ContactSubscription |
| | | | Incorporated with OMA-MWG-CAB-2009-0148R01-CR_ADRR_resolution_to__comment_219 |
| | 19 May 2009 | 5 | Incorporated with: |
| | | | OMA-MWG-CAB-2009-0087R02-CR_Section5_3_1_4_2_PCC |
| | | | OMA-MWG-CAB-2009-0130R01-CR_ADRR_comments_resolution_to_section_5.3.1.4.3 |
| | | | OMA-MWG-CAB-2009-0150-CR_ADRR_resolution_to__comment_A0341 |

| Document Identifier | Date | Sections | Description |
|---|---|---|---|
| | 20 May 2009 | 5 | Replaced<br>OMA-MWG-CAB-2009-0087R02-CR_Section5_3_1_4_2_PCC<br>OMA-MWG-CAB-2009-0130R01-CR_ADRR_comments_resolution_to_section_5.3.1.4.3<br>With<br>OMA-MWG-CAB-2009-0087R03-CR_Section5_3_1_4_2_PCC<br>OMA-MWG-CAB-2009-0130R02-CR_ADRR_comments_resolution_to_section_5.3.1.4.3 |
| | 29 May 2009 | 2, 4, 5 | Incorporated with<br>OMA-MWG-CAB-2009-0088R03-CR_Section_5_3_2_5<br>OMA-MWG-CAB-2009-0113R02-CR_Section_5_3_2_1<br>OMA-MWG-CAB-2009-0131R02-CR_ADRR_Comments_Resolution_to_Desciption_of_Contact_Share<br>OMA-MWG-CAB-2009-0149R02-CR_ADRR_resolution_to__comments_174_187<br>OMA-MWG-CAB-2009-0154R01-CR_CAB_ADRR_A093_A094<br>OMA-MWG-CAB-2009-0155R01-CR_Resolution_for_ADRR_A007<br>Delete original 5.3.1.3 and adjust later subclauses in section 5.3.1;<br>Add 5.3.2.2 and adjust later subclauses in section 5.3.2 |
| | 30 May 2009 | 3 | Deletion of definition 'Application Usage' |
| | 02 June 2009 | 2& 5 | Incorporated with<br>OMA-MWG-CAB-2009-0092R01-CR_ADRR_resolution_to_CAB_Security_Considerations<br>OMA-MWG-CAB-2009-0119R01-CR_XDM_4 |
| | 04 June 2009 | 3& 5 | Incorporated with<br>OMA-MWG-CAB-2009-0133R03-CR_ADRR_resolution_to_CAB_User_Policy_XDMS |
| | 09 June 2009 | 5 | Incorporated with<br>OMA-MWG-CAB-2009-0185-CR_CAB1_Title_Correction<br>OMA-MWG-CAB-2009-0186-CR_Interface_XDM_non_SIP |
| | 10 June 2009 | 5 | Corrected with<br>OMA-MWG-CAB-2009-0186R01-CR_Interface_XDM_non_SIP |
| | 11 June 2009 | 5, App C | Incorporated with<br>OMA-MWG-CAB-2009-0170R02-CR_Informative_CAB_AD_diagram<br>OMA-MWG-CAB-2009-0114R02-CR_Section_5_3_2_x |
| | 12 June 2009 | 2 & 5 | Incorporated with<br>OMA-MWG-CAB-2009-0195R01-CR_about_comments_on_CAB_Charging |
| | 18 June 2009 | App B | Incorporated with<br>OMA-MWG-CAB-2009-0207-CR_Appendix_flows_ADRRs |
| | 23 June 2009 | 4 & 5 | Incorporated :<br>OMA-MWG-CAB-2009-0128R02-CR_ADRR_comments_resolution_to_section_5.3.2.2<br>OMA-MWG-CAB-2009-0141R05-CR_ADRR_resolution_to_CAB_Server_Comments<br>OMA-MWG-CAB-2009-0230R01-CR_XDM_5i_interface_description_section5_3_2_5<br>Online edits during Boston meeting (June 22 session). |
| | 24 July 2009 | 5 | Incorporated with<br>OMA-MWG-CAB-2009-0133R03-CR_ADRR_resolution_to_CAB_User_Policy_XDMS<br>Change 1 (corrected CR implementation error) |
| | 06 Aug 2009 | 4, App C | Incorporated with<br>OMA-MWG-CAB-2009-0250-CR_Incorporated_comments_from_ARC_consistency_review |
| | 27 Aug 2009 | All | Editorial clean up |
| Candidate Version:<br>OMA-AD-CAB-V1_0 | 22 Sep 2009 | All | Status changed to Candidate by TP:<br>TP Ref# OMA-TP-2009-0405-INP_CAB_V1_0_AD_for_Candidate_approval |
| Draft Versions:<br>OMA-AD-CAB-V1_0 | 27 Apr 2010 | 2.1, 5.1,<br>5.3.1.2,<br>5.3.1.3,<br>5.3.1.3.1,<br>5.3.1.3.2,<br>5.3.1.3.3 | Implemented agreed changes:<br>  OMA-COM-CAB-2010-0149-CR_CONR_Resolution_AD_B005_B017_B038<br>  OMA-COM-CAB-2010-0153R04-CR_CONR_Resolution_AD_sections_CAB_Server_and_CAB_XDMS |
| | 05 May 2010 | 3.2<br>5.3.1.2<br>5.3.1.3.1<br>5.3.2.4 | Implemented agreed changes:<br>  OMA-COM-CAB-2010-0171R03-CR_CONR_Resolution_B036_B044<br>  OMA-MWG-CAB-2010-0203R01-CR_CONRR_B007_008_009<br>Editorial Fix: History Table |

| Document Identifier | Date | Sections | Description |
|---|---|---|---|
| | 07 May 2010 | 5.3.1.2 | Corrected implementation of OMA-COM-CAB-2010-0149-CR_CONR_Resolution_AD_B005_B017_B038 |
| | 31 May 2010 | 3.3<br>4.2<br>5.2, 5.3.1<br>App C | Implemented agreed changes:<br>  OMA-COM-CAB-2010-0194R03-CR_Renaming_XDMS_to_App_Usages_in_AD<br>  OMA-COM-CAB-2010-0223-CR_AI_A019<br>Editorial fixes :<br>  Bookmarks fixed<br>  Removal of duplicate entry in 3.3 |
| | 23 Jun 2010 | All | Implemented agreed changes:<br>  OMA-COM-CAB-2010-0260-CR_CONRR_Resolution_AD_Editorial<br>  OMA-COM-CAB-2010-0261R01-CR_CONRR_Resolution_AD_XDM_non_sip<br>  OMA-COM-CAB-2010-0262-CR_CONRR_Resolution_AD_B058 |
| | 12 Jul 2010 | 5.3.1.2 | Implemented agreed changes:<br>  OMA-COM-CAB-2010-0292-CR_CONR_Resolution_B025 (no change)<br>  OMA-COM-CAB-2010-0293R01-CR_CONR_Resolution_B042<br>  OMA-COM-CAB-2010-0294-CR_CONR_Resolution_B056 (no change) |
| | 01 Sep 2010 | Various | Implemented agreed changes:<br>  OMA-COM-CAB-2010-0373R01-CR_CONR_Resolution_AD<br>  OMA-COM-CAB-2010-0377R01-CR_CONRR_AD_B20_B66<br>  OMA-COM-CAB-2010-0404R01-CR_AD_resolve_inconsistencies |
| | 02 Sep 2010 | Figure 1 | Fixed implementation of figure from 0373R01 |
| | 03 Sep 2010 | Figure 1,<br>5.3.2.10,<br>5.3.1.2 | Implemented agreed changes:<br>OMA-COM-CAB-2010-0313R01-CR_SIP_interface_for_NNI_AI_034 |
| | 15 Sep 2010 | 5.3.2.7<br>5.3.2.8 | Fixed formatting error: last bullet of paragraph removed from title of 5.3.2.8 |
| Candidate Version:<br>OMA-AD-CAB-V1_0 | 19 Oct 2010 | All | Status changed to Candidate by TP:<br>  OMA-TP-2010-0431-INP_CAB_V1_0_ERP_for_Candidate_Approval |

# Appendix B.   Flows (informative)

The flows capturing the realization of the CAB Enabler features are described in the Technical Specification.

# Appendix C. Decomposed Architecture Diagram (informative)

The following architecture diagram is informative and provides additional details to the normative AD diagram as shown in Figure 1, illustrating the internal logical functions within CAB entities, interactions to and from non-CAB entities, and details of XDM Enabler.
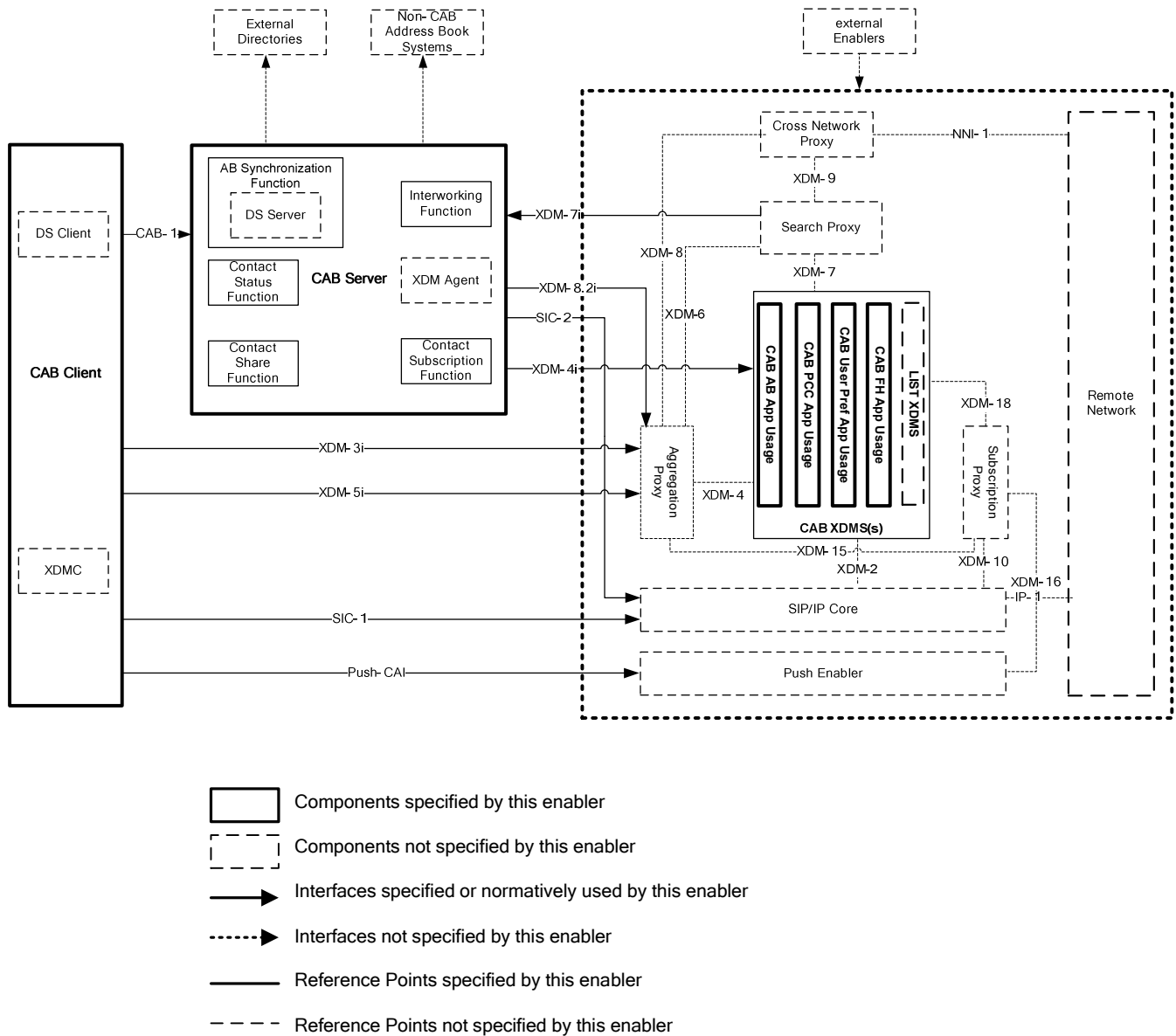
Figure 2: Decomposed CAB Architecture Diagram (informative)