



Converged Address Book Architecture

Candidate Version 1.0 –22 Sep 2009

Open Mobile Alliance
OMA-AD-CAB-V1_0-20090922-C

Use of this document is subject to all of the terms and conditions of the Use Agreement located at <http://www.openmobilealliance.org/UseAgreement.html>.

© 2009 Open Mobile Alliance Ltd. All Rights Reserved.
Used with the permission of the Open Mobile Alliance Ltd. under the terms as stated in this document.

[OMA-Template-ArchDoc-20090101-1]

Unless this document is clearly designated as an approved specification, this document is a work in process, is not an approved Open Mobile Alliance™ specification, and is subject to revision or removal without notice.

You may use this document or any part of the document for internal or educational purposes only, provided you do not modify, edit or take out of context the information in this document in any manner. Information contained in this document may be used, at your sole risk, for any purposes. You may not use this document in any other manner without the prior written permission of the Open Mobile Alliance. The Open Mobile Alliance authorizes you to copy this document, provided that you retain all copyright and other proprietary notices contained in the original materials on any copies of the materials and that you comply strictly with these terms. This copyright permission does not constitute an endorsement of the products or services. The Open Mobile Alliance assumes no responsibility for errors or omissions in this document.

Each Open Mobile Alliance member has agreed to use reasonable endeavors to inform the Open Mobile Alliance in a timely manner of Essential IPR as it becomes aware that the Essential IPR is related to the prepared or published specification. However, the members do not have an obligation to conduct IPR searches. The declared Essential IPR is publicly available to members and non-members of the Open Mobile Alliance and may be found on the “OMA IPR Declarations” list at <http://www.openmobilealliance.org/ipr.html>. The Open Mobile Alliance has not conducted an independent IPR review of this document and the information contained herein, and makes no representations or warranties regarding third party IPR, including without limitation patents, copyrights or trade secret rights. This document may contain inventions for which you must obtain licenses from third parties before making, using or selling the inventions. Defined terms above are set forth in the schedule to the Open Mobile Alliance Application Form.

NO REPRESENTATIONS OR WARRANTIES (WHETHER EXPRESS OR IMPLIED) ARE MADE BY THE OPEN MOBILE ALLIANCE OR ANY OPEN MOBILE ALLIANCE MEMBER OR ITS AFFILIATES REGARDING ANY OF THE IPR'S REPRESENTED ON THE “OMA IPR DECLARATIONS” LIST, INCLUDING, BUT NOT LIMITED TO THE ACCURACY, COMPLETENESS, VALIDITY OR RELEVANCE OF THE INFORMATION OR WHETHER OR NOT SUCH RIGHTS ARE ESSENTIAL OR NON-ESSENTIAL.

THE OPEN MOBILE ALLIANCE IS NOT LIABLE FOR AND HEREBY DISCLAIMS ANY DIRECT, INDIRECT, PUNITIVE, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OF DOCUMENTS AND THE INFORMATION CONTAINED IN THE DOCUMENTS.

© 2009 Open Mobile Alliance Ltd. All Rights Reserved.

Used with the permission of the Open Mobile Alliance Ltd. under the terms set forth above.

Contents

- 1. SCOPE (INFORMATIVE)4
- 2. REFERENCES5
 - 2.1 NORMATIVE REFERENCES5
 - 2.2 INFORMATIVE REFERENCES5
- 3. TERMINOLOGY AND CONVENTIONS6
 - 3.1 CONVENTIONS6
 - 3.2 DEFINITIONS6
 - 3.3 ABBREVIATIONS6
- 4. INTRODUCTION (INFORMATIVE)8
 - 4.1 VERSION 1.08
 - 4.2 FUTURE VERSIONS9
- 5. ARCHITECTURAL MODEL10
 - 5.1 DEPENDENCIES10
 - 5.2 ARCHITECTURE DIAGRAM10
 - 5.3 FUNCTIONAL COMPONENTS AND INTERFACES/REFERENCE POINTS DEFINITION11
 - 5.3.1 Functional Components11
 - 5.3.2 Interfaces/definition13
 - 5.4 SECURITY CONSIDERATIONS15
- APPENDIX A. CHANGE HISTORY (INFORMATIVE)16
 - A.1 APPROVED VERSION HISTORY16
 - A.2 DRAFT/CANDIDATE VERSION 1.0 HISTORY16
- APPENDIX B. FLOWS (INFORMATIVE)20
- APPENDIX C. DECOMPOSED ARCHITECTURE DIAGRAM (INFORMATIVE)21

Figures

- Figure 1: CAB Architecture Diagram10
- Figure 2: Decomposed CAB Architecture Diagram (informative)21

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 CHRG AD] “Charging Architecture”, Open Mobile Alliance™, OMA-AD-Charging-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 XDM] “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]
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).
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].
Untrusted XDM Client	See [OMA XDM].
Trusted XDM Client	See [OMA XDM].

3.3 Abbreviations

AB	Address Book
DM	Device Management
DS	Data Synchronization
OMA	Open Mobile Alliance
PCC	Personal Contact Card
SIP	Session Initiation 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 sect. 4.1. This architecture utilizes data management and synchronization [OMA DS] and XML document management [OMA XDM] technologies to fulfil CAB requirements [CAB RD].

4.1 Version 1.0

CAB Enabler version 1.0 provides all the features described in section 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 Users' 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 versions

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

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]). 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, including the following:

- OMA XDM [OMA XDM] that provides the support for the functions of the CAB XDMS(s).
- OMA DS Enabler [OMA DS] 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 Charging Enabler [OMA CHRG AD] provides charging functionality support for the CAB Enabler.

5.2 Architecture Diagram

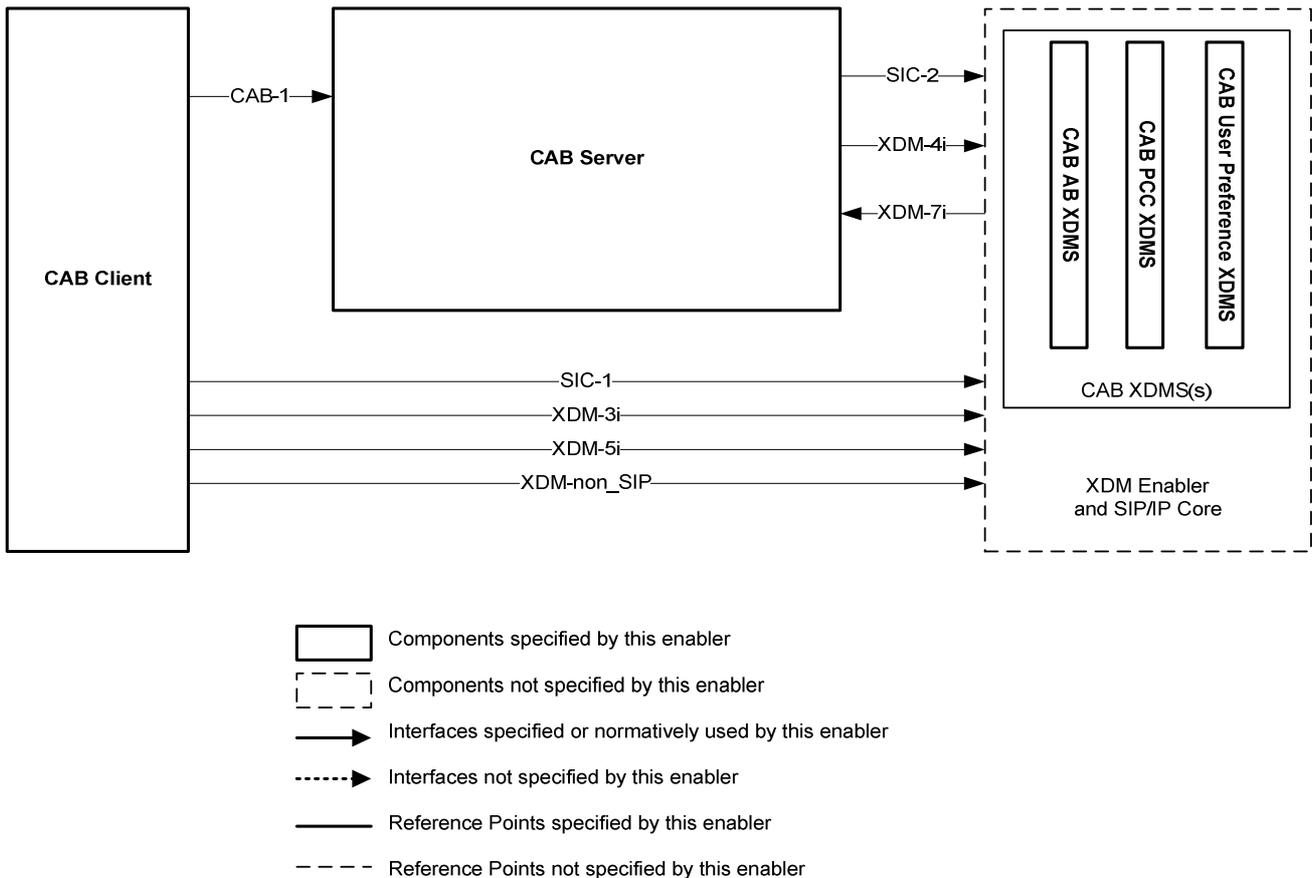


Figure 1: CAB Architecture Diagram

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.
- Receive CAB related notifications.
- Support authentication requests and responses.

Note: The mechanism to receive the Contact Status will be resolved in TS.

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

The CAB Client SHALL use:

- XDM-3i to perform PCC, CAB User preference, and CAB User Access Permissions XML document interactions.
- XDM-5i to perform search.
- SIC-1 or XDM-non_SIP to request 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:
 - 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;
 - Manages (e.g. retrieve, create, modify, delete) AB information via Trusted XDMS in AB XDMS.

Note: AB Synchronization Function maintains awareness of changes in the AB XDMS.

- Contact Status Function performs the following:
 - Maintains (e.g. retrieve, create, modify, delete) the Contact Status information in AB XDMS via Trusted XDMC.
- Contact Subscription Function performs the following:
 - Generates subscription either directly or via the XDM Enabler Subscription Proxy [OMA XDM] 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;
 - Filters information resulting from Contact Subscription based on information retrieved from CAB User's preferences XDMS;
 - Updates (e.g. retrieve, create, modify, delete) the information changes resulting from Contact Subscription in the CAB User's AB XDMS via Trusted XDMC;
 - Updates (e.g. retrieve, create, modify, delete) the CAB User's Contact Status information related to the Contact Subscriptions.
 - Subscribe and receive notifications of changes to the CAB User Preferences XDMS via Trusted XDMC.
- CAB Interworking Function supports the following:
 - Import contact(s) information from non-CAB systems into CAB, using the CAB User's request retrieved from the CAB User Preferences XDMS (e.g. non-CAB address book systems related data);
 - Manages (e.g. retrieve, create, modify, delete) imported non-CAB address book information via Trusted XDMC in AB XDMS;
 - 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;
 - Format adaptation between CAB standardized data structure and Legacy Formats.
 - Subscribe and receive notifications of changes to the CAB User Preferences XDMS via Trusted XDMC.

Note: CAB User interactions for conflict resolution arisen from Contact Subscriptions, Interworking and Contact Share will be resolved in TS.

- Contact Share Function supports the following:
 - Process the Contact Share information (e.g. determine the recipient type, retrieve the AB or PCC data from AB XDMS or PCC XDMS);
 - Assemble and deliver the Contact Share requests data towards the target recipients. If the recipient is a non-CAB User, the shared data is converted into a Legacy Format by the Interworking Function and delivered through a messaging mechanism;
 - Manages the received Contact Share information (e.g. retrieve, create, modify, delete) in AB XDMS via Trusted XDMC.

Note: Subscription/notification and retrieval of the Contact Share data from User Preferences XDMS and processing of incoming Contact Shared data at the recipient side will be resolved in TS.

- Trusted XDM Client Function acts as a supporting entity to the other CAB Server functions by performing the following:
 - Supports interactions with CAB XDMS(s) on XDM-4i and through SIC-2 interfaces.

The CAB Server MAY provide charging events to the Charging Enabler [OMA CHRG AD].

5.3.1.3 CAB XDMS(s)

The CAB XDMS(s) are server entities based on the [OMA XDM] section 5.3.2.1.

5.3.1.3.1 AB XDMS

The AB XDMS is the network repository for the AB data and it SHALL support the following functions:

- Performs authorisation of incoming SIP, search and XCAP requests;
- Manages and supports content of AB XML documents;
- Stores Contact Status information;
- Notifies subscribers of changes to the AB XML documents stored in the network;
- Provides search results;
- Stores the information about the operations performed on the AB XML documents based on the preferences set by the CAB User in CAB User Preferences XDMS;
- Enforces Access Permissions for XDM documents stored on the AB XDMS.

5.3.1.3.2 PCC XDMS

The PCC XDMS is a network repository for all PCC data and it SHALL support the following functions:

- Performs authorisation of incoming SIP, search and XCAP requests;
- Manages and supports content of PCC XML documents;
- Notifies subscribers of changes to the PCC XML documents stored in the network;
- Provides search results;
- Enforces Access Permissions for XDM documents stored on the PCC XDMS.

5.3.1.3.3 CAB User Preferences XDMS

The CAB User Preferences XDMS is the network repository for the CAB User preferences that SHALL support the following functions:

- Performs authorisation of incoming SIP and XCAP requests;
- Manages and supports content of CAB User preference XML documents (e.g. personalization preferences, Contact Subscription list);
- Notifies authorized subscribers of changes to the CAB Users preference XML documents.

Note: The location of the final storage (CAB User Preferences or PCC XDMS) of the non-CAB address book systems related data will be resolved in the TS.

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] 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], 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] to perform the following:

- document management operations on the documents stored in the CAB XDMS(s), except 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] to perform the following:

- document management operations on the documents stored in the CAB XDMS(s);
- history information management for the documents stored in the CAB XDMS(s).

5.3.2.5 Interface XDM-5i: Aggregation Proxy

CAB Client SHALL use the XDM-5 interface as defined in [OMA XDM] 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] 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 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].

5.3.2.8 Interface XDM-non_SIP: XDM Enabler

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

Note: The subscription and notification for non-SIP CAB Client will be resolved by PAG WG in XDM2.1 TS.

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-01 interface is specified in [OMA DS] "Security Considerations".

The security applicable to CAB XDMS(s) and XDM interfaces is specified in [OMA XDM] "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 OMA-AD-CAB-V1_0	28 Mar 2008	All	Initial baseline version
	24 July 2008	2,4 & 5	Incorporated CRs OMA-MWG-CAB-2008-0044R05 OMA-MWG-CAB-2008-0047R02.
	27 July 2008	5	Fix an error on index
	25 Aug 2008	5& 2	Incorporated CRs OMA-MWG-CAB-2008-0048R02
	01 Sep 2008	1, 3 & 5.	Incorporated CRs OMA-MWG-CAB-2008-0071R01 OMA-MWG-CAB-2008-0072R01 OMA-MWG-CAB-2008-0073R01 OMA-MWG-CAB-2008-0074R01
	27 Oct 2008	3& 5	Change to new AD template: OMA-Template-ArchDoc-20081010-I Incorporated CRs OMA-MWG-CAB-2008-0076R01 OMA-MWG-CAB-2008-0077R01 OMA-MWG-CAB-2008-0078R02
	21 Dec 2008	3& 5	Incorporated CRs and re-numbering in section 5.3. OMA-MWG-CAB-2008-0161R02-CR_CAB_Client_definition (in 3.2) OMA-MWG-CAB-2008-0157R01-CR_XDMC (into 5.3.1.1) OMA-MWG-CAB-2008-0165R01-CR_CAB_Contact_Share_Function (as 5.3.1.3) OMA-MWG-CAB-2008-0159R01-CR_Contact_Search.zip (as 5.3.2.2) 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 Incorporated CRs. OMA-MWG-CAB-2008-0168R01-CR_To_CAB_section_5 OMA-MWG-CAB-2008-0170R02-CR_To_CAB_AD_appendix_B
	08 Feb 2009	5.	Incorporated CRS OMA-MWG-CAB-2009-0018R02-CR_CAB_Architectural_Diagram (as diagram, 5.3.2.6) 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) OMA-MWG-CAB-2009-0006R01-CR_CAB_Server (modify 5.3.1.2, remove contact subscription function & interworking function in 5) OMA-MWG-CAB-2009-0011R02-CR_CAB_XDMS (expend 5.3.1.4 with 5.3.1.4.2) OMA-MWG-CAB-2009-0012R02- CR_CAB_User_Preference_XDMS(remove User preference in 5, and add 5.3.1.4.3) OMA-MWG-CAB-2009-0013R02-CR_CAB_Policy_XDMS.doc(add 5.3.1.4.4)

Document Identifier	Date	Sections	Description
	11 Feb 2009	3, 4 & 5	Incorporated CRs OMA-MWG-CAB-2009-0015R04- CR_Interaction_with_Legacy_Address_Books.zip (modify AD diagram, 5.3.1.4.3) OMA-MWG-CAB-2009-0038R01- CR_CAB_Server_Functional_Description.zip (modify 3.2, 5.3.1.2) OMA-MWG-CAB-2009-0019R01-CR_Security_Consideration.zip (modify 5.4) OMA-MWG-CAB-2009-0047R01-CR_CAB_security_DS.zip (add 5.4.1) OMA-MWG-CAB-2009-0049R01-CR_CAB_security_XDM.zip OMA-MWG-CAB-2009-0058 (add 5.4.2)- CR_CAB_1.0_AddressBookSynchronization.zip (modify 4.2) OMA-MWG-CAB-2009-0043R01- CR_Search_NonSip_SubNot_ReferencePoints (add 5.3.2.6)
	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 essay
	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

Document Identifier	Date	Sections	Description
	04 May 2009	1, 2, 3, 4 & 5	<p>Incorporated with</p> <p>OMA-MWG-CAB-2009-0084R03-CR_Resolution_A0256_to_A0280</p> <p>OMA-MWG-CAB-2009-0086R03-CR_Section4</p> <p>OMA-MWG-CAB-2009-0089R03-CR_Resolution_Section_5_3_2_6</p> <p>OMA-MWG-CAB-2009-0090R03-CR_ADRR_resolution_to_Interworking_Function</p> <p>OMA-MWG-CAB-2009-0100-CR_about_note_in_section_5.2</p> <p>OMA-MWG-CAB-2009-0101R01-CR_about_ADRR_comment_A400</p> <p>OMA-MWG-CAB-2009-0102R01-CR_about_CAB_format</p> <p>OMA-MWG-CAB-2009-0104-CR_ADRR_Comments_A017_A018_A019</p> <p>OMA-MWG-CAB-2009-0105R01-CR_ADRR_Comments_A050_A058</p> <p>OMA-MWG-CAB-2009-0106R02-CR_ADRR_Comments_A053_A059_A062_A066_A070</p> <p>OMA-MWG-CAB-2009-0107R02-CR_ADRR_Comments_A065</p> <p>OMA-MWG-CAB-2009-0108R02-CR_ADRR_Comments_A081_A0101_A0104_A0142_A0143</p> <p>OMA-MWG-CAB-2009-0109R02-CR_ADRR_Comments_A083_A0106_A0134_A0136</p> <p>OMA-MWG-CAB-2009-0110R01-CR_ADRR_Comments_A091_A0119_A0137</p> <p>OMA-MWG-CAB-2009-0111R01-CR_CAB_ContactStatus</p> <p>OMA-MWG-CAB-2009-0115R01-CR_ADRR_Comments_A060</p> <p>OMA-MWG-CAB-2009-0120R01-CR_nonCAB_ABS</p> <p>OMA-MWG-CAB-2009-0123R01-CR_ADRR_comments_resolution_to_A06_Lawful_Interception</p> <p>OMA-MWG-CAB-2009-0124-CR_ADRR_comments_resolution_to_section_2.1</p> <p>OMA-MWG-CAB-2009-0125R01-CR_ADRR_comments_resolution_to_section_2.2</p> <p>OMA-MWG-CAB-2009-0134R01-CR_ADRR_Comment_resolution_A098</p> <p>OMA-MWG-CAB-2009-0136R01-CR_ADRR_Resolution_to_A100_A125_A141</p> <p>OMA-MWG-CAB-2009-0137R02-CR_ADRR_Comments_on_Section5_3_1_4_1</p> <p>OMA-MWG-CAB-2009-0138R01-CR_ADRR_Comments_about_Architecture_Model_section</p> <p>OMA-MWG-CAB-2009-0140R02-CR_ADRR_comments_A128_A148_A155</p> <p>OMA-MWG-CAB-2009-0142R02-CR_ADRR_A007_Presence</p> <p>OMA-MWG-CAB-2009-0145R01-CR_Resolution_Search_ExternalDirectories</p> <p>OMA-MWG-CAB-2009-0151R05-CR_ADRR_resolution_to_CAB_arch_diagram_update</p>
	09 May 2009	5	Incorporated with OMA-MWG-CAB-2009-0112R01-CR_CAB_ContactSubscription
	11 May 2009	1 & 5	<p>Fix editor mistake for OMA-MWG-CAB-2009-0112R01-CR_CAB_ContactSubscription</p> <p>Incorporated with OMA-MWG-CAB-2009-0148R01-CR_ADRR_resolution_to_comment_219</p>
	19 May 2009	5	<p>Incorporated with:</p> <p>OMA-MWG-CAB-2009-0087R02-CR_Section5_3_1_4_2_PCC</p> <p>OMA-MWG-CAB-2009-0130R01-CR_ADRR_comments_resolution_to_section_5.3.1.4.3</p> <p>OMA-MWG-CAB-2009-0150-CR_ADRR_resolution_to_comment_A0341</p>

Document Identifier	Date	Sections	Description
	20 May 2009	5	Replaced 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 With OMA-MWG-CAB-2009-0087R03-CR_Section5_3_1_4_2_PCC OMA-MWG-CAB-2009-0130R02- CR_ADRR_comments_resolution_to_section_5.3.1.4.3
	29 May 2009	2, 4, 5	Incorporated with OMA-MWG-CAB-2009-0088R03-CR_Section_5_3_2_5 OMA-MWG-CAB-2009-0113R02-CR_Section_5_3_2_1 OMA-MWG-CAB-2009-0131R02- CR_ADRR_Comments_Resolution_to_Description_of_Contact_Share OMA-MWG-CAB-2009-0149R02- CR_ADRR_resolution_to_comments_174_187 OMA-MWG-CAB-2009-0154R01-CR_CAB_ADRR_A093_A094 OMA-MWG-CAB-2009-0155R01-CR_Resolution_for_ADRR_A007 Delete original 5.3.1.3 and adjust later subclauses in section 5.3.1; 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 OMA-MWG-CAB-2009-0092R01- CR_ADRR_resolution_to_CAB_Security_Considerations OMA-MWG-CAB-2009-0119R01-CR_XDM_4
	04 June 2009	3& 5	Incorporated with OMA-MWG-CAB-2009-0133R03- CR_ADRR_resolution_to_CAB_User_Policy_XDMS
	09 June 2009	5	Incorporated with OMA-MWG-CAB-2009-0185-CR_CAB1_Title_Correction OMA-MWG-CAB-2009-0186-CR_Interface_XDM_non_SIP
	10 June 2009	5	Corrected with OMA-MWG-CAB-2009-0186R01-CR_Interface_XDM_non_SIP
	11 June 2009	5, App C	Incorporated with OMA-MWG-CAB-2009-0170R02- CR_Informative_CAB_AD_diagram OMA-MWG-CAB-2009-0114R02-CR_Section_5_3_2_x
	12 June 2009	2 & 5	Incorporated with OMA-MWG-CAB-2009-0195R01- CR_about_comments_on_CAB_Charging
	18 June 2009	App B	Incorporated with OMA-MWG-CAB-2009-0207-CR_Appendix_flows_ADRRs
	23 June 2009	4 & 5	Incorporated : OMA-MWG-CAB-2009-0128R02- CR_ADRR_comments_resolution_to_section_5.3.2.2 OMA-MWG-CAB-2009-0141R05- CR_ADRR_resolution_to_CAB_Server_Comments OMA-MWG-CAB-2009-0230R01- CR_XDM_5i_interface_description_section5_3_2_5 Online edits during Boston meeting (June 22 session).
	24 July 2009	5	Incorporated with OMA-MWG-CAB-2009-0133R03- CR_ADRR_resolution_to_CAB_User_Policy_XDMS Change 1 (corrected CR implementation error)
	06 Aug 2009	4, App C	Incorporated with OMA-MWG-CAB-2009-0250- CR_Incorporated_comments_from_ARC_consistency_review
	27 Aug 2009	All	Editorial clean up
Candidate Versions OMA-AD-CAB-V1_0	22 Sep 2009	All	Status changed to Candidate by TP: TP Ref# OMA-TP-2009-0405- INP_CAB_V1_0_AD_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.

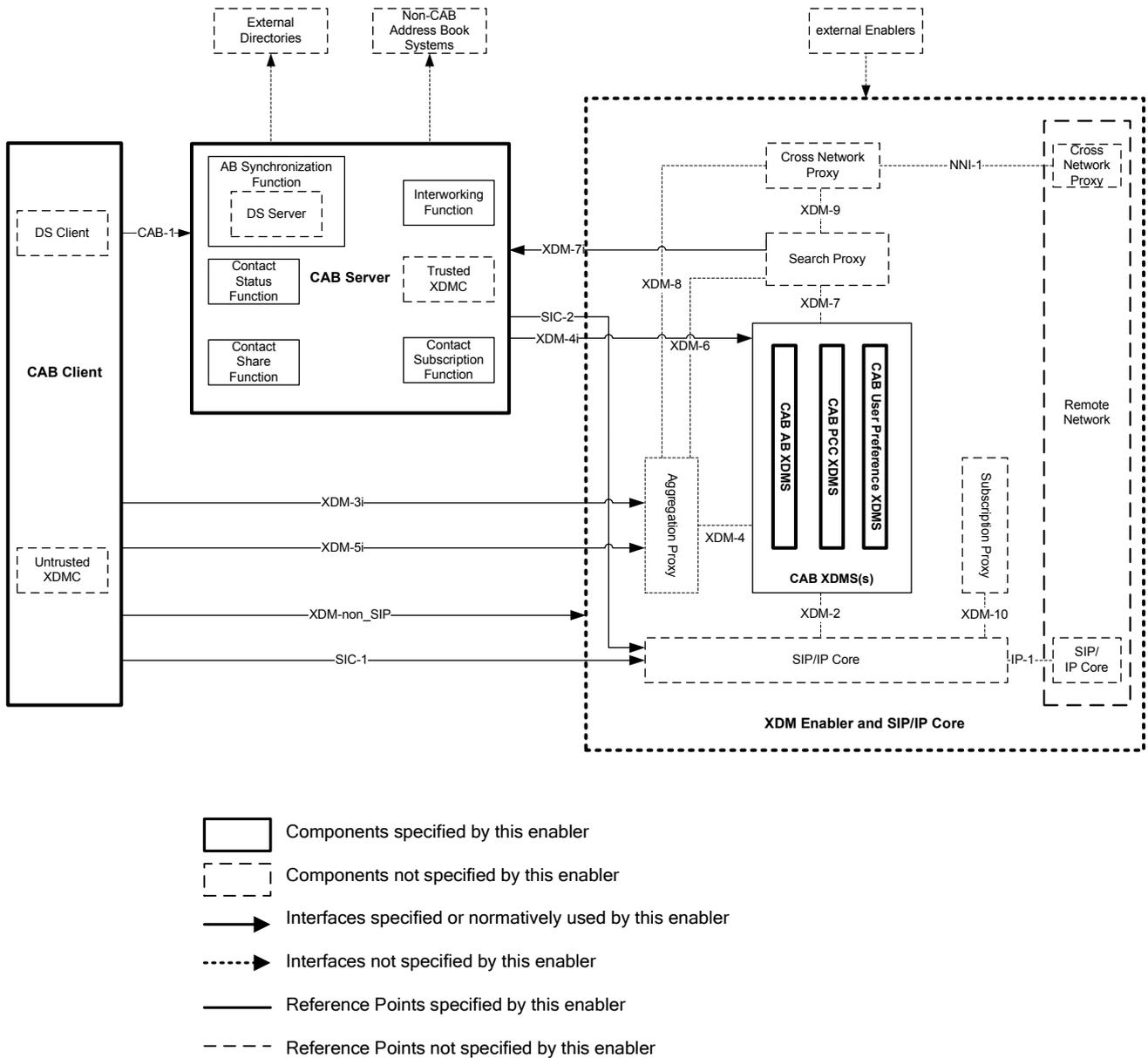


Figure 2: Decomposed CAB Architecture Diagram (informative)

NOTE: The 'XDM-non_SIP' interface will be updated when it is defined in XDM 2.1 AD.