Converged Address Book Requirements

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Open Mobile Alliance

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1. Scope (Informative)

This document defines the requirements for the Converged Address Book (CAB) 1.1 Enabler, taking into consideration the demands of end-users, service providers, and system implementers.

2. References

2.1 Normative References

[CAB 1.0] OMA Converged Address Book Enabler, Version 1.0, Open Mobile Alliance™, 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

[CPM] OMA Converged IP Messaging , Version 1.0, Open Mobile Alliance™, URL:http://www.openmobilealliance.org

[OMADICT] "Dictionary for OMA Specifications", Version 2.8, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_7, URL:http://www.openmobilealliance.org/

[RFC4745] IETF RFC 4745 "Common Policy: A Document Format for Expressing Privacy Preferences", H. Schulzrinne, J. Morris, H. Tschofenig, J. Cuellar, J. Polk, J. Rosenberg, February 2007, URL: http://www.ietf.org/rfc/rfc4745.txt

[RFC2426] vCard MIME Directory Profile. F. Dawson, T. Howes. September 1998. URL: http://www.ietf.org/rfc/rfc2426.txt

[vCard2.1] "vCard The Electronic Business Card Version 2.1", A versit Consortium Specification, September 18, 1996 URL: http://www.imc.org/pdi/vcard-21.doc

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

Authorized Principal	Uses definition from [OMADICT].
CAB User	A user of a Service that conforms to the CAB Enabler (Source: [CAB v1.0 RD]).
Common Connection	A contact that is present in both CAB User's address book and his/her contact's address book, or another CAB User that is subscribed to both the CAB User and his/her contact.
Communication History	A set of information containing an aggregated log of various communications of the CAB User. (e.g. incoming or outgoing call/SMS/MMS, missed calls). The information consists of metadata related to the communication such as contact, timestamp, and source/service.
Contact Entry	The information (e.g. name, address, presence subscription information, display name) associated with a contact (Source: [CAB v1.0 RD]).
Contact Share	The action to provide contact information from the Converged Address Book or the own Personal Contact Card to other users, without it being the result of a Contact Subscription (Source: [CAB v1.0 RD]).
Contact Subscription	Means by which a CAB User can request to receive automatic updates of another 'CAB User's' available Personal Contact Card information (Source: [CAB v1.0 RD]).
Contact View	A named subset of the Personal Contact Card of the CAB User to be made available to other users (Source: [CAB v1.0 RD]).
Converged Address Book	A set of Contact Entries, stored by a CAB User, and commonly available to any of the CAB User's registered clients (Source: [CAB v1.0 RD]).
Enabler	Uses definition from [OMADICT].
External Profile	Collection of user's personal information from an external non-CAB system.
Favourite Contact	A Contact labelled to identify preference based on interest (e.g., communication frequency, importance).
Legacy Formats	Existing standard data formats that are widely used in the industry to store and exchange contact information. Examples include vCard and hCard (Source: [CAB v1.0 RD]).
Personal Contact Card	The collection of personal contact information that a CAB User defines about him/herself (Source: [CAB v1.0 RD]).
Privacy Preferences	Preferences which enable a CAB User to establish and control their individual privacy settings (Source: [RFC4745]).
Published Contact Card	A subset of a Personal Contact Card, as defined by Contact Views that is made available to other CAB users (via a Contact Subscription) in the CAB environment.
Service	Uses definition from [OMADICT].
Service Provider	Uses definition from [OMADICT].
Social Activity	The user activity information associated with CAB User's social interactions (e.g. posting a photo, joining a group, start following a user, posting comments, etc.) from/to social network services
Usage Information	The information associated with CAB User's communication usage (e.g. duration of call, time of call, frequently called users)

3.3   Abbreviations

3GPP	3rd Generation Partnership Project
3GPP2	3rd Generation Partnership Project 2
CAB	Converged Address Book
CPM	Converged IP Messaging
IETF	Internet Engineering Task Force
IP	Internet Protocol
ISP	Internet Service Provider
MMS	Multimedia Message Service
OMA	Open Mobile Alliance
PC	Personal Computer
PCC	Personal Contact Card
PDA	Personal Digital Assistant (electronic handheld information device)
SIM	Subscriber Identity Module
SIP	Session Initiation Protocol
SMS	Short Message Service
SN	Social Network
TISPAN	Telecoms & Internet converged Services & Protocols for Advanced Networks
URI	Uniform Resource Identifier
URL	Uniform Resource Locator

4. Introduction   (Informative)

As telecommunications are evolving towards all-IP based networks, many innovative and flexible services emerge to facilitate peer-to-peer and community communications, most using an address book as a launch pad for these services. Users are dealing with many address books (such as device-resident, SIM-resident, service-dependent and ISP-offered) that cause difficult and inconsistent user experiences. In order to support the new communication paradigms and improve the user experience a single address book environment is required.

The Converged Address Book (CAB) Enabler provides consistent mechanisms to manage contact information in both user facing applications as well as in support of network facing activities. At the core of this enabler is a network-based contact repository which a user can use to store contact information which can be retrieved by any CAB-enabled device. The network-based repository is also able to provide specific contact information to other users and to keep them up-to-date whenever the data is updated.

The CAB Enabler is expected to provide synchronization of the contact information available in the user device(s) with the network-based contact repository. It is possible that the limits of storage available on some devices is such that it can not store the whole set of information and it may need to limit either the total number of records or the number of attributes retained per record. The ability to support such limits shows the flexibility CAB Enabler is expected to provide in letting a user manage the contact information collected on the device(s).

The CAB Enabler is also managing the distribution of user's own contact information. In essence, a user fills out a Personal Contact Card which includes all the information a user wishes to store about themselves. Using Contact Views, defined by either the CAB User or the service provider, the CAB is able to provide different subsets of this information to other users requesting such contact information. Through a Publish/Subscribe paradigm, such information can be provided to other users and when there is any effective change; those other users will be able to receive the updated data. An example of Contact Views usage within the Personal Contact Card is presented in Figure 1.
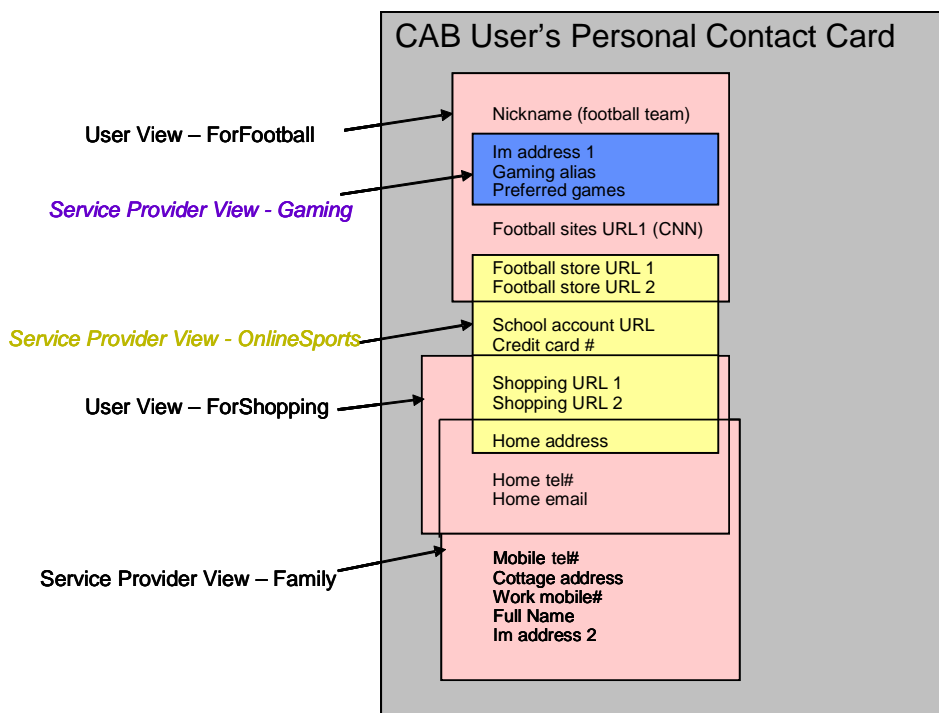

Figure 1: Example of Contact Views in the CAB User's Personal Contact Card

Since systems that are supporting the CAB Enabler are likely supporting multiple users, the CAB Enabler also defines a search paradigm which permits other users to query such a system to locate information about the available users. The information a user wishes to provide in response to such searches can be limited by using a specific Contact View which has a limited set of attributes or they can opt out of this capability entirely, and not permit their data to be made available for a general search operation.

As the CAB Enabler is expected to support many different types of information it is expected to require a data model that is flexible and extensible. The CAB Enabler data model will be expected to accommodate traditional types of contact information (e.g. name, address, email, phone number, mobile number, etc.) as well as new types of information (e.g. websites, blogs, presence subscription references, etc.). Such a data model should not preclude support for existing or Legacy Formats (e.g. vCard) as a means to exchange data with users not yet served by CAB. Several forms of data availability is required; including data being shared with other users as well as data being formatted in a Legacy Format and usable in a variety of non-CAB-specific exchange activities.

The CAB Enabler, being defined in support of mobile applications, is expected to be designed and developed with efficiency of resources and protection of user privacy as major considerations. In addition, service provider operational needs and user preferences are general principles which should be applied across the enabler whether specifically called out in individual requirements or not.

The environment that the CAB Enabler establishes is expected to be used to enrich the user's experience by the effective use of the data that it makes available to other applications and services. For example, much of the information for a contact will be used to enhance the user's communication experience. This could be by either permitting easy establishment of a communication action or by permitting subscription to presence or capability information. In general, the use of the contact information is out-of-scope of the CAB Enabler and it is up to the other applications and services to perform any needed actions.

Similarly, certain implementation aspects of the CAB Enabler are not covered in these requirements. In particular, support for multiple, concurrent CAB subscriptions in support of different service domains (e.g. personal, corporate) is a possible service model. Whether it is implemented as unified or independent address book(s) is not specifically covered by the CAB Enabler as it is expected that various approaches could be deployed based upon the tools that the CAB Enabler does provide.

The CAB Enabler will re-use as appropriate (e.g. through reference) relevant parts of the associated supporting specifications from OMA, 3GPP, 3GPP2, IETF, TISPAN, etc.

4.1　Version 1.0

The CAB 1.0 Enabler [CAB 1.0] provides support for the following functionality:

- Support for a network repository of contact information (i.e. address book). The user device will be able to synchronize with this data.

- The CAB enabled device, on behalf of the user, will be able to manage the Personal Contact Card and Contact View data objects which will be stored on the network component and permit it to support the publish and search operations.

- Definition of data formats for Address Book and Personal Contact information.

- For network-side operations, the subscription activity (through Contact Subscription) is supported which will provide data exchange of the contact information and notifications of change.

- The Legacy Formats supported in CAB 1.0 are vCard 2.1 [vCard 2.1] and vCard 3.0 [RFC2426]. CAB 1.0 Enabler also supports simple mapping of contact data fields between CAB and Legacy Formats to permit exchange of data between CAB and non-CAB systems and Users.

- Support for importing data from non-CAB Systems, but it does not define any interface for the interaction with external non-CAB systems for import.

- Support for sharing CAB User's contact information (i.e. PCC and/or Address Book) data to other Users (i.e. CAB and non-CAB Users).

- Mechanism to accept or reject Contact Subscription request to PCC.

4.2   Version 1.1

The CAB 1.1 Enabler extends CAB 1.0 with the following new features (CAB 1.1 Enabler requirement):

- Notification of 'CAB User Added' information (CAB-HLF-012).

- Retrieval of previously removed contact information from the device (CAB-HLF-015).

- Maintain CAB User's Favourite contact information (CAB-HLF-019).

- Store information related to content stored in external networks (CAB-HLF-022).

- Mechanism to allow a CAB User to invite other CAB Users to subscribe to his/her PCC (CAB-SUBS-002).

- Import/Synchronize user's personal information (CAB-IWG-005/006).

- Support for receiving suggestions of new contacts and service suggestions (CAB-SN-002).

- Indication of Common Connections associated with CAB User's contacts (CAB-SN-008).

- Display of contact's public content in CAB User's AB (CAB-SN-009).

4.3   Future Version

The following CAB features are envisaged for CAB future version:

- Mapping and conveying of the CAB contact information in Legacy Formats other than vCard.

- Provide Communications History and recent activity data.

- Definition of a set of charging events usable in various business models.

- Allow CAB User's to post feedback into other CAB User's PCC.

- Prevention of unauthorized access to a CAB User's related information stored on their reported stolen or lost mobile device.

- Mechanism to describe and view relationships between CAB Users.

- Integration of Social Activity information.

- Support for enriching contacts with information from social networks.

5. Requirements   (Normative)

5.1   High-Level Functional Requirements

Label	Description	Enabler Release
CAB-HLF-001	The CAB Enabler SHALL provide a network based address book for the CAB User.	CAB 1.0
CAB-HLF-002	The CAB Enabler SHALL define Contact Entry and Personal Contact Card which include contact information such as: • Full name (e.g. title, first, middle, last and suffix) • Display name: An optional descriptive name suggested by the user to identify him/herself (e.g. nickname) • Addressing identifiers (e.g. CPM Address [CPM], instant messaging address, email address, phone number, SIP address, presence subscription address, gaming user identifier…) • Basic personal data (e.g. birth date, description, gender, height, home address) • Extended personal data (e.g. areas of expertise, avatars data, hobbies, interests, photo or video data, title) • Web resources (e.g. homepage URL, weblog URL, publications URL) • Organisational data (e.g. business category, department name, job title, alternative contact or agent)	CAB 1.0
CAB-HLF-003	The CAB Enabler SHALL support list resources (i.e. list URI) in the Converged Address Book.	CAB 1.0
CAB-HLF-004	The CAB Enabler SHALL allow the CAB User to manage (e.g. add/change/delete) Contact Entries in his/her Converged Address Book.	CAB 1.0
CAB-HLF-005	The CAB Enabler SHALL, according to the CAB User's preferences and/or service provider's policy, be able to either automatically or by request keep up-to-date all information of the address books of all the CAB-enabled registered devices of a CAB User.	CAB 1.0
CAB-HLF-006	The CAB Enabler SHALL support named lists of Contact Entries which can be accessed and managed (i.e. create/update/delete) by Authorized Principals.	CAB 1.0
CAB-HLF-007	The CAB Enabler SHALL permit a Contact Entry to appear in any number of named lists.	CAB 1.0
CAB-HLF-008	The CAB Enabler SHALL support a mechanism for the CAB User to manage access and modification rights to all or a subset of the contact information stored in his/her Converged Address Book and/or Personal Contact Card to an Authorized Principal.	CAB 1.0
CAB-HLF-009	The CAB MAY support one address book per CPM Address of the CPM User	DELETED
CAB-HLF-010	The CAB Enabler SHALL be able to receive contact information in vCard format.	CAB 1.0
CAB-HLF-011	The CAB Enabler MAY be able to receive contact information in Legacy Formats other than vCard based on user settings.	Future Version
CAB-HLF-012	The CAB Enabler SHALL be able to notify a CAB User (e.g. User A) when another CAB User (e.g. User B) added him/her (A) to his/her (B) contacts , based on CAB User preferences (A and B) and service provider policy.	CAB 1.1
CAB-HLF-012a	The CAB Enabler SHALL provide a Network-to-Network notification when CAB User B adds another CAB User A into his/her Address Book (i.e. of CAB User B). Such notification is in accordance with CAB User Preferences and Service Provider policies.	CAB 1.0

CAB-HLF-013	The CAB Enabler SHALL be able to notify a CAB User (e.g. User A) when one of his/her contacts becomes a CAB User (e.g. User B), based on CAB User preferences (Users A and B) and service provider policy.	CAB 1.0
CAB-HLF-014	The CAB Enabler SHALL allow a CAB User to manage (e.g. modify, delete, access, keep up to date) a local subset of the Converged Address Book (which is resident in the network) on a registered device.	CAB 1.1
CAB-HLF-015	The CAB Enabler SHALL allow a CAB User to retrieve from the network contact information that was previously removed from the device. Note: Retrieval from the network address book contact information previously removed from a device is scoped to retrieval of the *entire* Contact Entry removed, and NOT *partially removed* contact information.	CAB 1.1
CAB-HLF-016	The CAB Enabler SHALL be able to provide a CAB User with the CAB status information (e.g. CAB or legacy contact, pending authorisation, corresponding CAB provider, source of contact data, …) of each of his/her contacts, based on contact's preference and service provider policy.	CAB 1.0
CAB-HLF-017	The CAB Enabler SHALL expose to other Enablers (e.g. Messaging enabler, CPM Enabler) an interface to obtain CAB information related to CAB User's contacts, subject to user authorization and/or service provider policies.	CAB 1.0
CAB-HLF-018	The CAB Enabler SHALL allow a CAB User to undo successfully performed change(s) (i.e. add, modify, delete) applied to a Personal Contact Card, subject to Service Provider policy.	CAB 1.1
CAB-HLF-019	The CAB Enabler SHALL be able to maintain CAB User's Favourite Contact information per device or keep it up to date between the CAB user's multiple devices, based on CAB User's preference and service provider policy.	CAB 1.1
CAB-HLF-020	The CAB Enabler SHALL be able to automatically and by request keep up-to-date all the Communication History and Usage Information from CAB User's devices, subject to user preferences and service provider policies.	Future Version
CAB-HLF-021	For existing contacts, the CAB Enabler SHALL associate the data from the Communication History with a Contact to indicate recent activity data with each Contact.	Future Version
CAB-HLF-022	CAB Enabler SHALL allow the CAB User to store information related to content stored in external networks (e.g. location/URL, type, expiration time, etc.) in his/her PCC subject to service provider's policy	CAB 1.1

Table 1: High-Level Functional Requirements

5.1.1   Security

Label	Description	Enabler Release
CAB-SEC-001	The CAB Enabler SHALL use a secure environment for use in the exchange of data between the user device and the network elements of the CAB system.	CAB 1.0
CAB-SEC-002	The CAB Enabler SHALL use a secure environment for use in exchange of data between CAB systems (e.g. between service providers).	CAB 1.0

Table 2: High-Level Functional Requirements – Security Items

5.1.1.1   Authentication

Label	Description	Enabler Release
CAB-AUC-001	The CAB Enabler SHALL support a Principal to be authenticated by the CAB service provider domain.	CAB 1.0
CAB-AUC-002	The CAB Enabler SHALL support a Principal to authenticate the CAB service provider domain.	CAB 1.0

| CAB-AUC-003 | The CAB Enabler MAY leverage the authentication capabilities of the underlying IP network to authenticate a Principal. | CAB 1.0 |
| CAB-AUC-004 | The CAB Enabler MAY leverage the authentication capabilities of the underlying IP network to allow a Principal to authenticate the service provider domain. | CAB 1.0 |

Table 3: High-Level Functional Requirements – Authentication Items

5.1.1.2 Authorization

Label	Description	Enabler Release
CAB-AUT-001	The CAB Enabler MAY support a means to prevent unauthorized access to a CAB User's related information stored on his/her reported stolen or lost mobile device.	Future Version
CAB-AUT-002	The CAB Enabler SHALL prevent unauthorized access to CAB User's related information stored in the network.	CAB 1.0
CAB-AUT-003	The CAB Enabler SHALL allow the CAB User to manage authorisation rules that allow others to obtain information from the Published Contact Card (e.g. to satisfy Contact Subscriptions, contact searches).	CAB 1.0
CAB-AUT-004	The CAB Enabler SHALL allow the CAB User to manage default authorization rule to be applied to any users that are not explicitly identified within the authorization rules.	CAB 1.0

Table 4: High-Level Functional Requirements – Authorization Items

5.1.1.3 Data Integrity

Label	Description	Enabler Release
CAB-INT-001	The CAB Enabler SHALL ensure data integrity of the CAB data within the CAB environment.	CAB 1.0

Table 5: High-Level Functional Requirements – Data Integrity Items

5.1.2 Charging

Label	Description	Enabler Release
CAB-CHRG-001	The CAB Enabler MAY define a set of charging events usable in various business models.	Future Version

Table 6: High-Level Functional Requirements – Charging Events Items

5.1.3 Administration and Configuration

Label	Description	Enabler Release
CAB-CFG-001	The CAB Enabler SHALL define CAB specific configuration support to permit remote configuration activities of user devices.	CAB 1.0

Table 7: High-Level Functional Requirements – Administration and Configuration Items

5.1.4 Interoperability

Label	Description	Enabler Release
CAB-IOT-001	The CAB Enabler SHALL support interoperation between service providers.	CAB 1.0

Table 8: High-Level Functional Requirements – Interoperability Items

5.1.5   Lawful Interception

NOTE: The capability to intercept CAB telecommunications traffic and related information is always implemented in accordance with national or regional (e.g. European Union) laws or technical regulations applicable to the service provider. Nothing in these requirements, including the definitions, is intended to supplant such applicable laws or regulations.

Label	Description	Enabler Release
CAB-LI-001	The CAB Enabler SHALL allow mechanisms to unobtrusively monitor and report any CAB activity associated with a CAB User when required by a lawful authority.	CAB 1.0
CAB-LI-002	The CAB Enabler SHALL support access of CAB data (Personal Contact Card, Contact Entries, etc.) when required by a lawful authority.	CAB 1.0
CAB-LI-003	When supporting a lawful interception request, the CAB Enabler SHALL be able to provide the available CAB information regardless of the privacy settings set by intercepted CAB Users on their CAB related information.	CAB 1.0
CAB-LI-004	Available and applicable underlying network (e.g. SIP/IP Core) capabilities SHOULD be used to support lawful interception requirements as much as possible (e.g. re-use of 3GPP/3GPP2 lawful interception in case of 3GPP/3GPP2 IMS and/or other national or regional technical specifications).	CAB 1.0

Table 9: High-Level Functional Requirements – Lawful Interception Items

5.1.6   Presence

Label	Description	Enabler Release
CAB-PRS-001	If Presence Information is available, the CAB Enabler SHALL be able to use that information to enhance the user experience.	DELETED

Table 10:High-Level Functional Requirements – Presence Items

5.2   Personal Contact Card Requirements

Label	Description	Enabler Release
CAB-PCC-001	The CAB Enabler SHALL allow the CAB User to manage (e.g. add/change/delete) his/her Personal Contact Card information.	CAB 1.0
CAB-PCC-002	The CAB Enabler SHALL allow a CAB User to manage (e.g. create, delete, modify, name) Contact Views of his/her Personal Contact Card and select the fields that are associated with each Contact View.	CAB 1.0
CAB-PCC-003	The CAB Enabler SHALL allow a CAB User to associate specific fields in his/her Personal Contact Card to more than one Contact View.	CAB 1.0
CAB-PCC-004	The CAB Enabler SHALL permit a CAB User (e.g. User A) to select the Contact View(s) to be provided to a user (e.g. User B) requesting Personal Contact Card information. If multiple Contact Views are applied, user(B) shall be provided with a combined union set of fields associated with each Contact View of CAB User(A), subject to user (A)'s Privacy Preferences.	CAB 1.0
CAB-PCC-005	The CAB Enabler SHOULD allow the service provider to provide a set of Contact Views, each with their associated default set of fields, for use and personalization by each CAB User, subject to service provider policies.	CAB 1.0

CAB-PCC-006	The CAB Enabler SHALL produce contact information, for distribution to others, by including only fields from the Personal Contact Card that are selected in the associated Contact View with the user making the request.	CAB 1.0
CAB-PCC-007	The CAB Enabler SHALL utilize a CAB-common data format for providing Personal Contact Card information derived from a Contact View to requests generated from CAB Systems.	CAB 1.0
CAB-PCC-008	The CAB Enabler MAY provide contact information from the Personal Contact Card in a requested data format (i.e. vCard format).	CAB 1.0
CAB-PCC-009	The CAB Enabler SHOULD provide a CAB User with the possibility to set the 'Display name' field with a different value per Contact View.	CAB 1.0
CAB-PCC-010	The CAB Enabler SHOULD allow a CAB User (e.g. User A) to post information (e.g. feedback) into other CAB User's (e.g. User B) PCC, subject to the CAB User's B authorization and service provider policies.	Future Version

Table 11: Personal Contact Card Requirements

5.3   Contact Subscription Requirements

Label	Description	Enabler Release
CAB-SUBS-001	The CAB Enabler SHALL support a mechanism by which other users obtain a Contact Subscription to the Published Contact Card information of a CAB User based on Service Provider policies.	CAB 1.0
CAB-SUBS-002	The CAB Enabler SHALL allow a CAB User to invite other CAB users to subscribe to his/her Published Contact Card information based on service provider's policy.	CAB 1.1
CAB-SUBS-003	The CAB Enabler SHALL provide a means to notify a CAB User about a request for a Contact Subscription, based on user preferences and service provider policy.	CAB 1.0
CAB-SUBS-004	The CAB Enabler SHALL have the capability to generate-notifications for active Contact Subscriptions to subscribing users, associated with Published Contact Card activity when any of the following occur: the value of an attribute in the Contact View changes, an attribute is added or removed from a Contact View or the CAB User's authorisation rules changes with regards to the subscribing user (e.g. change in the Contact View).	CAB 1.0
CAB-SUBS-005	The CAB Enabler SHALL provide notification to an authorized CAB User when changes occur to Published Contact Card information for which the CAB User has a Contact Subscription, based on CAB User preferences and service provider policy.	CAB 1.0
CAB-SUBS-006	The CAB Enabler SHALL update the CAB User's address book with contact information from Contact Subscriptions, based on the CAB User preferences.	CAB 1.0
CAB-SUBS-007	The CAB Enabler SHALL be able to combine information from the Contact Subscriptions with the information that the CAB User customizes about the associated contacts.	CAB 1.0
CAB-SUBS-008	The CAB Enabler SHALL be able to manually or automatically accept or reject the Contact Subscription request to the Personal Contact Card on behalf of the CAB user based on user preferences.	CAB 1.0

Table 12: Contact Subscription Requirements

5.4   Contact Search Requirements

Label	Description	Enabler Release
CAB-SRCH-001	The CAB Enabler SHALL provide a mechanism to search for information from Personal Contact Cards, subject to CAB users authorization rules and service provider policies.	CAB 1.0
CAB-SRCH-002	The CAB Enabler SHALL support searches between different service provider domains on behalf of CAB Users, subject to CAB User authorization rules and service provider policies.	CAB 1.0
CAB-SRCH-003	The CAB Enabler SHALL support searching a service provider defined network directories (company directory, white page phone book or yellow page phone book etc.) based on service provider policies.	CAB 1.0
CAB-SRCH-004	The CAB Enabler SHALL provide a predictive search mechanism to match an incomplete contact information (e.g. substring of name, word(s) of address or variations of it) provided by an end-user based on the network directories information supported by service providers, subject to CAB user specified search criteria and service provider policies (e.g. domain name to search, max number of results). If matching gives more than one result, the end-user would be provided with a list of results.	CAB 1.0
CAB-SRCH-005	The CAB Enabler SHALL support a mechanism to allow a CAB User to include the search results into his/her CAB address book	DELETED

Table 13: Contact Search Requirements

5.5   Contact Share Requirements

Label	Description	Enabler Release
CAB-SHR-001	The CAB Enabler SHALL support a CAB User to Contact Share all or part of any Contact Entry in the CAB User's Converged Address Book, subject to the service provider policy.	CAB 1.0
CAB-SHR-002	The CAB Enabler SHALL allow the CAB User to Contact Share his/her Personal Contact Card information (either completely or partially), subject to the service provider policy.	CAB 1.0
CAB-SHR-003	The CAB Enabler SHALL be able to deliver within the CAB environment the information that is Contact Shared with other CAB Users	CAB 1.0
CAB-SHR-004	The CAB Enabler SHALL be able to Contact Share with other users via the submission of a message with the contact information attached in a Legacy Format.	CAB 1.0
CAB-SHR-005	The CAB Enabler SHALL allow a CAB User to establish preference rules (e.g. accept/confirm/reject) for the handling of received Contact Shared information, based on service provider policy.	CAB 1.0
CAB-SHR-006	The CAB Enabler SHALL allow a CAB User to request and receive a delivery receipt from the intended recipient for a Contact Share operation, based on service provider policy. A Contact Share is determined to be successful when it is delivered to the intended recipient CAB Client or incorporated his AB.	CAB 1.0

Table 14: Sharing contact information Requirements

5.6 Interworking Requirements

Label	Description	Enabler Release
CAB-IWG-001	The CAB Enabler SHALL allow a CAB User to import contact information via CAB standardized data structure and file type subject to service provider policy.	CAB 1.0
CAB-IWG-002	The CAB Enabler SHALL provide an interworking framework that provides the necessary mechanisms to exchange data with 3rd party address book systems.	CAB 1.0 CAB APIs 1.0
CAB-IWG-003	The CAB Enabler SHALL have the capability to convey contact information in vCard Legacy Format(s).	CAB 1.0
CAB-IWG-004	The CAB Enabler MAY have the capability to convey contact information in other than vCard Legacy Format(s) (i.e. Portable Contacts).	Future Version
CAB-IWG-005	The CAB Enabler SHALL allow a CAB User to request the import/export of PCC information from/to a 3rd party systems.	CAB 1.1
CAB-IWG-006	The CAB Enabler SHALL allow a CAB User to request the subscription to changes in the user's External Profile at a 3rd party systems to keep PCC up-to-date.	CAB 1.1

Table 15: Interworking Requirements

5.7 Architecture Requirements

Label	Description	Enabler Release
CAB-ARC-001	The CAB Enabler SHALL support flexible deployment options to allow the use of either OMA DS or OMA XDM interfaces to access CAB User's AB, subject to service provider policies.	CAB 1.1

Table 16: Architecture Requirements

5.8 Social Network Requirements

Label	Description	Enabler Release
CAB-SN-001	The CAB Enabler SHALL allow a CAB User to enrich his existing contacts with information retrieved from other social networks based upon user preferences (e.g. notifications of status messages such as status line and other social indicators).	Future Version
CAB-SN-002	The CAB Enabler SHALL allow a CAB User to receive suggestions of new contacts from CAB Enabler based upon user preferences. Note: the logic of generating suggestions is out of scope for CAB.	CAB 1.1
CAB-SN-003	The CAB Enabler SHALL provide mechanisms to describe relationships between CAB Users without requiring both parties to approve the relationship (e.g., an organization provisioning devices with established relationships among employees), subject to service provider policies.	Future Version
CAB-SN-004	The CAB Enabler SHALL allow a CAB User to describe his/her relationship (e.g., colleague, friend) with one of his/her contact in the Address Book and request this contact to certify this information, subject to the CAB User preferences.	Future Version
CAB-SN-005	The CAB Enabler SHALL allow a CAB User to view by request, the list of relationships of each of his/her Address Book contacts, as is made available to that CAB User, in accordance service provider policies.	Future Version

CAB-SN-006	The CAB Enabler SHALL allow a CAB User to automatically and by request keep up-to-date all the Social Activity from 3rd party social networks of himself/herself and of his/her contacts, based upon user preferences and service provider policies. Each Social Activity will be associated with its social networking source.	Future Version
CAB-SN-007	The CAB Enabler MAY allow a CAB User to receive relevant service suggestions, subject to CAB User's preference and service provider's policies.	CAB 1.1
CAB-SN-008	The CAB Enabler MAY support the indication of Common Connections for each of the CAB User's contacts in his/her Address Book, subject to user preferences and service providers policy.	CAB 1.1
CAB-SN-009	The CAB Enabler MAY support public content per Contact (e.g. blogs, RSS feeds, news), to the CAB User, as populated by the service provider.	CAB 1.1

Table 17: Social Network Requirements

Appendix A.   Change History   (Informative)

A.1   Approved Version 1.0 History

Reference	Date	Description
CAB 1.0	19 oct 2010	Status changed to Candidate by TP: OMA-TP-2010-0431-INP_CAB_V1_0_ERP_for_Candidate_Approval

A.2   Draft/Candidate Version 1.1 History

Document Identifier	Date	Sections	Description
Draft Versions: OMA-RD-CAB-V1_1	07 Mar 2011	All	Initial with content of CAB 1.0
	30 Mar 2011	5.3, 5.6	OMA-COM-CAB-2011-0052-CR_CAB_1.1_RD_A009_Resolution
	07 Apr 2011	6.1	OMA-COM-CAB-2011-0057-CR_requirement_proposed_for__CAB_V1.1
	12 Apr 2011	4.2, 5.1, 5.3, 5.6, 5.7	OMA-COM-CAB-2011-0069R03-CR_CAB_1.1_RD_Architecture_Requirement OMA-COM-CAB-2011-0070R01-CR_CAB_1.1_RD_Deferred_requirements
	13 Apr 2011	4.2, 4.3, 5.8	OMA-COM-CAB-2011-0093R01-CR_CAB_1.1_RD_Market_Requirements OMA-COM-CAB-2011-0094R01-CR_CAB_1.1_RD_Social_Network
	14 Apr 2011	5.1	OMA-COM-CAB-2011-0084R01-CR_CAB_1.1_RD_FREQ_CONTACT OMA-COM-CAB-2011-0095R01-CR_CAB_1.1_RD_Call_History
	17 May 2011	4.1, 4.2, 4.3, 5.1, 5.3, and 5.6	OMA-COM-CAB-2011-0132-CR_CAB_1_1_RD_AI_026 OMA-COM-CAB-2011-0141-CR_CAB_1.1_RD_AI_025 Re-implementation CR052 to 5.3 & 5.6
	30 May 2011	5.5	OMA-COM-CAB-2011-0134R01-CR_CAB_1_1_RD_AI_027
	06 Jun 2011	3.2, 4.2, 5.1, 5.1.1.2, 5.4, 5.6, 5.8,and B.6	OMA-COM-CAB-2011-0147R01-CR_CAB_1.1_RD_Contacts_Relationship, OMA-COM-CAB-2011-0154R01-CR_CAB_1_1_RD_SNs_missing_in_PCC, OMA-COM-CAB-2011-0156R01-CR_CAB_1_1_RD_Clarification_for_SRCH_005, OMA-COM-CAB-2011-0157R01-CR_CAB_1_1_RD_Clarification_for_AUT_001 OMA-COM-CAB-2011-0158R01-CR_CAB_1.1_RD_Usage_Statistics_HLF_020 OMA-COM-CAB-2011-0160R01-CR_CAB_1.1_RD_Suggesting_Relevant_Info OMA-COM-CAB-2011-0170R01-CR_CAB_1_1_RD_AI_041_Definition_and_Use_Case_of_Comm_History. OMA-COM-CAB-2011-0155R01-CR_CAB_1_1_AD_Definition_for_non_CAB_profile,
	27 Jun 2011	3.2, 5.1, 5.8, B.7	OMA-COM-CAB-2011-0114R01-CR_CAB_v1.1_index_of_network_storage OMA-COM-CAB-2011-0179R01-CR_CAB_1.1_RD_AI_045 OMA-COM-CAB-2011-0180R01-CR_CAB_1.1_RD_AI_046 OMA-COM-CAB-2011-0196R01-CR_CAB_1.1_RD_AI_042_Fav_Contact OMA-COM-CAB-2011-0197R01-CR_CAB_1.1_RD_AI_047_Usage_Information OMA-COM-CAB-2011-0198-CR_CAB_1.1_RD_Appendix_B_relationships_use_cases
	30 Jun 2011	5.2	OMA-COM-CAB-2011-0173R01-CR_CAB_1_1_reflect_other_feedback
	07 Jul 2011	3.2, 5.1	OMA-COM-CAB-2011-0218R01-CR_AI_050_Wording_HLF019
	19 Aug 2011	3.2, 5.8, B.8	OMA-COM-CAB-2011-0230R01-CR_CAB_1.1_RD_Action_Item_A048 OMA-COM-CAB-2011-0229R01-CR_CAB_1.1_RD_Action_Item_A051
	03 Sep 2011	2.1, 2.2, 3.2, 3.3, 4.1, 4.2, 4.3, 5.1, 5.2, 5.3, App B	OMA-COM-CAB-2011-0239R01-CR_CAB_1.1_RD_clean_up
	08 Nov 2011	Appendix B	Simplified Appendix B.1-B.5 by referred to [CAB 1.0] RD. Revised with version of [OMA-DICT] Remove related to S-CAB requirement.
	26 Nov 2011	3.2, 5.1	OMA-COM-CAB-2011-0031R01-CR_RD_Revised_HLF_018
	23 Dec 2011	5.3	OMA-COM-CAB-2011-0029-CR_CAB_1_1_AI_064
	08 Mar 2012	4.2 , 4.3, 5.1, 5.1.1.2, 5.8	OMA-COM-CAB-2012-0024R01-CR_RD_Revised_Requirements OMA-COM-CAB-2012-0041-CR_Aligned_of_RD_version_info
	12 Apr 2012	5.1, 5.6, B.9	OMA-COM-CAB-2012-0048R03-CR_RD_Revised_CAB_HLF_015.zip
	19 Apr 2012	5.1	OMA-COM-CAB-2012-0081R01-CR_HLF_015_requirement_revision

Document Identifier	Date	Sections	Description
	03 May 2012	2.2	Editorial fix as per RD Informal Review comments: update of ref. to OMA Dictionary General clean up before starting CONR
	10 May 2012	All	Editorial cleanup as a pre-cursor to addressing CONR comments.
	29 Jun 2012	3.2, 5.6, B6.2, B8.1	OMA-COM-CAB-2012-0098-CR_huawei_CONR_Comments_resolution_RD_section_3.2.doc OMA-COM-CAB-2012-0099-CR_huawei_CONR_Comments_resolution_RD_section_B6.2.doc OMA-COM-CAB-2012-0100R01-CR_huawei_CONR_Comments_resolution_RD_section_B7 OMA-COM-CAB-2012-0101-CR_huawei_CONR_Comments_resolution_RD_section_B8.1
	18 Jul 2012	All	Clean with some editorial mistakes
Candidate Version: OMA-RD-CAB-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.   Use Cases   (Informative)

The following uses cases provide a high view of some of the functionality of the CAB Enabler V1.1. The descriptions do not provide sufficient detail to fully capture the operational expectations, much less the alternative uses or various error conditions that might be experienced.

B.1   Device Updates from Changes to Network Contact Information

Referred to Appendix B.1 of [CAB 1.0] Requirements Document.

B.2   Managing the Personal Contact Card

Referred to Appendix B.2 of [CAB 1.0] Requirements Document.

B.3   Publish/Subscription of Contact Information

Referred to Appendix B.3 of [CAB 1.0] Requirements Document.

B.4   Sharing Contact Information

Referred to Appendix B.4 of [CAB 1.0] Requirements Document.

B.5   Importation of Contact Information from other Systems

Referred to Appendix B.5 of [CAB 1.0] Requirements Document.

B.6   Communication History on user's devices

This use case covers the case where CAB Users access and keep up-to-date all the Communication History from CAB User's devices.

B.6.1   Short Description

A CAB User is able to keep the Communication History consistent on all his/her devices, subject to the user preferences, and based on the communication occured on his/her device. By keeping up-to-date all the communication history on the devices, a CAB User can retrieve the Communication History across multiple devices.

B.6.2   Market Benefits

By keeping the Communication History consistent on CAB User's devices, the CAB User is able to review his/her communication activities.

B.7   Relationship among contacts

This use case covers the requirements which allow defining relationships among the CAB Users. By defining the relationship among the various contacts in ones address book a CAB User will be able to visualize and discover the social links among their contacts. They will further be able to initiate interactions depending on the relationships. Furthermore, the users will be able to discover new contacts. Three sub use-cases considered are described in the following sub-section.

B.7.1 Short Description

a)   Pre-approved case: All CAB Users belonging to an organization may be provided mobile devices with the relationship among the CAB Users defined as colleagues and relationship between the organization and the employees defined as employee-employer.

b)   Mutually approved case: A CAB User may add a contact as a friend or golf-buddy and request the corresponding contact to agree the relationship defined by the initiating CAB User.

c)   View list of relationships: There should be provision for a CAB User to view the relationships he/she shares with all the contacts in his/her address book based on service provider policies.

B.7.2 Market Benefits

CAB Users will be able to discover new contacts and discover the surrounding social graph, thus providing an enriched user experience. This can enhance the acceptance of the CAB Enabler and demand for wider service deployment.

B.8 Common Connections

This use case describes the concept of Common Connections (also referred to as 'shared contacts') and how they can be identified within the CAB User's Address Book.

B.8.1 Short Description

Alice is a CAB User who has Bob as a contact in her address book. Alice and Bob have a shared context with Charlie e.g. Charlie is present in both Alice and Bob's address books. The system therefore identifies Charlie to be a Common Connection and lists Charlie in the list of Common Connections in Alice's Address Book under Bob's contact entry. Similarly, Charlie would also appear in the list of Common Connections in Bob's Address Book in Alice's contact entry.

In another scenario, if Charlie has established Contact Subscription with both Alice and Bob, Charlie can be identified as a Common Connection between Alice and Bob, and identified as such in both Alice and Bob's address books, under their respective contact entries.

B.8.2 Market Benefits

CAB Users will be able to discover Common Connections with contacts in their Address Books that will allow CAB Users to build their social network and interact with new contacts with services offered by CAB (e.g. Contact Subscription, Contact Share), or other services offered by the Service Providers.

B.9 Retrieve deleted contact information

The use case describes how CAB Users can retrieve previously deleted contact information in the address book.

B.9.1 Short Description

Whether by accident or not, CAB Users may delete a contact entry associated with the network address book. However, in some instances, a CAB User would like to be able to retrieve previously deleted contact information (e.g. a Contact Entry in its entirety) from their address book. This can be achieved with the CAB Enabler, by allowing the CAB user to filter the address book to retrieve Contact Entries that have been previously deleted. After retrieving deleted Contact Entries, a CAB User may restore them to the address book either by manually adding them back to the address book at the client and synchronizing the resultant changes with the network, or by indicating an action such that the restoration is automatically handled by the network.

B.9.2 Market Benefits

By allowing a CAB User to retrieve previously deleted contact information, integrity of the contact information is maintained, and further provides a convenience to the users to be able to retrieve contact information that may have been accidently removed from the address book.