Condition Based URIs Selection Requirements

Candidate Version 1.0 – 19 Jul 2011

Open Mobile Alliance

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1. Scope (Informative)

The scope of CBUS (Condition Based URIs Selection) Requirements Document (RD) is to define the use cases and requirements for the Condition Based URIs Selection Enabler.

2. References

2.1 Normative References

[OMADICT] "Dictionary for OMA Specifications", Version 2.8, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_8, URL:http://www.openmobilealliance.org/

[Privacy_Req] "OMA Privacy Requirements for Mobile Services", 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

[PRS_ERELD] "OMA Enabler Release Definition for Presence SIMPLE", Version 2.0, Open Mobile Alliance™, OMA-ERELD-Presence_SIMPLE-V2_0, URL: http://www.openmobilealliance.org

[XDM_ERELD] "OMA Enabler Release Definition for XML Document Management", Version 2.0, Open Mobile Alliance™, OMA-ERELD-XDM-V2_0, URL: http://www.openmobilealliance.org

3. Terminology and Conventions

3.1 Conventions

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

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

3.2 Definitions

Candidate URI	An identifiable Resource (see [OMA DICT]) that is an input URI to CBUS Server for URIs selection (e.g. Group Identity, User Address).
CBUS Client	A Client (see [OMA DICT]) that is used to access CBUS features.
CBUS Server	A Server (see [OMA DICT]) that receives a URIs selection request from an authorized Principal (see [OMA DICT]), e.g. a CBUS Client and sends back corresponding selection result.
Charging	A function whereby information related to a chargeable events is formatted, stored, and transferred, correlated, rated and charging accounts are adjusted accordingly in order to make it possible to determine usage for which the charged party may be billed. (Source: [OMADICT])
Condition	One of a set of expressions that must be matched in order for a URI to be selected.
Conditions Administrator	A User who is authorised to create, modify, delete and retrieve pre-defined Conditions.
Enabler	A technology intended for use in the development, deployment or operation of a Service; defined in a specification, or group of specifications, published as a package by OMA. (Source: [OMADICT])
Evaluation Information	The set of information relevant for the evaluation of CBUS Conditions (e.g. presence information, location information).
Evaluation Parameter	A setting that controls the evaluation of Conditions by the CBUS Server (e.g. one-time evaluation, periodical evaluation, the interval between re-evaluation).
Group	A set of User Addresses and/or Group Identities together with its policies and attributes, which is identified by a Group Identity.
Group Identity	The URI of the Group, e.g. a SIP URI.
Home CBUS Network	A network including a CBUS Server that provides a service to the User and is owned and operated by the User’s Service Provider.
Reference URI	An identifiable entity that is designated as a reference for comparing the corresponding Evaluation Information with all Candidate URIs during the evaluation.
Remote Network	Other network than User’s Home CBUS Network.
Security	The ability to prevent fraud as well as the protection of information availability, integrity and confidentiality. (Source: [OMADICT])
Selected URI	An identifiable entity that matches the Conditions and is an output URI from the CBUS Server.
Service Provider	A legal or administrative entity that provides a service to its clients or customers. Typically it is (but is not restricted to) a network operator.
User	An entity which uses services. Example: a person using a device as a portable telephone. (Source [OMADICT])
User Address	A User Address identifies a User. The User Address can be used by one User to request communication with other Users. If the SIP/IP Core is 3GPP IMS or 3GPP2 MMD realization, the User Address is a public user identity.
User Equipment	A hardware device that supports a CBUS Client e.g., a wireless phone.

3.3 Abbreviations

CBUS	Condition Based URIs Selection
OMA	Open Mobile Alliance
PoC	Push to talk over Cellular
SIMPLE	SIP for Instant Messaging and Presence Leveraging Extensions
URI	Uniform Resource Identifier
XDM	XML Document Management
XML	eXtensible Markup Language

4. Introduction (Informative)

Various OMA service Enablers need the functionality to retrieve a list of addresses where the Users behind these addresses fulfil certain Conditions set up by the service Enabler.

The CBUS Enabler originates from the need to support this functionality for features of the PoC service. The CBUS Enabler is a common standard solution to fulfil that need and making it available also to e.g. messaging, gaming, conferencing and advertisement services.

The Conditions are based on information elements related to the Users and where the information content is typically changing over time, for example presence status information and User's geographical location, and/or User's personal information. But the CBUS Enabler also allows the User to form Conditions based on information with more static duration, e.g. User's personal interests and hobbies, or a combination of both volatile and static information.

The type of information mentioned here is available from other Enablers.

The objective is to re-use existing standards and specifications for accessing information elements in the Enablers owning the information. The objective is also to provide a callable interface that can be used by other OMA service Enablers to re-use the functionality provided by the CBUS Enabler.

5. CBUS Release Description (Informative)

A User's or service's action in a service network may be conditional and depend on the current status of the potential target for the action. For example, a User may want to set up a conversation session only with Users who are available and interested in the conversation topic. The CBUS Enabler provides the means to request for and retrieve a list of URIs representing the potential targets that match the Conditions applied. A target may be a URI representing a User with personal equipment, e.g. a mobile phone, or representing non-personal equipment, e.g. a sensor or a controllable speaker.

NOTE 1: How to access a target for an action is out of scope of the CBUS Enabler.

By providing a standardized callable interface the CBUS Enabler is made accessible from multiple Enablers, no matter whether the requestor resides in a User Equipment or in a service specific application server.

The CBUS Enabler evaluates the Conditions by retrieving User information from information elements stored in repositories that hold information about the potential targets. The evaluation is a repeatable "black box" process as seen from the requestor and guaranteed to be performed in the same way regardless of who is the requestor.

The CBUS Enabler is based on re-use of existing information-owning Enablers, e.g. Presence SIMPLE (see [PRS_ERELD]) and XDM (see [XDM_ERELD]) Enablers, for retrieval of information of the potential targets. CBUS Enabler is also based on XDM infrastructure for management of pre-defined Conditions. Pre-defined Conditions can be stored by a Conditions Administrator as rules in Group data related to a pre-defined Group. The pre-defined Conditions can be applied by services defined for the Group. Conditions may also be defined "ad-hoc" by a User, i.e. they are not stored on beforehand and may vary with the requestor.

Selection of URIs based on Conditions may be performed by taking a snapshot, i.e. making a one-time inspection of information of the potential target to find out whether the Conditions are fulfilled or not. Selection of URIs based on Conditions may also be performed by continuously monitoring information of the potential targets. The monitoring is performed until the Conditions are met, or during a pre-defined time. Monitoring means that information of the potential target is continuously supervised making it possible to detect changes in the information. Monitoring may be used to prepare for timely actions; once certain Conditions are met the requestor is notified of the event and can take a planned action. Monitoring the information of the potential target over time gives the possibility to re-evaluate the Conditions and provide a list of URIs that is accurate and up to date.

NOTE 2: The request for monitoring information elements is distributed to the Enablers owning the information. The process of monitoring information elements is out of scope of the CBUS Enabler.

The CBUS Enabler defines the output list of URI. It is still the service (or User) that defines the set of Conditions to be evaluated (and when) for a service-specific purpose and what action to take for the URIs selected.

NOTE 3: The actions towards the selected URIs may be subject to policy and permission decisions and is out of scope of the CBUS Enabler.

As the information in the information repositories may be shared by several services it is possible for several services to share the same Conditions but performing different actions at different times on the same selection of URIs.

The CBUS Enabler provides the following functions:

- Support for requestor initiated Condition based URIs selection requests;
- Administration of Conditions for URI selection;
- Interaction with other Enablers for retrieval of individual User's information (e.g., XDM, Presence SIMPLE);
- Evaluation of Conditions and selection of matching individual Users based on one-time evaluation;
- Re-evaluation of Conditions and re-selection of matching individual Users based on monitoring;
- Aggregation of one-time evaluation results or monitoring results from different Enablers; and,
- Notification of evaluation results to requestor.

Figure 1 shows the roles and interacting system elements of the CBUS Enabler. The figure also shows an example of CBUS Enabler interacting with other Enablers.

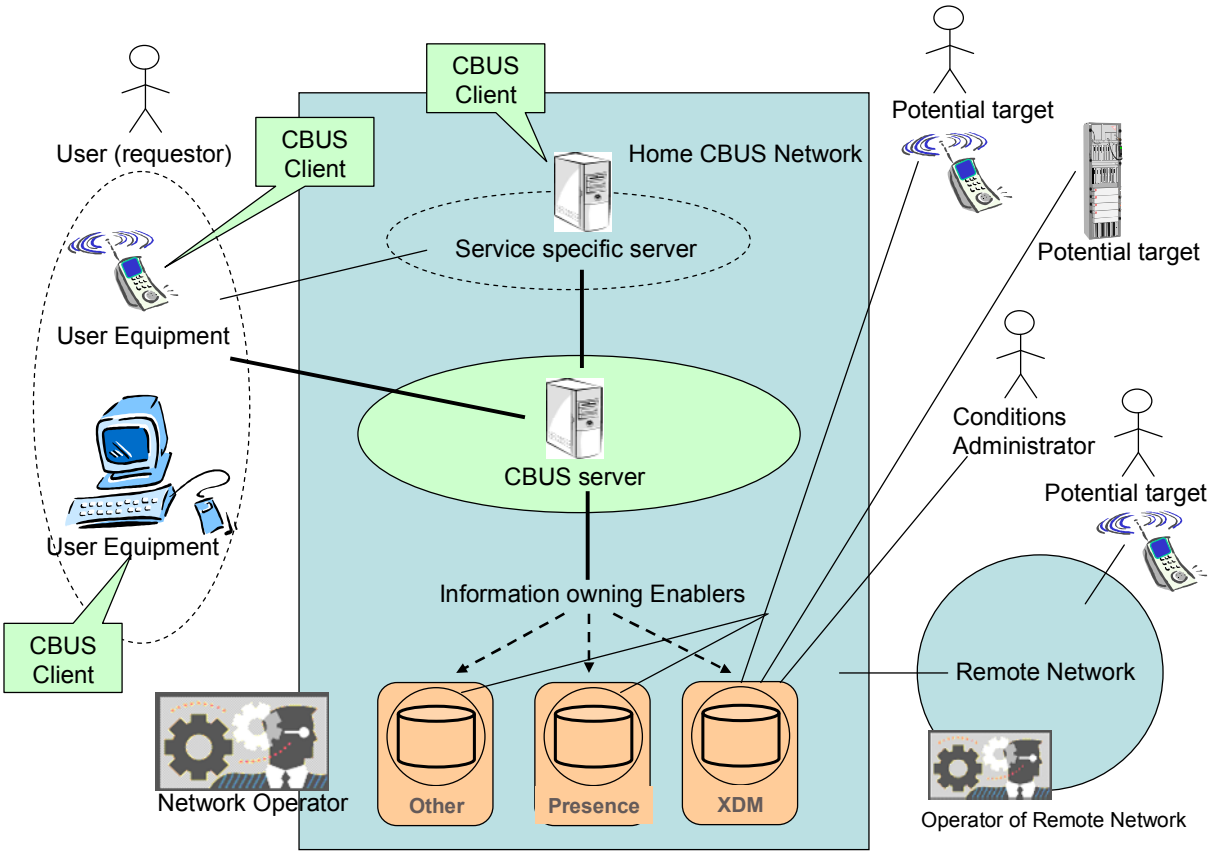

Figure 1: The CBUS Enabler – roles and interacting system elements

5.1 Version 1.0

The CBUS Version 1.0 Enabler comprises basic functionality to support Condition Based URIs Selection. The main functionality comprises:

- interaction between a CBUS Client and the CBUS Server for handling Condition Based URIs Selection requests;
- retrieval of Evaluation Information for the purpose of comparing it with the input Conditions for URIs selection;
- evaluation (and re-evaluation) of input Conditions for the purpose of finding URIs matching the Conditions; and,
- management of Conditions for URIs selection to allow a Conditions Administrator to handle Conditions for pre-defined Groups.

The CBUS Version 1.0 Enabler supports requests to evaluate Conditions defined Ad-hoc by a User or pre-defined for a Group. In both cases the selection of matching URIs is based on one or more Candidate URIs provided in the request.

The CBUS Version 1.0 Enabler supports retrieval of Evaluation Information from other Enablers.

6. Requirements (Normative)

6.1 Modularisation

The CBUS Enabler will include the following functional modules:

- **Server/Client Interaction Module**: mandatory module; providing functionality for interaction between the CBUS Client and the CBUS Server for requesting evaluation of URIs selection and returning corresponding evaluation results.
- **Evaluation Information Retrieval Module**: mandatory module; providing functionality for retrieving Evaluation Information from different sources by fetching or subscribing to the Evaluation Information.
- **Conditions Evaluation Module**: mandatory module; providing functionality for evaluating Conditions for URIs selection based on Evaluation Information.
- **Conditions Administration Module**: mandatory module; providing functionality for management of Conditions for URIs selection to allow the Conditions Administrator to retrieve, create, modify and delete such Conditions.

6.2 High-Level Functional Requirements

This section specifies the high-level functional requirements for the CBUS Enabler. It also includes requirements postponed until future release.

Label	Description	Release	Functional module
CBUS-HLF-001	The CBUS Enabler SHALL provide the means to request for and return a list of URIs, for example based on a list of Candidate URIs, that match the Conditions applied.	CBUS 1.0	General
CBUS-HLF-002	The CBUS Enabler SHALL re-use existing information-owning Enablers (e.g. Presence SIMPLE and XML Document Management Enablers), whenever possible.	CBUS 1.0	General

Table 1: High-Level Functional Requirements

6.2.1 Security

This section specifies CBUS Enabler requirements for security procedures. The CBUS Enabler handles personal data and has to ensure that such data are exchanged amongst appropriate entities using data integrity and confidentiality mechanisms.

6.2.1.1 Authentication

This subclause specifies CBUS Enabler requirements for authentication.

Label	Description	Release	Functional module
CBUS-AUC-001	The CBUS Enabler SHALL support a mechanism to allow authentication between CBUS Client and CBUS Server.	CBUS 1.0	General

Table 2: High-Level Functional Requirements – Authentication Items

6.2.1.2 Authorization

This subclause specifies CBUS Enabler requirements for authorization.

Label	Description	Release	Functional module
CBUS-AUT-001	The CBUS Enabler SHALL authorize the use of the CBUS service.	CBUS 1.0	General

Table 3: High-Level Functional Requirements – Authorization Items

6.2.1.3 Data Integrity

This subclause specifies CBUS Enabler requirements for data integrity.

Label	Description	Release	Functional module
CBUS-DINT-001	The CBUS Enabler SHALL ensure data integrity protection between CBUS Client and CBUS Server.	CBUS 1.0	General

Table 4: High-Level Functional Requirements – Data Integrity Items

6.2.1.4 Confidentiality

This subclause specifies CBUS Enabler requirements for confidentiality.

Label	Description	Release	Functional module
CBUS-CONF-001	Mechanisms SHALL be provided to support confidentiality of message exchanges between CBUS Client and CBUS Server.	CBUS 1.0	General

Table 5: High-Level Functional Requirements – Confidentiality Items

6.2.2 Charging

This subclause specifies CBUS Enabler requirements for charging. The CBUS Enabler has to provide charging information in order to make it possible to charge for the usage of the services provided by the Enabler.

Label	Description	Release	Functional module
CBUS-CHG-001	Mechanisms SHALL be provided for the Service Provider to charge for the use of CBUS Enabler. Examples of charging events include: 1) Request a URIs selection; 2) Request a periodic URIs selection.	Future release	General

Table 6: High-Level Functional Requirements – Charging Items

6.2.3 Administration and Configuration

This subclause specifies requirements for Administration and Configuration of the CBUS Enabler.

Label	Description	Release	Functional module
	<no specific requirements identified>		

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

6.2.4 Usability

This subclause specifies Usability requirements for the CBUS Enabler.

Label	Description	Release	Functional module
	<no specific requirements identified>		

Table 8: High-Level Functional Requirements – Usability Items

6.2.5 Interoperability

This subclause specifies Interoperability requirements for the CBUS Enabler.

Label	Description	Release	Functional module
	<no specific requirements identified>		

Table 9: High-Level Functional Requirements – Interoperability Items

6.2.6 Privacy

This subclause specifies CBUS Enabler requirements for privacy. The Enabler handles personal data and has to ensure that protection of such data is not violated by the Enabler. The Enabler achieves this by complying with the common requirements for privacy specified by OMA.

Label	Description	Release	Functional module
CBUS-PRV-001	The CBUS Enabler SHALL fulfill requirements in [Privacy_Req].	CBUS 1.0	General
CBUS-PRV-002	The CBUS Enabler SHALL use for the evaluation only the information that the requestor is authorized to obtain.	CBUS 1.0	General

Table 10: High-Level Functional Requirements – Privacy Items

6.2.7 Server/Client Interaction

This subclause specifies CBUS Enabler requirements for the interaction between the CBUS Server and a CBUS Client. The CBUS Server can notify the CBUS Client of a list of selected URIs based on the input provided by the User of the Enabler. The input can be e.g. a list of URIs to select from, Conditions to be matched for each URI in order to be selected, and whether a one-time evaluation of the Conditions is requested or if the Conditions are to be re-evaluated.

Label	Description	Release	Functional module
	The CBUS Enabler SHALL support the following inputs in the URIs selection request:		Server/Client Interaction

CBUS-INTE-001	1) A list of Candidate URIs;	CBUS 1.0	Server/Client Interaction
CBUS-INTE-002	2) Conditions;	CBUS 1.0	Server/Client Interaction
CBUS-INTE-003	3) Evaluation Parameters.	CBUS 1.0	Server/Client Interaction
	The CBUS Server SHALL be able to send the following evaluation results to the CBUS Client:		Server/Client Interaction
CBUS-INTE-004	1) A list of URIs matching the input Conditions.	CBUS 1.0	Server/Client Interaction
CBUS-INTE-005	The CBUS Enabler SHALL support the evaluation result subscription and the corresponding notification.	CBUS 1.0	Server/Client Interaction
	The Evaluation Parameters SHALL include one of the following evaluation types:		Server/Client Interaction
CBUS-INTE-006	1) One time evaluation;	CBUS 1.0	Server/Client Interaction
CBUS-INTE-007	2) Periodic re-evaluation;	CBUS 1.0	Server/Client Interaction
CBUS-INTE-008	3) Re-evaluation when the Evaluation Information changed.	CBUS 1.0	Server/Client Interaction
	The Evaluation Parameters SHALL include the following settings, if re-evaluation has been requested:		Server/Client Interaction
CBUS-INTE-009	1) Time duration of the repetitive evaluation of the Conditions for URIs selection;	CBUS 1.0	Server/Client Interaction
CBUS-INTE-010	2) The interval between re-evaluation of the Conditions for URIs selection. NOTE: The time interval between re-evaluations can be restricted by service provider policy.	CBUS 1.0	Server/Client Interaction
CBUS-INTE-011	The Evaluation Parameters MAY include the maximum and/or minimum number of Selected URIs to match the Conditions.	CBUS 1.0	Server/Client Interaction
CBUS-INTE-012	The CBUS Enabler SHALL be able to notify about changes to the list of previously selected URIs based on re-evaluation of the Conditions.	CBUS 1.0	Server/Client Interaction
CBUS-INTE-013	The CBUS Server SHALL support URIs selection request with Conditions specified in the input without URIs being specified in the same input. NOTE: The requirement is moved from PoC V2.1.	Future Release	Server/Client Interaction

CBUS-INTE-014	When the CBUS Server receives a request with Conditions specified in the input without URIs being specified in the same input the CBUS Server SHALL perform the URIs selection based on the Conditions received. In this case the CBUS Server will populate the selection based on the Conditions specified subject to the prior consent of the evaluated and matched User to become a member of a selection of this type. NOTE 1: In the case of a URIs selection defined as above the scope of the search to populate the URI list is a matter of policy for the CBUS Service Provider and may or may not be restricted. The actual implementation of this requirement is an architectural issue. NOTE 2: The requirement is moved from PoC V2.1.	Future Release	Server/Client Interaction
CBUS-INTE-015	The CBUS Enabler SHALL accept indicating a Reference URI in the Conditions.	Future Release	Server/Client Interaction
	The CBUS Enabler SHALL support the request from an authorized CBUS Client to perform the following for an already on-going evaluation information subscription:		Server/Client Interaction
CBUS-INTE-016	1) Add Candidate URIs to the subscription;	CBUS 1.0	Server/Client Interaction
CBUS-INTE-017	2) Remove Candidate URIs from the subscription.	CBUS 1.0	Server/Client Interaction
CBUS-INTE-018	The CBUS Server SHALL be able to provide its capability information to the CBUS Client, e.g. its capability to retrieve Evaluation Information of different information types.	CBUS 1.0	Server/Client Interaction

Table 11: High-Level Functional Requirements - Server/Client Interaction

6.2.8 Evaluation Information Retrieval

This subclause specifies CBUS Enabler requirements for retrieval of Evaluation Information from other Enablers. The information is related to an entity represented by a URI, which can be selected if the Evaluation Information matches the input Conditions.

Label	Description	Release	Functional module
CBUS-RETR-001	The CBUS Enabler SHALL be able to retrieve the Evaluation Information from one or more sources.	CBUS 1.0	Evaluation Information Retrieval
CBUS-RETR-002	The CBUS Enabler SHALL be able to continually monitor the changes of Evaluation Information.	CBUS 1.0	Evaluation Information Retrieval
	The CBUS Enabler SHALL be able to retrieve Evaluation Information of one or more of the following information types:		Evaluation Information Retrieval
CBUS-RETR-003	1) presence status information;	CBUS 1.0	Evaluation Information Retrieval
CBUS-RETR-004	2) location-based information;	CBUS 1.0	Evaluation Information Retrieval

CBUS-RETR-005	3) user profile information.	CBUS 1.0	Evaluation Information Retrieval
CBUS-RETR-006	It SHALL be possible by configuration in the CBUS Enabler to define which of the information types are available for Evaluation Information. NOTE: The Service Provider can limit the information types available, e.g. due to service limitations, regulatory reasons etc.	CBUS 1.0	Evaluation Information Retrieval
CBUS-RETR-007	The CBUS Enabler SHALL be able to retrieve Evaluation Information based on a combination of the available information types.	CBUS 1.0	Evaluation Information Retrieval
CBUS-RETR-008	The CBUS Server SHALL be able to inform the CBUS Client in case the CBUS Server has limited the number of Selected URIs due to local policy or Service Provider policy.	CBUS 1.0	Evaluation Information Retrieval
CBUS-RETR-009	For retrieval of Evaluation Information the CBUS Enabler SHALL provide means to allow the authorization of the requestor of the CBUS service at the information source.	CBUS 1.0	Evaluation Information Retrieval
CBUS-RETR-010	When the CBUS Server receives a URIs selection request with Conditions including a Reference URI, the CBUS Server SHALL retrieve the Reference URI's Evaluation Information.	Future Release	Evaluation Information Retrieval
CBUS-RETR-011	The CBUS Enabler SHALL support a mechanism to handle and report the failure occurred when retrieving Evaluation Information.	CBUS 1.0	Evaluation Information Retrieval

Table 12: High-Level Functional Requirements - Evaluation Information Retrieval

6.2.9 Conditions Evaluation

This subclause specifies CBUS Enabler requirements for evaluation of Conditions for the selection of URIs. The Enabler provides the possibility to specify in the input the type of evaluation to be used depending on the needs, e.g. if the requestor only needs to be notified once or during a period whenever there is a change in the matching of Conditions.

Label	Description	Release	Functional module
CBUS-EVAL-001	The CBUS Enabler SHALL be able to perform Conditions evaluation based on the following Evaluation Parameters. NOTE: The requirement is moved from PoC V2.1.	CBUS 1.0	Conditions Evaluation
CBUS-EVAL-002	If one-time evaluation is requested, the CBUS Server SHALL perform Condition evaluation for selection of URIs once and return the Selected URIs to the CBUS Client.	CBUS 1.0	Conditions Evaluation
CBUS-EVAL-003	If periodic re-evaluation is requested for a certain time period, the CBUS Server SHALL perform Condition evaluation for selection of URIs periodically and return the Selected URIs to the CBUS Client likewise during the time period requested.	CBUS 1.0	Conditions Evaluation

CBUS-EVAL-004	If re-evaluation when the Evaluation Information changes is requested for a certain time period, the CBUS Server SHALL perform a one-time evaluation and return the Selected URIs to the CBUS Client and thereafter notify the CBUS Client about any changes to Selected URIs during the time period requested.	CBUS 1.0	Conditions Evaluation
CBUS-EVAL-005	When the CBUS Server receives a URIs selection request with Conditions including a Reference URI, the CBUS Server SHALL select URIs by comparing the Evaluation Information of Candidate URIs against the corresponding information of the Reference URI.	Future Release	Conditions Evaluation
	The CBUS Enabler SHALL be able to perform Conditions evaluation for the URIs defined by the following types of identities:		Conditions Evaluation
CBUS-EVAL-006	1) User Address;	CBUS 1.0	Conditions Evaluation
CBUS-EVAL-007	2) Group Identity.	CBUS 1.0	Conditions Evaluation

Table 13: High-Level Functional Requirements - Conditions Evaluation

6.2.10 Conditions Administration

This subclause specifies CBUS Enabler requirements for administration of Conditions. The Conditions on which a URI selection is based can be pre-defined and stored in the network by a Conditions Administrator. A Conditions Administrator can manage Conditions by management operations. The Enabler has to provide and specify means that allow these operations.

Label	Description	Release	Functional module
CBUS-COA-001	The CBUS Enabler SHALL support the storage of the pre-defined Conditions.	CBUS 1.0	Conditions Administration Module
	The CBUS Enabler SHALL support the following administration operations on the stored pre-defined Conditions:		Conditions Administration Module
CBUS-COA-002	1) Create;	CBUS 1.0	Conditions Administration Module
CBUS-COA-003	2) Modify;	CBUS 1.0	Conditions Administration Module
CBUS-COA-004	3) Delete;	CBUS 1.0	Conditions Administration Module
CBUS-COA-005	4) Retrieve.	CBUS 1.0	Conditions Administration Module
CBUS-COA-006	The CBUS Enabler SHALL be able to support the settings of permissions on the pre-defined Conditions.	CBUS 1.0	Conditions Administration Module
CBUS-COA-007	It SHALL be possible for the Conditions Administrator to associate stored Conditions with a Group.	CBUS 1.0	Conditions Administration Module

CBUS-COA-008	It SHALL be possible for the Conditions Administrator to define Conditions for a Group also when it has no members.	CBUS 1.0	Conditions Administration Module
CBUS-COA-009	The CBUS Enabler SHALL support the storage of the pre-defined Evaluation Parameters.	CBUS 1.0	Conditions Administration Module
	The CBUS Enabler SHALL support the following administration operations on the stored pre-defined Evaluation Parameters:		Conditions Administration Module
CBUS-COA-010	1) Create;	CBUS 1.0	Conditions Administration Module
CBUS-COA-011	2) Modify;	CBUS 1.0	Conditions Administration Module
CBUS-COA-012	3) Delete;	CBUS 1.0	Conditions Administration Module
CBUS-COA-013	4) Retrieve.	CBUS 1.0	Conditions Administration Module

Table 14: High-Level Functional Requirements - Conditions Administration

6.3 Overall System Requirements

This subclause specifies System requirements for the CBUS Enabler, i.e. requirements for the general behaviour and characteristics of the Enabler.

Label	Description	Release	Functional module
	<no specific requirements identified>		

Table 15: High-Level System Requirements

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No previous version within OMA

A.2 Draft/Candidate Version 1.0 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-RD-CBUS-V1_0	11 Apr2008	1, 3, 5, App A	CBUS V1.0 RD baseline document according to OMA-PAG-2008-0197R01-INP-CBUS_V1.0_RD_skeleton. RD document template based on OMA-PAG-2008-0236-INP_new_RD_template_guidelines.
	09 Jul 2008	1, 2,3,4, 5	Updated according to agreed CRs: OMA-PAG-CBUS-2008-0001R01, OMA-PAG-CBUS-2008-0002R01, OMA-PAG-CBUS-2008-0003.
	23 Jul 2008	3, 5, Appendix A.2	Updated according to agreed CRs: OMA-PAG-CBUS-2008-0009R01, OMA-PAG-CBUS-2008-0010.
	11 Aug 2008	3.2, 6.1	Updated according to agreed CRs: OMA-PAG-CBUS-2008-0012.
	29 Aug 2008	All	Updated according to agreed OMA-PAG-CBUS-2008-0021R01-INP_CBUSV1.0_adapting_RD_to_new_template which aligns RD document to RD template OMA-Template-ReqDoc-20080710-I. Also updated according to agreed CRs: OMA-PAG-CBUS-2008-0014R01, OMA-PAG-CBUS-2008-0016R02, OMA-PAG-CBUS-2008-0017R01, OMA-PAG-CBUS-2008-0018R01, OMA-PAG-CBUS-2008-0020R01.
	10 Sep 2008	2, 6, App. B	Updated according to agreed CRs: OMA-PAG-CBUS-2008-0013R01, OMA-PAG-CBUS-2008-0026R01, OMA-PAG-CBUS-2008-0029.
	22 Sep 2008	6	Updated according to agreed CRs: OMA-PAG-CBUS-2008-0024R01, OMA-PAG-CBUS-2008-0025R01, OMA-PAG-CBUS-2008-0027R01, OMA-PAG-CBUS-2008-0030R01, OMA-PAG-CBUS-2008-0031R01.
	08 Oct 2008	6 Appendix B	Updated according to agreed CRs: OMA-PAG-CBUS-2008-0032, OMA-PAG-CBUS-2008-0036R01, OMA-PAG-CBUS-2008-0037, OMA-PAG-CBUS-2008-0038R01.
	25 Oct 2008	2, 3, 6, Appendix B	Updated according to agreed CRs: OMA-PAG-CBUS-2008-0033R02, OMA-PAG-CBUS-2008-0035R01, OMA-PAG-CBUS-2008-0047R02, OMA-PAG-CBUS-2008-0048, OMA-PAG-CBUS-2008-0049, OMA-PAG-CBUS-2008-0051R01
	15 Dec 2008	1, 4, 5, 6 Appendix B, Appendix C	Updated according to agreed CR: OMA-PAG-CBUS-2008-0057R01

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Appendix B. Use Cases (Informative)

The use cases described herein are intended to illustrate the main usage of CBUS Enabler and to facilitate the understanding of the CBUS Enabler requirements. The described use cases are not an exhaustive list of possible use cases for the CBUS Enabler.

B.1 Group Member Selection Based on Simple Rules

This use case describes the selection of members from a pre-defined Group for which certain rules are specified. These rules state that only Group members that are ‘available’ can be selected.

B.1.1 Short Description

A Group owner defines a Group with a list of members. The Group owner decides to include himself, Joe, Mary, John and Brian as members in the Group. The Group owner also specifies rules requiring members to be ‘available’ to be allowed to be selected. The Group owner who is a User with a CBUS Client requests a list of members to be returned when at least one other member in the Group fulfils the rules. The User specifies the Group from which members are to be selected. Joe, Mary, John and Brian indicate in their User information that they are currently not ‘available’. Later Joe indicates in his User information that he is ‘available’. Joe is selected since he fulfils the rules. The selection is returned in a list to the User. The User performs an action towards the selected member.

B.1.2 Market Benefits

Without CBUS Enabler, the User has to get all the members’ Presence Information, then select appropriate members manually and create a new Group including the selected members. The procedures are complicated, as well as causing heavy network traffic. Thus, the CBUS Enabler can simplify User’s operations and reduce the network traffic. Be sure, it can increase the User experience.

B.2 Group Member Selection Based on Combined Rules

This use case describes the selection of members from a list of friends for which certain Conditions are specified. These rules state that only Group members that are ‘available’ and ‘music fan’ can be selected.

B.2.1 Short Description

A User with a CBUS Client wants to initiate a Group session including all the available game fans from a list of friends to chat top10 music together. The User also specifies rules requiring members to be ‘available’ and ‘music fan’. The User requests a list of matching friends to be returned when at least one member in the list fulfils the rules. After Condition evaluation a list of matching friends is returned to the User. The User initiates a session with the selected friends. Then the selected friends can chat to each others.

B.2.2 Market Benefits

The combined rules contain more information about the Group members probably from different sources. A User doesn’t need to send more than one request to CBUS Enabler to achieve selection based on multiple information sources (e.g. Presence Information, location etc.). It provides easier interface and methods to Users. This can not only reduce the complexity of User’s interaction, but also save network bandwidth.

B.3 Periodic Group Member Selection

This use case describes the selection of members from a pre-defined Group periodically for which certain Conditions are specified. These rules state that only Group members that are ‘available’, ‘gaming fan’ and located close to a specific shopping mall can be selected.

B.3.1 Short Description

An advertiser wants to send a commercial advertisement to all Users which are available gaming fans and close to a shopping mall. The advertiser, who is authorized to create Groups, defines a Group without any list of members. An application server serves the advertiser by requesting the evaluation of the rules and selection of members. The application server requests a list of all Users that fulfils the rules. The application server specifies the Group from which members are to be selected. After evaluation, the member list is returned to application server. The application server sends advertisements towards the selected members. Some time later, the specified Conditions are evaluated again, and an updated member list is returned. The application server sends advertisements towards the newly selected members.

B.3.2 Market Benefits

The Group member list is able to be updated when the member information is changed. According to this feature, the members in the Group are always changed to fulfil the rules. Thus, it simplifies the User's reduplicative operations and increases the User experience.

B.4 Group Member Selection Based on Pre-defined Rules

This use case describes the selection of members from a list of friends for which certain pre-defined Conditions are specified.

B.4.1 Short Description

A User with a CBUS Client wants to initiate a chat session including all his available friends. The User has specified pre-defined rules which require friends to be available. The User requests a list of friends matching the pre-defined Conditions. After Condition evaluation a list of matching friends is returned to the User. The User initiates a session with the selected friends so that they can chat with each other.

B.4.2 Market Benefits

Pre-defined rules can be set up in advance and later being used by reference. A User doesn't need to specify the rules again every time he wants to select Users matching the rules. This can save User interaction time and network bandwidth.

B.5 Group Member Selection Based on Combined Pre-defined and Adhoc Rules

This use case describes the selection of members from a list of friends for which certain pre-defined and certain adhoc Conditions are specified.

B.5.1 Short Description

A User with a CBUS Client wants to initiate a chat session including all his available friends who are music fans to chat regarding top 10 music hits. The User has specified pre-defined rules which require friends to be available. The User requests a list of friends matching the pre-defined Conditions and in addition matching the Condition to be music fans. After Condition evaluation a list of matching friends is returned to the User. The User initiates a session with the selected friends so that they can chat with each other.

B.5.2 Market Benefits

Pre-defined rules can be set up in advance and later being used by reference. A User doesn't need to specify the rules again every time he wants to select Users matching the rules. Combining pre-defined rules with additional adhoc rules allow to further detail pre-defined rules. This can save User interaction time and network bandwidth.