Customized Multimedia Ringing Requirements

Candidate Version 1.0 – 16 Dec 2008

Open Mobile Alliance

OMA-RD-CMR-V1_0-20081216-C

Contents

Figures

Tables

1. Scope (Informative)

This Requirements Document (RD) contains use cases and defines the requirements for the Customized Multimedia Ringing Enabler. The functional areas covered in this RD are described in section 6.1-Modularisation.

The Customized Multimedia Ringing Enabler will reuse as much as possible existing technologies and define the new reusable building blocks to be able to create Customized Multimedia Ringing based/enabled services.

2. References

2.1 Normative References

[LOCREQ] "Secure User Plane Location Requirements", Open Mobile Alliance™, OMA-RD-SUPL-V2_0, Version 2.0, http://www.openmobilealliance.org/

[PRESENCEREQ] "Presence SIMPLE Requirements", Open Mobile Alliance™, OMA-RD-Presence_SIMPLE-V2_0, Version 2.0, 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

[XDMREQ] "XLM Document Management Requirements", Open Mobile Alliance™, OMA-RD-XDM-V2_1, Version 2.1, http://www.openmobilealliance.org/

2.2 Informative References

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

[3GPP CAT] "Customized Alerting Tone", 3GPP TS 22.182 http://www.3gpp.org/FTP/Specs/html-info/22182.htm

[3GPP CRS] "Customized Ringing Signal", 3GPP TS 22.183 http://www.3gpp.org/FTP/Specs/html-info/22183.htm

[OMADICT] "Dictionary for OMA Specifications", Version 2.6, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_6, URL:http://www.openmobilealliance.org/

[OMA GSSM] "General Service Subscription Management", Version 1.0, Open Mobile Alliance™, OMA-RD-GSSM-V1_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

CMR Portal	Any application such as web, voice, SMS and etc. provided to the user/CP/SP for service management related to CMR enabled services. It resides outside the CMR enabler, and it implements the service management (e.g. service publishing, service configuration, content management) by cooperating with CMR enabler.
CMR Preference Settings	Set of rules that specify which (e.g. different CMR Resources for different calling party groups), when (e.g. under a particular event) and how (e.g. volume of the resource) CMR Resource should be presented in CMR Services.
CMR Resource	The multimedia ringing that is subscribed by the CMR end user and set to be played or presented when the CMR enabled service is invoked. From the perspective of users, the media type could be any multimedia content such as audio, video, text, picture, VCard or their combination.
CMR Resource Metadata	Information used to characterize a particular CMR Resource, which may include media type, resource code, CP/SP code, resource name, resource copyright owner, user code, etc.
CMR Resource Library	Set of CMR Resources available for a particular user which are subject to be used in the service. This library could contain the resources themselves or logical references to them such as URIs. This library changes during the service lifecycle with different user actions (e.g. purchase a new resource, delete an old one, etc).
CMR Service	The CMR-enabled value-added service which makes use of CMR Enabler’s capabilities.
Resource Box	A logical resource package which represents multiple CMR resources with the same media type and with the associated predefined rule of selecting a CMR Resource from the box to present. A Resource Box is subscribed as a whole and can’t be divided. From the user’s point of view, and is equivalent to a single CMR Resource.

3.3 Abbreviations

API	Application Programming Interface
CDR	Call Detail Record
CMR	Customized Multimedia Ringing
CMRBT	Customized Multimedia RingBack Tone
CMRT	Customized Multimedia Ringtone
CP	Content Provider
OMA	Open Mobile Alliance
OSE	OMA Service Environment
SP	Service Provider

4. Introduction (Informative)

The devices are becoming more powerful with the capabilities to support many kinds of multimedia resources. Also the IP-based network can supply enough bandwidth to transfer multimedia resources rapidly and reliably. Along with these evolutions, people are more and more interested in multimedia services which they can customize in some way to show their personalities.

One of the emerged services is that a multimedia ringing could be played or presented to an end user during the establishment of a call, the arrival of a message or mail and so on. For example, the terminating party sends a specified video to the originating party, instead of the alert ringing that is played by the network with no difference for individuals.

As CMR can be a common and reusable function for session service, this function can be extracted as "CMR Enabler" as a separate enabler that could be used to build a complicated service combined with other enablers defined in OSE.

4.1 Actors and their Roles for the CMR Enabler

The following figure shows the actors and their roles for the CMR Enabler.

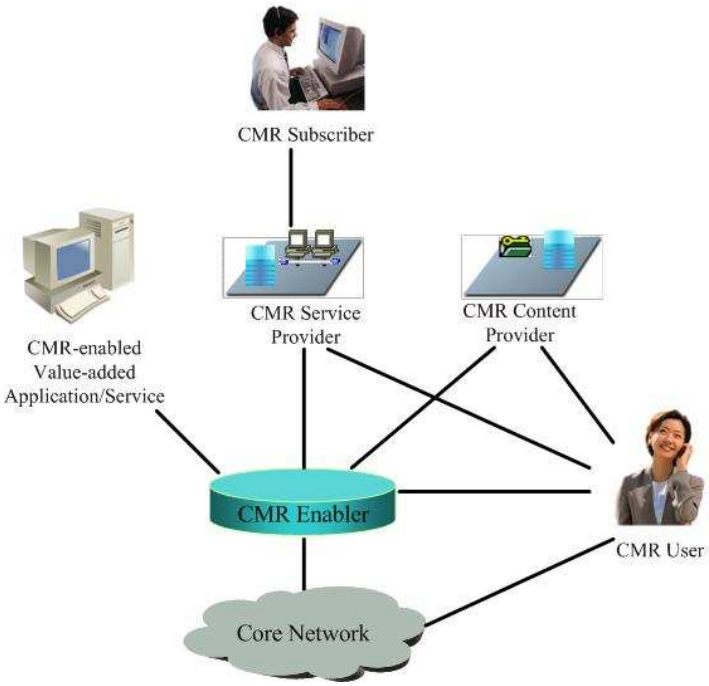

Figure 1: The CMR Enabler – Actors and Roles

In the figure above, there are five type actors in the CMR Enabler's framework:

- Service provider — offering CMR enabled services to its subscribers. Service providers allow CMR user to access the CMR service related information (e.g. to allow CMR user to manage his/her preference information).
- Content provider — offering CMR Resource to CMR user. Content providers allow CMR user to access the CMR resource related information (e.g. to allow CMR user to select his/her favourite CMR resource).
- CMR-enabled value-added application/service — using CMR enabler's capabilities over open interface. CMR-enabled value-added application/service could use CMR resources (e.g. using it as a prompt music or a background music) or CMR user's preference data (e.g. inquiring the CMR resource base on the preference setting) during the application or service is executed.

- CMR user — using CMR enabled services. CMR user could access the CMR service related information or CMR resource related information via the CMR portal provided by CMR enabler directly or CP/SP. CMR user also could enjoy the CMR Resource set by other CMR users.
- CMR subscriber — has subscribed CMR enabled services, CMR subscriber could subscribe CMR enabled services for himself/herself or someone else.

5. CMR release description (Informative)

Customized Multimedia Ringing (CMR) is an Enabler that can make multimedia resources to be presented to an end user according to a specified event, e.g. the establishment of a call, the arrival of a message or mail. A common use is the traditional ring back tone or ringing tone during call establishment which is replaced by the subscriber-customized multimedia resources. In order to present the multimedia resources and control it on the service layer, CMR Enabler will provide the following main functionalities.

- CMR preferences management: CMR can be provided based on user's CMR preferences consisting of e.g. priority, network storage, the ringing box, the CMR presentation rules and so on. The CMR preferences can be manipulated by the application, the subscriber or a third party.
- CMR Resource management: Resource management including enable a subscriber or a third party to upload CMR Resources, delete the CMR Resources, manage CMR Resources information (e.g. change the name of the CMR Resource). etc.
- CMR Presentation control: to manage the CMR presentation via presentation rules.
  - Present the appropriate CMR Resource according to CMR presentation rules.
  - Presentation control during the session (i.e. interaction with the user)
- The other basic functions of the CMR Enabler include:
  - Charging: When the CMR user purchases or manages (e.g. updates or uploads) the CMR Resources, and CMR service is initiated, charging information will be generated. The CMR Enabler can send it to a charging platform.
  - Security: The CMR Enabler has mechanisms to authenticate and authorize a to CP/SP/CMR user.
  - Open APIs: other OMA/non-OMA enablers or third party applications can invoke the open APIs of CMR Enabler to implement a CMR related service.

The CMR Enabler will reuse as much as possible the work made by other organizations in similar areas (e.g. [3GPP CAT], [3GPP CRS]).

5.1 Version 1.0

The functionalities of the Enabler, described previously, are all included in the version 1.0.

6. Requirements (Normative)

6.1 Modularisation

The CMR Enabler can be defined as a collection of functional modules to provide a CMR Resource for services or applications enabled by it. These functional modules are the following:

- **Preferences management:** mandatory module; the preference management functional module defines capabilities including the storage and management of the user preference information, and capabilities allowing CMR enabled services/applications to query/synchronize/update the user preference's information. The preferences management functionalities could be accessed by other enablers or third party applications through an Open API.
- **Resource management:** mandatory module; the resource management functional module defines capabilities for the management and manipulation of the use's CMR Resource Library including storage and management of CMR Resources and related information, and capabilities allowing media resource manipulation. The resource management functionalities could be accessed by other enablers or third party applications through an Open API.
- **Presentation control:** mandatory module; the presentation control functional module defines capabilities including the provision of the CMR Resource selected as per user preference, service level control during CMR Resource presentation, and collecting user information by using other Enabler's capabilities, such as presence/location. The presentation control functionalities could be accessed by other enablers or third party applications through an Open API.

  For the presentation control functionalities, the existing 3GPP specifications will be reused when possible.
- **Open API**: mandatory module; the open API functional module defines an interface to other OMA/non-OMA enablers, or a third party application to access the CMR related functionalities.

6.2 High-Level Functional Requirements

Label	Description	Release	Functional module
CMR-HLF-001	The CMR Enabler SHALL support to associate a CMR Resource to a specified event. (e.g. the establishment of a call, the arrival of a message or mail)	CMR 1.0	Presentation control. Preference management. Resource management
CMR-HLF-002	The CMR Enabler SHALL support to select an appropriate CMR Resource based on CMR Preference Settings of the CMR users who are involved on the communication.	CMR 1.0	Presentation control. Preference management. Resource management
CMR-HLF-003	The CMR Enabler SHALL allow more than one CMR Resource to be composed in order to present to the user when the CMR enabled service is invoked.	CMR 1.0	Presentation control. Preference management.
CMR-HLF-004	The CMR Enabler SHALL support selecting or generating a CMR Resource based on the user presence/location information (e.g. convert the location textual info into an audio dynamically).	CMR 1.0	Presentation control. Preference management. Resource management

CMR-HLF-005	The CMR Enabler SHOULD support interaction with OMA GSSM [OMA GSSM] to query CMR user subscription information.	CMR 1.0	Presentation control. Preference management. Resource management
CMR-HLF-006	The CMR Enabler SHALL allow a CMR-enabled value-added application or service to use CMR Resources, e.g. use it as a prompt music or a background music during the application or service is executed.	CMR 1.0	Presentation control. Preference management Resource Management
CMR-HLF-007	The CMR Enabler SHALL support a Resource Box to be handled equivalent to a single CMR Resource.	CMR 1.0	Presentation control. Preference management Resource Management
CMR-HLF-008a	The CMR Enabler SHALL allow a CMR user to maintain his/her CMR Resources library, including: - Upload CMR Resources - Add new CMR Resources - Delete CMR Resources	CMR 1.0	Resource Management Preference management
CMR-HLF-008b	The CMR Enabler SHALL allow a CMR content provider to upload, modify and delete its CMR Resources (including resource boxes) in order to maintain CMR Resource catalogue.	CMR 1.0	Resource Management
CMR-HLF-009	The CMR Enabler SHALL provide an API that supports SPs/CMR Users to modify the CMR user profile data (e.g. the CMR user subscription information).	CMR 1.0	Preference Management Presentation Control

Table 1: High-Level Functional Requirements

6.2.1 Security

6.2.1.1 Authentication

Label	Description	Release	Functional module
CMR-AUTHE-01	The CMR Enabler SHALL support a mechanism to allow authentication between the CMR Enabler and a Principal such as CMR Users or 3rd Party CMR Services.	CMR 1.0	General
CMR-AUTHE-02	The CMR Enabler SHALL support to authenticate a third party's service.	CMR 1.0	General

Table 2: High-Level Functional Requirements – Authentication Items

6.2.1.2 Authorization

Label	Description	Release	Functional module
CMR-AUTH-001	The CMR Enabler SHALL support a mechanism to authorize a CMR Resource before being uploaded to a CMR Library.	CMR 1.0	General

CMR-AUTH-002	CMR Enabler SHALL only allow an authorized CMR user to configure his/her CMR Preference Settings and CMR Resource Library.	CMR 1.0	General

Table 3: High-Level Functional Requirements – Authorization Items

6.2.1.3 Data Integrity

Label	Description	Release	Functional module
CMR-INT-001	CMR Enabler SHOULD be able to provide data integrity protection for CMR users.	CMR 1.0	General

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

6.2.2 Charging

Label	Description	Release	Functional module
CMR-CHG-001	In order to support all kinds of charging policies, the CMR Enabler SHALL be able to generate CDR information.	CMR 1.0	General
CMR-CHG-002	The CMR Enabler SHALL define a set of charging events usable in various business models. (e.g. purchasing events, library configuration events, service use events, etc).	CMR 1.0	General

Table 5: High-Level Functional Requirements – Charging Items

6.3 CMR Resource Management Requirements

Label	Description	Release	Functional module
CMR-RESM-001	The CMR Enabler SHOULD support a CMR user to subscribe CMR Resource for other users (i.e. add the resource to the other user's library).	CMR 1.0	Resource Management
CMR-RESM-002	The CMR Enabler SHALL support to store CMR Resource within the CMR enabler.	CMR 1.0	Resource Management
CMR-RESM-003	When the media resources are added, deleted or modified on the CMR Portal, the CMR Enabler SHALL be informed to update the related CMR Resources stored in CMR Enabler.	CMR 1.0	Resource Management
CMR-RESM-004	The CMR Enabler SHALL support the download of media resources from CMR Portal to the repository residing in the CMR Enabler.	CMR 1.0	Resource Management
CMR-RESM-005	The CMR Enabler SHALL support to associate a CMR Resource with CMR Resource Metadata.	CMR 1.0	Resource Management
CMR-RESM-006	The CMR Enabler SHALL allow a CMR user (A) to offline (e.g. not during the communication) copy the CMR Resources of other user's (B) CMR Resource Library subject to user's B privacy policies (see CMR-RESM-009 and CMR-RESM-010) and Service Provider policies.	CMR 1.0	Resource Management Preference Management

CMR-RESM-007a	When the communication has ended, the CMR user MAY have the ability to copy the CMR Resource which he/she has experienced in this communication based on service provider's policies. (Informational Note: This requirement is optional since in some cases systems may require a lot of resources to store information about ended communications)	CMR 1.0	Resource Management
CMR-RESM-007b	CMR Enabler SHALL support the CMR User to copy (i.e. subscribe) a CMR Resource as his own CMR Resource while the resource is being presented.	CMR 1.0	Resource Management Presentation Control
CMR-RESM-008a	The CMR Enabler SHALL allow a service provider to receive reports of the resource and preferences management activities taken by the CMR user/CMR content provider.	CMR 1.0	Resource Management
CMR-RESM-008b	The CMR Enabler SHALL allow a service provider to receive information about which application has been used to manage the CMR User resources and/or preferences through the reports specified in CMR-RESM-008a.	CMR 1.0	Resource Management
CMR-RESM-009	The CMR Enabler SHALL allow a CMR user to hide his/her personal CMR Resource Library from other CMR Users.	CMR 1.0	Resource Management
CMR-RESM-010	The CMR Enabler SHALL allow a CMR User to share his/her personal CMR Resource Library with other CMR Users (e.g. allowing other CMR users to see or copy his resources.)	CMR 1.0	Resource Management
CMR-RESM-011	The resource management functionalities defined in CMR-HLF-008a SHALL be accessible for SPs/CPs/CMR Users via an Open API.	CMR 1.0	Resource Management
CMR-RESM-012	CMR resource subscriptions SHALL have an expiration time.	CMR 1.0	Resource Management
CMR-RESM-013	CMR Enabler SHALL provide notification (e.g. to CMR user) when CMR user's CMR resource will expire or has expired.	CMR 1.0	Resource Management
CMR-RESM-014	It SHALL be supported for CMR user to manually renew a subscription to CMR resources before these subscriptions expire. Note: it is still to be decided whether the requirement need to be implemented directly by the enable or outside the enabler.	CMR 1.0	Resource Management

Table 6: CMR Resource Management Requirements

6.4 CMR Preference Management Requirements

Label	Description	Release	Functional module
CMR-PREM-001	The CMR Enabler SHALL allow CMR-enabled value-added application or service to query/synchronize/update the user's preferences setting subject to the user and service provider policies.	CMR 1.0	Preference Management
CMR-PREM-002	The CMR Enabler SHALL support a CMR user to query his/her CMR Preference Settings.	CMR 1.0	Preference Management
CMR-PREM-003	The CMR Enabler SHALL allow a CMR user to set in his/her CMR Preference Setting to stop or continue playing or presenting the CMR Resource upon a particular event (e.g. when a call is answered).	CMR 1.0	Preference Management
CMR-PREM-004	The CMR Enabler SHALL support CMR user to indicate in his/her CMR Preference Settings if the volume of CMR Resource can be adjusted.	CMR 1.0	Preference Management

CMR-PREM-005	The CMR Enabler SHALL allow a CMR user to set a CMR Resource as default (e.g. to be presented when the presenting CMR Resource is stopped).	CMR 1.0	Preference Management Presentation Control
CMR-PREM-006	The CMR Enabler SHALL support a CMR user to set the default CMR Resource (e.g. for the users do not fall in any specified calling/called groups, any time period etc.)	CMR 1.0	Preference Management
CMR-PREM-007	The CMR Enabler SHALL be able to interact with the XDM Enabler to get information of contact lists or group as defined in [XDMREQ].	CMR 1.0	Preference Management, Presentation Control
CMR-PREM-008	The CMR Enabler SHALL be able to interact with Presence Enabler (defined in [PRSENCEREQ]) to get user's presence information.	CMR 1.0	Presentation control Preference management
CMR-PREM-009	The CMR Enabler SHALL be able to interact with Location Enabler (defined in [LOCREQ]) to get user's Location information.	CMR 1.0	Presentation control. Preference management.
CMR-PREM-010	The CMR Enabler SHALL support CMR user to set his CMR Preference Settings such that more than one CMR Resource is presented sequentially/simultaneity.	CMR 1.0	Preference Management
CMR-PREM-011	CMR user SHALL have the ability to define CMR filter rules that will determine if future CMR Resources are presented or not (e.g. caller can set a certain time period in which he would not like to experience the CMR Resource).	CMR 1.0	Preference Management
CMR-PREM-012	It SHALL be possible for a CMR user to set a rule such that the CMRT (e.g. MMS ring tone or call ring tone) is always kept the same as CMRBT for each single communication.	CMR 1.0	Preference Management
CMR-PREM-013	The CMR Enabler SHALL hide the CMR user's preference settings, e.g. user groups or presence information, from all of the other CMR users.	CMR 1.0	Preference Management
CMR-PREM-014	The CMR Enabler SHALL support service provider to define default CMR resource which is presented when no CMR resource has been specified by CMR user for all the CMR Users.	CMR 1.0	Preference Management
CMR-PREM-015	The CMR Enabler SHALL allow CMR user set the playing sequence (e.g. randomly playing or circularly playing) of the CMR resources in a Resource Box.	CMR 1.0	Preference Management
CMR-PREM-016	The CMR Enabler SHALL allow CMR Users to define their own CMR Resource Boxes or to purchase them from the CP.	CMR 1.0	Preference Management

CMR-PREM-017	The CMR Enabler SHALL support a CMR user to configure his/her CMR Preference Settings that a CMR Resource shall be presented based on the following criteria or combinations of them: - Associated to a particular end user or a group of end users. - Associated to his particular location information - Associated to his particular presence information (e.g. busy, absent, etc) - Associated to particular time and/or date periods (e.g. slots of the day, days of the week)	CMR 1.0	Preference Management

Table 7: CMR Preference Management Requirements

6.5 CMR Open APIs Requirements

Label	Description	Release	Functional module
CMR-OAPI-001	The CMR Enabler SHALL allow other Principals such as Enablers, applications or services to use the CMR Resources and Preferences management functionalities through an Open API, based on service provider policies.	CMR 1.0	Open APIs

Table 8: CMR Open APIs Requirements

6.6 CMR Presentation Control Requirements

Label	Description	Release	Functional module
CMR-PREC-001	The CMR Enabler SHALL support a CMR user to dynamically select which one of his CMR Resource to be presented regardless of the preference settings (e.g. on real-time during the execution of service).	CMR 1.0	Presentation Control
CMR-PREC-002	The CMR Enabler SHALL support a CMR user (A) to dynamically select which one of the CMR user (B)'s CMR Resource he/she wants to experience, subject to CMR User (B)'s preferences.	CMR 1.0	Presentation Control
CMR-PREC-003	The CMR Enabler SHALL support a CMR user (A) to dynamically select his or CMR user (B)'s CMR Preference Settings to decide the CMR Resource he will experience.	CMR 1.0	Presentation Control
CMR-PREC-004	The CMR Enabler SHALL support to receive the presentation controlling instructions from a CMR User directly. These instructions include stop, change the presenting CMR Resource, and etc.	CMR 1.0	Presentation Control
CMR-PREC-005	After receiving stop instructions, the CMR Enabler SHALL support stopping the current CMR Resource and presenting the default CMR Resource to an end user.	CMR 1.0	Presentation Control
CMR-PREC-006	After receiving change instructions, the CMR Enabler SHALL support changing the current CMR Resource to the CMR user preferred CMR Resource.	CMR 1.0	Presentation Control
CMR-PREC-007	The CMR Enabler SHALL support to stop or continue presenting the CMR Resource upon a particular event (e.g. the called party answers the call).	CMR 1.0	Presentation Control
CMR-PREC-008	The CMR Enabler SHALL support to present an appropriate CMR Resource customized by CMR Users to replace the original resource.	CMR 1.0	Presentation control

Table 9: CMR Presentation Control Requirements

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-RD-CMR-V1_0-20080403-D	3 Apr 2008 3 Apr 2008	All 1, 4	CMR RD Skeleton Implementation of OMA-REQ-CMR-2008-0002-INP_draft_for_RD_scope OMA-REQ-CMR-2008-0004-INP_Introduction_for_RD
OMA-RD-CMR-V1_0-20080521-D	21 May 2008	1,4, 3.2, 6, Appendix B,	New RD template is used. ● Re-implementation of OMA-REQ-CMR-2008-0002-INP_draft_for_RD_scope OMA-REQ-CMR-2008-0004-INP_Introduction_for_RD in new RD template. ● Implementation of OMA-REQ-CMR-2008-0007R03-INP_CMR_Enabled_Service_UseCase_for_RD OMA-REQ-CMR-2008-0009R02-INP_Preference_Management_for_RD OMA-REQ-CMR-2008-0011R02-INP_Reuse_Other_Enablers_for_RD OMA-REQ-CMR-2008-0012R03-INP_some_highlevel_requirements_for_RD agreed in R&A ● Section 6.4 and 6.5 is created by editor for CMR Resource management requirements and CMR preference management requirements.
OMA-RD-CMR-V1_0-20080616-D	16 Jun 2008	4.1,	Implementation of ● OMA-REQ-CMR-2008-0008R03-INP_Actors_and_their_Roles_for_CMR_Enabler ● OMA-REQ-CMR-2008-0028R01-INP_Authentication_Requirement_for_CMR ● OMA-REQ-CMR-2008-0030R01-INP_Privacy_Requirement_for_CMR
OMA-RD-CMR-V1_0-20080707-D	07 Jul 2008		Implementation of ● OMA-REQ-CMR-2008-0022R02-INP_Resource_Management_Use_Case_and_Requirement ● OMA-REQ-CMR-2008-0023R03-INP_CMR_open_API ● OMA-REQ-CMR-2008-0026R01-INP_CMR_Resource_Management_Requirements ● OMA-REQ-CMR-2008-0035-INP_Charging_Requirement_for_CMR ● OMA-REQ-CMR-2008-0037R01-INP_Introduction_and_Description_for_CMR ● OMA-REQ-CMR-2008-0042R02-INP_CMR_resource_subscription_and_download ● OMA-REQ-CMR-2008-0043R02-INP_CMR_resource_dynamically_select

Document Identifier	Date	Sections	Description
OMA-RD-CMR-V1_0-20080716-D	16 Jul 2008	All	Implementation of ● OMA-REQ-CMR-2008-0038R02-INP_Modularisation_for_RD ● OMA-REQ-CMR-2008-0010R03-INP_Presentation_management_for_RD. ● OMA-REQ-CMR-2008-0027R02-INP_CMR_Preference_Management_Requirements ● OMA-REQ-CMR-2008-0029R02-INP_Authorization_Requirement_for_CMR ● OMA-REQ-CMR-2008-0032R02-INP_CMR_resource_present_policy ● OMA-REQ-CMR-2008-0045R01-INP_more_requirements_for_CMR ● OMA-REQ-CMR-2008-0031R02-INP_reuse_XDM Clean up RD document, i.e. delete yellow box comments, delete those requirements without requirements etc.
OMA-RD-CMR-V1_0-20080731-D	31 Jul 2008	All	Implementation of ● OMA-REQ-CMR-2008-0049R01-CR_RD_Editorial_Review
OMA-RD-CMR-V1_0-20081011-D	11 Oct 2008	All	Implementation of ● OMA-REQ-CMR-2008-0057-CR_Resolution_for_A029 ● OMA-REQ-CMR-2008-0059R01-CR_RDRR_Resolution_A025 ● OMA-REQ-CMR-2008-0060-CR_RDRR_Resolution_A030_A031 ● OMA-REQ-CMR-2008-0061-CR_RDRR_Resolution_A048 ● OMA-REQ-CMR-2008-0064-CR_RDRR_Resolution_A053 ● OMA-REQ-CMR-2008-0065R01-CR_Resolution_for_A075 ● OMA-REQ-CMR-2008-0068R01-CR_Resolution_to_A006_A007 ● OMA-REQ-CMR-2008-0069R01-CR_Resolution_to_A009_A010 ● OMA-REQ-CMR-2008-0070R02-CR_Resolution_to_A017_A018 ● OMA-REQ-CMR-2008-0072-CR_Resolution_to_A022 ● OMA-REQ-CMR-2008-0073R03-CR_Resolution_to_A023 ● OMA-REQ-CMR-2008-0075-CR_Resolution_to_A026 ● OMA-REQ-CMR-2008-0076-CR_Resolution_to_A027 ● OMA-REQ-CMR-2008-0077-CR_Resolution_to_A028 ● OMA-REQ-CMR-2008-0078R01-CR_Resolution_to_A032 ● OMA-REQ-CMR-2008-0079R01-CR_Resolution_to_A033 ● OMA-REQ-CMR-2008-0080R01-CR_Resolution_to_A038 ● OMA-REQ-CMR-2008-0081R01-CR_Resolution_to_A039 ● OMA-REQ-CMR-2008-0082-CR_Resolution_to_A040 ● OMA-REQ-CMR-2008-0083R01-CR_Resolution_to_A041 ● OMA-REQ-CMR-2008-0089-CR_RDRR_Resolution_A058 ● OMA-REQ-CMR-2008-0091-CR_RDRR_Resolution_for_A001_to_A005 ● OMA-REQ-CMR-2008-0094-CR_RDRR_Resolution_for_A037 ● OMA-REQ-CMR-2008-0095-CR_RDRR_Resolution_for_A042_to_A047 ● OMA-REQ-CMR-2008-0112R01-CR_RDRR_Resolution_for_A059_to_A062 ● OMA-REQ-CMR-2008-0113R01-CR_RDRR_Resolution_for_A063_to_A066

Document Identifier	Date	Sections	Description
OMA-RD-CMR-V1_0-20081025-D	25 Oct 2008	All	Implementation of • OMA-REQ-CMR-2008-0067R01-CR_Resolution_for_A079_and_A080 • OMA-REQ-CMR-2008-0084-CR_Resolution_to_A090 • OMA-REQ-CMR-2008-0085-CR_Resolution_to_A091 • OMA-REQ-CMR-2008-0088-CR_RDRR_Resolution_A055_A056_A057 • OMA-REQ-CMR-2008-0097-CR_Resolution_for_A082 • OMA-REQ-CMR-2008-0114R01-CR_RDRR_Resolution_for_A067_to_A068 • OMA-REQ-CMR-2008-0115R01-CR_RDRR_Resolution_for_A069_to_A070
OMA-RD-CMR-V1_0-20081107-D	07 Nov 2008	All	Implementation of • OMA-REQ-CMR-2008-0058R01-CR_Resolution_for_A034_and_A035 • OMA-REQ-CMR-2008-0062R01-CR_RDRR_Resolution_A049 • OMA-REQ-CMR-2008-0063R01-CR_RDRR_Resolution_A050_A051_A052 • OMA-REQ-CMR-2008-0071R01-CR_Resolution_to_A019_A021 • OMA-REQ-CMR-2008-0087R02-CR_RDRR_Resolution_A054 • OMA-REQ-CMR-2008-0092R02-CR_RDRR_Resolution_for_A011_to_A016 • OMA-REQ-CMR-2008-0093R01-CR_RDRR_Resolution_for_A036 • OMA-REQ-CMR-2008-0098R01-CR_Resolution_for_A083 • OMA-REQ-CMR-2008-0100-CR_Resolution_for_A085 • OMA-REQ-CMR-2008-0101-CR_Resolution_for_A086 • OMA-REQ-CMR-2008-0103R01-CR_Resolution_for_A088 • OMA-REQ-CMR-2008-0104R01-CR_Resolution_for_A092 • OMA-REQ-CMR-2008-0105R01-CR_Resolution_for_A093 • OMA-REQ-CMR-2008-0106-CR_Resolution_for_A094 • OMA-REQ-CMR-2008-0107-CR_Resolution_for_A095 • OMA-REQ-CMR-2008-0108R01-CR_Resolution_for_A096 • OMA-REQ-CMR-2008-0111-CR_Resolution_for_A098 • OMA-REQ-CMR-2008-0116R01-CR_RDRR_Resolution_for_A071_to_A072 • OMA-REQ-CMR-2008-0118R01-CR_RDRR_Resolution_for_A074 • OMA-REQ-CMR-2008-0120-CR_Resolution_to_A101_102 • OMA-REQ-CMR-2008-0123-CR_Resolution_for_A099 • OMA-REQ-CMR-2008-0124-CR_Resolution_for_A100 • OMA-REQ-CMR-2008-0128-CR_modification_to_HLF_005_006 • OMA-REQ-CMR-2008-0130-CR_Modification_to_HLF_003 • OMA-REQ-CMR-2008-0134R01-CR_Modification_to_A076 • OMA-REQ-CMR-2008-0135R01-CR_Modification_to_A073 Implementation of the following changes missed by last RD version which are mentioned in • 0059R01: Remove from the functional module of the requirement CMR-HLF-004 the words “Resource Management”. • 0083R01: The requirement CMR-CHG-003 and CMR-CHG-004 must be deleted according to the CR. • 0088: The word “portal” must be written with a capital P. • 0113R01: The requirement CMR-RESM-011 and CMR-RSM-012 must be deleted according to the CR.

Document Identifier	Date	Sections	Description
Drat Versions OMA-RD-CMR-V1_0-20081112-D	12 Nov 2008	All	Implementation of ● OMA-REQ-CMR-2008-0066R02-CR_Resolution_for_A077_A078_and_A081 ● OMA-REQ-CMR-2008-0041R01-INP_expiration_of_resource_subscription ● OMA-REQ-CMR-2008-0110R01-CR_Resolution_for_A097 ● OMA-REQ-CMR-2008-0126R01-CR_Modify_Requirement_of_CP_resource_operation ● OMA-REQ-CMR-2008-0133R01-CR_Resolution_for_A082_A084_A087 ● OMA-REQ-CMR-2008-0140R01-CR_Resolution_for_A089
OMA-RD-CMR-V1_0-20081113-D	13 nov 2008	All	General Editorial Cleaning
OMA-RD-CMR-V1_0-20081126-D	26 nov 2008	6.3, B.2.1	Editorial changes base on the RD R&A comments: - Change references to CMR-HLF-011 to be CMR-HLF-008a - Make the following changes into apendix B.2 Preference Management Use Case: " “These set of preferences can be set by the CMR user and ~~modify~~ modified by the CMR ~~subscriber~~ user...”"
Candidate Version OMA-RD-CMR-V1_0-20081216-C	16 Dec 2008	n/a	Status changed to Candidate by TP TP ref# OMA-TP-2008-0488-INP_CMR_V1_0_RD_for_Candidate_Approval

Appendix B. Use Cases (Informative)

B.1 CMR Enabled Services

B.1.1 Short Description

The value-added services may use the CMR Enabler's capabilities as it is described in the following examples:

1. Message service: when a message arrives to the called party, the receiver experiences a CMR Resource specified by the calling party which replaces the original terminal ring tone. Whereas the calling party will experience a CMR Resource specified by himself when the message has reached the destination.
2. Conference service: during the development of that service the availability of the CMR Resource is the next;
    a. When a conference is being created: the conference host can set the CMR Resource as the conference background and another CMR Resource as the conference theme.
    b. When the conference is being held: each participant can obtain the background CMR of the conference;
    c. When the conference host invites the conference participants, the invited participants will experience the special CMRT to learn the theme of the conference during the process of invitation.
    d. When the participants join the conference initiatively, they will experience the special CMRBT to learn the theme of conference.

B.1.2 Market benefits

The value-added services can attract more experienced users by using the capabilities of the CMR Enabler. The contributed benefits to the users who subscribe to the value-added services are:

- Configure their setting for a specific CMR Resources
- Take advantages of the CMR Resources under certain circumstances during the service lifecycle.

B.2 Preference Management

The CMR Enabler allows the subscribers to modify and customize their CMR preference such as priority, network storage, the ringing box, the CMR presentation rules etc.

B.2.1 Short Description

CMRT or CMRBT can be performed in accordance with the preference rules (e.g. the time and date, the position information of the user, the specific ringing group, etc). These set of preferences can be set by the CMR user and modified by the CMR user through a call, a short message, access to a web portal or CMR client.

B.2.2 Market benefits

The preference management enables to personalize to the CMR user his preferences setting. This service may cause a greater attraction to the users generating thus an increase of the subscription to that CMR service and a rise of the CMR operator revenues.

B.3 Presence Related CMR

This use case of CMR utilizes another existing OMA Enablers.

B.3.1 Short Description

The CMR Resource can be selected depending on the calling/called party Presence and generated according to the users Presence information. This calling/called party Presence information can be set as a CMR Resource or as a part of CMR Resource directly in CMR service. For example: a) the calling party will listen a " RingingTone = CompanyAdvertizement " and a related text if the called party set his presence in mode of "in conference", and b) the calling party will get some related indication when the calling/called party set his presence in mode of "driving".

The CMR Server can obtain the users Presence information in several ways such as through related services (e.g. Presence Enabler) through network etc. In the use case specified above, the presence information is taken from the Presence Enabler.

B.3.2 Market benefits

The presence related CMR market benefits are the following:

- CMR User can surprise to the called party with the CMR according to his presence.
- The Service Provider may rise to its revenues by offering more attractive CMR services.

B.4 Resource Management

B.4.1 Short Description

The aim of integrating the content resources and making the maximum use of the resources may be fulfilled by the operator through the deployment of a content management platform to deal with the creation, publishing and management within the whole operator's network of the CMR Resources. This platform will be enabled by the CMR Enabler resource management functionalities.

B.4.2 Market benefits

The CMR Enabler can obtain the CMR Resources from external entities (e.g. content management platform) and manage a centralized CMR Resources to provide them to the CMR-enabled value-added services. Thereby the operator can make more use of the resources through the CMR Enabler.