# Rich Communication Suite 6.0 Endorsement of OMA CPM 2.1 Interworking

## Version 5.0

## 21 March 2016

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# 1 Introduction

## 1.1 Overview

This document describes which sections of the OMA Converged IP Messaging (CPM) 2.1 Interworking specification (see [CPMIW]) which are supported by RCS (Rich Communication Suite) 6.0.

For details on how this fits in the scope of RCS please see [RCS6.0].

For easier reference this document follows the same structure as [CPMIW]. For that reason the headings of the sections are citations of the headings used in [CPMIW], within the sections they describe what part the equivalent section in [CPMIW] is supported by RCS. For sections that are not applicable in their entirety, the description is at the top level of the section and the subsections are not mentioned thereafter. For sections in which no difference with [CPMIW] is introduced, the subsections state clearly that they are applicable.

This specification lists differences and clarifications for RCS compared to [CPMIW]. The former category includes both differences in expected behaviour compared to [CPMIW] as well as corrections in behaviour, which should disappear over time when bug fixes will be applied to [CPMIW]. The latter category describes what options are chosen for RCS, in case [CPMIW] provides multiple possibilities and provides clarifications on how the provided functionality is expected to be used.

## 1.2 Scope

This document provides the details of the interworking to SMS (Short Message Service) and MMS (Multimedia Messaging Service) used for the messaging technology in RCS. For SMS further details are provided in [29.311ENDORSE].

## 1.3 Definition of Terms

| Term | Description |
|---|---|
| CPIM | Common Presence and Instant Messaging |
| CPM | Converged IP Messaging |
| CSCF | Call Session Control Function |
| ESME | External Short Message Entity |
| IM | Instant Messaging. The term chat is also applied in this document to the same concept. |
| IMDN | Instant Message Disposition Notification. See [RFC5438]. |
| IP | Internet Protocol |
| IP-SM-GW | IP Short Message Gateway |
| ISF | Interworking Selection Function |
| IWF | Interworking Function |
| MIME | Multipurpose Internet Mail Extensions |
| MMS | Multimedia Messaging Service |
| MMS-C | MMS-Centre |

| | |
|---|---|
| MMS R/S | Multi Media Service Relay/Server |
| MSISDN | Mobile Station International ISDN Number |
| MSRP | Message Session Relay Protocol |
| OMA | Open Mobile Alliance |
| RCS | Rich Communication Suite |
| SDP | Session Description Protocol |
| SIMPLE | Session Initiation Protocol for Instant Messaging and Presence Leveraging Extensions |
| SIP | Session Initiation Protocol |
| SMIL | Synchronized Multimedia Integration Language |
| SMPP | Short Message Peer to Peer protocol |
| SMS | Short Message Service |
| SM-SC | Short Message Service Centre |
| SMTP | Simple Mail Transfer Protocol |
| TCP | Transmission Control Protocol |
| URI | Uniform Resource Identifier |

## 1.4 Document Cross-References

| Ref | Document Number | Title |
|---|---|---|
| 1. | [RCS6.0] | GSMA PRD RCC.07 RCS 6.0- Advanced Communications: Services and Client Specification, Version 7.0, 21 March 2016<br>http://www.gsma.com/rcs/ |
| 2. | [CPMCONVFUNC] | CPM Conversation Functions, Open Mobile Alliance Ltd.<br>OMA-TS-CPM_Conv_Fnct-V2_1-20160209-C<br>http://member.openmobilealliance.org/ftp/Public_documents/COM/COM-CPM/Permanent_documents/OMA-TS-CPM_Conversation_Function-V2_1-20160209-C.zip |
| 3. | [CPMIW] | CPM Interworking, Open Mobile Alliance Ltd.<br>OMA-TS-CPM_Interworking-V2_1-20160209-C<br>http://member.openmobilealliance.org/ftp/Public_documents/COM/COM-CPM/Permanent_documents/OMA-TS-CPM_Interworking_Function-V2_1-20160209-C.zip |
| 4. | [29.311ENDORSE] | GSMA PRD RCC.08 Rich Communication Suite 6.0 Endorsement of 3GPP TS 29.311 Interworking for Messaging Services, Version 5.0, 21 March 2016<br>http://www.gsma.com/rcs/ |
| 5. | [CPMCONVENDORSE] | GSMA PRD RCC.11 RCS 6.0 Endorsement of OMA CPM 2.1 Conversation Functions, Version 5.0, 21 March 2016<br>http://www.gsma.com/rcs/ |
| 6. | [IR.90] | GSMA PRD IR.90 RCS Interworking Guidelines, version 12.0, 01 April 2016<br>http://www.gsma.com |

| | | |
|---|---|---|
| 7. | [RFC3261] | SIP: Session Initiation Protocol, IETF, June 2002<br>http://www.rfc-editor.org/rfc/rfc3261.txt |
| 8. | [RFC5438] | Instant Message Disposition Notification (IMDN), February 2009<br>http://www.ietf.org/rfc/rfc5438.txt |
| 9. | [RFC6135] | Alternative Connection Model for the Message Session Relay Protocol (MSRP) IETF RFC<br>http://tools.ietf.org/html/rfc6135 |
| 10. | [RFC6174] | "Connection Establishment for Media Anchoring (CEMA) for the Message Session Relay Protocol (MSRP)", C. Holmberg et al, August 2012<br>http://www.ietf.org/rfc/rfc6714.txt |
| 11. | [VVM] | "Visual Voice Mail Interface Specifications", Version 1.3, Open Mobile Terminal Platform, OMTP<br>http://www.gsma.com/newsroom/gsmadocuments/ |

# 2 References

See chapter 1.4 above.

# 3 Terminology and Conventions

The same conventions, terminology, definitions and abbreviations used in chapter 3 of [CPMIW] are valid for RCS. Additional abbreviations and terms specific for this document are in chapter 1.3.

# 4 Interworking

Note: RCS supports the following in the area of interworking

- Interworking of Pager Mode and Large Message Mode CPM (Converged IP Messaging) Standalone Messages to and from SMS
- Interworking of Pager Mode and Large Message Mode CPM Standalone Messages to and from MMS Interworking of CPM 1-to-1 Sessions and Ad-hoc Group Sessions to either SMS or MMS
- Interworking of disposition notifications

RCS does not support the following in the area of interworking:

- Interworking of File Transfer
- Interworking to and from e-mail

Following differences with [CPMIW]:

- The references to the interworking of file transfer are not applicable to RCS
- The references to the interworking to e-mail are not applicable for RCS

## 4.1 CPM Version 1.0

Following differences with [CPMIW]:

- The interworking selection process of the ISF (Interworking Selection Function) does not have to select a Non-CPM Communication Service for CPM File Transfers nor for CPM disposition notifications.
- An IWF (InterWorking Function) does not have to implement generic procedures for the interworking of CPM File Transfers for RCS.
- An IWF does not have to implement specific procedures for the interworking of CPM File Transfers to SMS and MMS.
- An IWF does not have to implement specific procedures for the interworking to e-mail
- In NOTE 1, the e-mail to CPM interworking is not applicable for RCS
- In NOTE 2: the interworking towards e-mail is not applicable for RCS

As a clarification for RCS
In NOTE 2: the additional mappings are out of scope for RCS as well.

### 4.2 CPM Version 2.0

No differences with [CPMIW].

### 4.3 CPM Version 2.1

No differences with [CPMIW].

## 5 Procedures at Interworking Selection Function

No differences with [CPMIW].

### 5.1 Non-CPM Communication Service Selection

Following differences with [CPMIW]:

- The ISF doesn't have to select a Non-CPM Communication Service for CPM File Transfers
- In step 1 checking the service provider policies is not applicable for RCS for standalone messages. When a request for interworking of a session is received, either the SMS or MMS IWF will be excluded, depending on the service provider policy.
- In step 2 checking the service provider policies is not applicable for RCS for standalone messages. When a request for interworking of a session is received either the SMS or MMS IWF will be excluded depending on the service provider policy.
- Step 4 is not applicable for RCS, IMDN (Internet Message Disposition Notification) messages are routed to the IWF through the CSCF (Call Session Control Function) based on the included IMDN-Route headers
- In step 5: the case for interworking file transfers is not applicable for RCS.
- In step 5 NOTE 1: the case for interworking file transfers is not applicable for RCS
- In step 5 NOTE 2: the case for interworking file transfers is not applicable for RCS
- In Step 7 the XDMS based user preferences are not applicable for RCS, instead RCS assumes implementation specific user preferences or operator policies that determine the legacy service selection.
- No difference with step 7.a.
- Step 8 is not applicable for RCS

- In step 10, the ISF will function as a proxy, adding a Record-Route header to a dialog-initiating request. CPIM (Common Presence and Instant Messaging) headers for IMDN will not be modified.
- In step 11, the handing of a CPM File transfer is not applicable for RCS.
- Steps 11 a, b and c are not applicable for RCS. Since that means that no alternative IWF will be selected, step 11 d will always apply
- In step 12, the handling of responses to CPM File transfer invitations is not applicable for RCS.
- In step 13: the case for interworking file transfers is not applicable for RCS.
- Step 14 is not applicable for RCS as disposition notifications do not pass through the ISF

As a clarification for RCS

- In step 3, the ISF will reject the request if a CPM standalone message is received from a user without E.164 based address. That is the P-Asserted-Identity header does not include a TEL Uniform Resource Identifier (URI) nor a SIP (Session Initiation Protocol) URI with a user=phone parameter. In this case a SIP 488 Not Acceptable Here error response will be returned.
- In step 5 a text only CPM Standalone Message will be interworked to SMS up to a service provider configurable size limit, any other Standalone CPM message will be interworked to MMS, a CPM session will be interworked to either SMS or MMS depending on the IWF left after applying the service provider policy.
- In step 6, for RCS service provider policy will never allow to select the IWF through part of the destination address
- In step 12: if the 200 “OK” is a response to an INVITE request, the ISF will add its address in a Record-Route header (i.e. it will stay in the signalling path).

### 5.2 Interworking to a Long-lived CPM Group Session

No differences with [CPMIW].

## 6 Procedures at Interworking Function

No differences with [CPMIW]

### 6.1 General Principles

Following differences with [CPMIW]:

- The IWF doesn’t interwork CPM File Transfers for RCS.

#### 6.1.1 Pager Mode CPM Standalone Message Handling

Following differences with [CPMIW]:

- In step 2 a, also the InReplyTo-Contribution-ID header will be stored
- In step 3 the mapping to e-mail is not applicable for RCS
- In the handling of a response the case for interworking with e-mail is not applicable for RCS

- In the handling of a response, the response to the CPM entity that sent the request shall include the stored Conversation-ID, Contribution-ID, InReplyTo-Contribution-ID and a Server header.

As a clarification for RCS:

- In step 1, for SMS any text content type will be acceptable for RCS, for MMS any content type that can be partly interworked to MMS, will be acceptable. In case parts of the content cannot be interworked to MMS, those parts will be discarded when relaying the CPM Standalone Message. For the RCS VV-Mail notification event, the standalone message will include the *+g.3gpp.iari-ref="urn%3Aurn-7%3A3gppapplication.ims.iari.rcs.vvm"* feature tag in addition to the CPM standalone message ICSI feature tag and the CPIM content type will be *application/vnd.gsma.rcs-vvm+xml*.
- In Step 2 b, the CPIM headers for IMDN will be stored for RCS if they are present in the request
- In Step 2, when a delivery or read report was requested the storage will be done until either a delivery report was received or the message would have expired shortly before in order to process negative delivery reports. If no delivery or read report was requested, storage will be until a response is received, on the submission of the message to the non-CPM Communication Service.
- In Step 3, when the standalone message is corresponding to the RCS VV-Mail notification event, the interworking to the appropriate SMS message is based on the operator policy. When the event is interworked to SMS message, the interworked message could be a simple SMS text message with the text indicating the guest address who deposited the voicemail as notification or an equivalent of silent SMS notification message as in the [VVM].

### 6.1.2 Large Message Mode CPM Standalone Message Handling

Following differences with [CPMIW]:

- In step 1 of the handling of a received SIP INVITE request, also accept-wrapped-types will be checked as accept-types may only refer to CPIM
- In step 1 of the handling of a received SIP INVITE request, the Conversation-ID, Contribution-ID, InReplyTo-Contribution-ID and Message-Expires headers will be stored. This will be stored until either the SIP session is terminated, in case no disposition notification is requested for this standalone message or until all requested reports have been received and relayed or the message would have expired shortly before whichever comes first.
- In step 3 a, the stored Conversation-ID, Contribution-ID, InReplyTo-Contribution-ID and a Contact header including the address of the IWF will be included as well.
- Before executing step 4 of the handling of a received SIP INVITE request, the IWF shall start listening for the incoming MSRP (Message Session Relay Protocol) session, that is it shall act as a “passive” endpoint according to [RFC6135]
- In the handling of a SIP ACK request, no specific action will be done
- In step 1 of the handling of a received MSRP SEND request, the IWF shall respond to each chunk received with an MSRP 200 OK response except for the last chunk

- In step 1 of the handling of a received MSRP SEND request, the IWF will store the CPIM headers for IMDN for RCS if they are present in the request. This will be stored until all requested reports have been received and relayed, or the message would have expired previously whichever comes first.
- In the handling of a response from the non-CPM Communication Service, the response shall be mapped to a response to the final MSRP chunk that was received
- As a clarification for RCS:
- In step 1 of the handling of a received SIP INVITE request, for SMS any text content type will be acceptable for RCS, for MMS any content type that can be at least partly interworked to MMS will be acceptable. In case parts of the content cannot be interworked to MMS those parts will be discarded when relaying the Standalone message.
- For RCS, the IWF shall not respond the final MSRP SEND request without a response from the non-CPM Communication Service as both SMS and MMS should provide appropriate responses in all circumstances
- In step 1 of the handling of a BYE request, if no complete message was received yet, the content received so far as well as any stored header information will be discarded.

### 6.1.3 CPM File Transfer Handling

Not applicable for RCS

### 6.1.4 CPM Session Invitation Handling

Following differences with [CPMIW]:

- In step 4 of the handling of a received SIP INVITE request also the InReplyTo-Contribution will be stored if available. The storage of these headers will be until the SIP session is terminated.
- In step 6, the generated response will include a Session-Expires header with the same value for the refresher parameter as the one in the received INVITE request as well as Supported and require headers that include ‘timer’. The session timer shall be handled by the IWF according to the data provided in this response.
- In step 6 a of the handling of a received SIP INVITE request, also if available the stored Contribution-ID, Conversation-ID, InReplyTo-Contribution-ID headers will be included as well as a contact header allowing to route requests to the IWF.
- In Step 6 c of the handling of a received SIP INVITE request, for RCS the included address will be MSISDN (Mobile Station International ISDN Number) of the addressed SMS or MMS user encoded in either a TEL URI or a SIP URI with a user=phone parameter according to service provider policy as described in [RCS6.0]
- In step 6 d, the SMS IWF shall remove the any Multipurpose Internet Mail Extensions (MIME) types different from text and SMIL (Synchronized Multimedia Integration Language) from the accept-wrapped-types in case of a group session and from the accept-types in case of a 1-to-1 session. The MMS IWF shall do the same, but remove only the content that cannot be supported on the MM4 interface towards the MMS Relay (see section 6.3)
- In step 6 d, the IWF shall set the a=setup attribute to “passive”
- In step 6 d, the IWF will start listening for an incoming MSRP session

- Step 7 of the handling of a received SIP INVITE request, is not applicable for RCS
- No specific actions will be done on the receipt of a SIP ACK request. As the IWF will negotiate to be the “passive” endpoint for establishing an MSRP session, the procedure for establishing an MSRP session is not applicable for RCS (including the NOTE in step 4). The IWF shall rather wait for the session to be established by the controlling or participating function and wait for a first, possibly empty MSRP SEND request from the CPM entity with which the session is established.
- As a clarification for RCS:
- In step 1 of the handling of a received SIP INVITE request for a 1-to-1 session, the IWF will also check whether there are other pending INVITE requests for 1-to-1 sessions that were received from the same initiator towards the same non-CPM user. If that is the case those dialogs shall be terminated by sending a SIP 486 Busy Here Response.
- In step 1 of the handling of a received SIP INVITE request, a request with multiple media streams or with only a non-MSRP media stream, will not be acceptable for RCS. For the SMS IWF a MSRP media stream without text or SMIL mime types in accept-wrapped-types for a group session or accept-types for a 1-to-1 session will not be acceptable for RCS. For the MMS IWF this will be the case if those attributes do not contain any mime types that can be interworked to MMS.
- In step 5 of the handling of a received SIP INVITE request, the handling for RCS will depend on service provider policy unless a Session-Replaces header was included in the INVITE request. In that case policy will be to go directly to Step 6. Otherwise the IWF could also proceed with step 8 of the handling of a received SIP INVITE request, which will be the default behaviour.
- In step 8 c of the handling of a received SIP INVITE request, a 603 “Decline” response will be sent in case the non-CPM user or client declined the invitation
- If the INVITE request contains a Subject header, it will be included in the request created in step8 a
- Before step 8 b a SIP 180 Ringing Response shall be sent to the INVITE request
- In step 8 c, if any other response is received (e.g. the message has been stored), it will be ignored, leading to a session time out.
- When interworking sessions for RCS, the IWF can respond with a SIP 408 response. In case a response is received to the request sent in step 8 b afterwards, as for any other unknown session, a notification will be sent to the SMS user informing him that it’s not possible to join the session any longer
- When a new INVITE request is received for a 1-to-1 session from the initiator towards a non-CPM user that has accepted an earlier INVITE request from that initiator, but for which the session for that earlier request was not fully established yet, (that is no ACK request has been received yet) any subject header contained in the new INVITE request will be sent to the non-CPM user. Then first a SIP 180 response will be sent to the new INVITE request, followed by a SIP 600 response to terminate the transaction.
- When a new INVITE request is received for a 1-to-1 session from the initiator towards a non-CPM user (for whom there is an existing, fully established session with that initiator already) any subject header contained in the new INVITE request will be sent to the non-CPM user. Then first a SIP 180 response will be sent to the new INVITE

request, followed by a SIP 200 OK response to accept the new INVITE request. Once the session is fully established, the IWF shall send a BYE request to terminate the earlier session. Any messages received from the non-CPM user will be sent in the new session from then on.

### 6.1.5 CPM Session Modification Handling

Not applicable for RCS. Subsection 6.1.5.1 is though.

#### 6.1.5.1 CPM Session Media Handling

Following differences with [CPMIW]:

- In step 1 when receiving media via the CPM Session, the case for e-mail as non-CPM communication services is not applicable for RCS
- In step 1 when receiving media via a CPM Session, the case for other services as non-CPM communication services is not applicable for RCS
- In step 1 when receiving media from the non-CPM communication service, the case for e-mail as non-CPM communication services is not applicable for RCS.
- In step 1 when receiving media from the non-CPM communication service, the case for other services as non-CPM communication services is not applicable for RCS

As a clarification for RCS:

- For RCS the reception of media from the non-CPM communication service will be positively acknowledged when an MSRP 200 OK response is received to the last chunk of the message. In case of an MSRP error or termination of the session prior to that, a negative acknowledgement will be sent.
- When receiving media in a 1-to-1 session, the CPIM From and To headers should be ignored
- When receiving media in a group session, for a message (i.e. not a delivery or display notification) the CPIM To header should be ignored. The message will always have been sent to the whole group
- When sending media in a 1-to-1 session, the CPIM From and To Headers should be set to “sip:anonymous@anonymous.invalid”.
- When sending media in a group session, the CPIM To Header should be set to “sip:anonymous@anonymous.invalid”.

### 6.1.6 CPM Session Leaving

#### 6.1.6.1 CPM Initiated

Following differences with [CPMIW]:

- In step 3, the case the case for e-mail as non-CPM communication services is not applicable for RCS

#### 6.1.6.2 Non-CPM Initiated

No differences with [CPMIW].

### 6.1.7 Participant Information Handling

Following differences with [CPMIW]:

- In step 1 when subscribing to participant information, for RCS the included address will be MSISDN of the addressed non-CPM user encoded in either a TEL URI or a SIP URI with a user=phone parameter according to service provider policy as described in [RCS6.0]
- Step 2 when receiving a NOTIFY request is not applicable for RCS. The IWF shall always be able to handle the provided participant information
- In step 3 when receiving a NOTIFY request, the case for MMS and e-mail as non-CPM communication services is not applicable for RCS
- After step 4 when receiving a NOTIFY request, a 200 OK response will be sent to acknowledge the receiving of the NOTIFY
- When receiving a response from the non-CPM Communication Service, the case for MMS and e-mail as non-CPM communication services is not applicable for RCS

As a clarification for RCS:

- The IWF shall monitor the expiry of the subscription and send re-SUBSCRIBE requests to refresh it when necessary. The NOTIFY requests received as a consequence of those will not be relayed to the non-CPM service, but will be acknowledged with a 200 OK response. In case a NOTIFY includes a Subscription-State header with the value of “terminated”, the dialog will be terminated and no further re-SUBSCRIBE requests will be sent

## 6.2 Interworking with SMS

Following difference with [CPMIW]: For the architecture figure 1, the SMSC can either be a SMSC or a SMPP GW. If a SMPP GW is used for routing purpose, the SMPP GW is equivalent to the SMSC in this diagram.

As a clarification for RCS:

- On 3GPP compliant networks, the IP_SM_GW interworking realisation can be used.
- The External Short Message Entity (ESME) as an interworking realization can be used on non-3GPP compliant networks. Unlike the IP (Internet Protocol) Short Message Gateway (IP-SM-GW) realization in a 3GPP compliant setup, the ESME interworking realization cannot be used for the receiving of mobile terminated SMS requests originated by a user in another network and is therefore of limited use in the interworking towards CPM Standalone Messages on such networks.

### 6.2.1 IP Short Message Gateway (IP-SM-GW) Realization

No differences with [CPMIW].

As a clarification for RCS:

- Further details on the applicable parts of [3GPP TS29.311] are given in [29.311ENDORSE].

### 6.2.2 External Short Message Entity Realization

No differences with [CPMIW].

#### 6.2.2.1 Interworking from CPM to SMS

No differences with [CPMIW].

#### 6.2.2.1.1 Pager Mode CPM Standalone Message to SMS Message

Following differences with [CPMIW]:

- The behaviour in sections 6.1.1 applies upon receipt of a Pager Mode CPM Standalone Message. Once the message is received it will be handled according to section 6.2.2.1.1 of [CPMIW].
- For source and destination address, the required E.164 number will be extracted out of the TEL URI or SIP URI with user=phone parameter (see [RCS6.0]).
- Priority will always be set to Normal
- Use of <interworking-notification> is optional.

#### 6.2.2.1.2 SMS Status Report to CPM Delivery Notification

Following differences with [CPMIW]:

- Before Step 1: if the Delivery report is for negative delivery, step 1 and 2 are skipped.
- "SIP: To", "CPIM: To" and Request-URI: the NOTE is not applicable for RCS. The headers will always include the MSISDN extracted from the Sender Address as a TEL URI or SIP URI with a user=phone parameter based on service provider policy as specified in [RCS6.0]
- The same Conversation-Id as in the original request and a newly generated Contribution-ID will be included.
- A User Agent Header set according to Appendix C of [CPMIW] shall be included
- Use of <interworking-notification> is optional.

#### 6.2.2.1.3 CPM Session Invitation to SMS Message

Following differences with [CPMIW]:

- When according to the Service Provider's policy it is not supposed to ask for the recipient's response, the SMS IWF may send a submit_sm request to the SM-SC containing a body informing the user that he has joined a session. In that case table 5 applies for the response generated in step 6 of section 6.1.4.
- If the acceptance is required per Service Provider's policy, while waiting for the recipient's response, the SMS IWF will release any MSISDN assigned to the session when the SIP INVITE request times out. In that case also a SIP 408 "Request Timeout" response will be returned on the SIP INVITE request
- In step 1 when receiving a deliver_sm request to a dedicated MSISDN that is used to assign to sessions, no action will be performed apart from acknowledging the reception of the deliver_sm in following cases:

  The MSISDN is not currently assigned to a session
  - The message relayed in the deliver_sm request originates from an MSISDN that was not invited for this session
  - The content of the message does not correspond to the key words specified by on service provider policy

- In case no action was taken towards the CPM domain after receiving an deliver_sm request, based on service provider policy, a message may be sent towards the sender of the SMS message indicating that the session to which the SMS user tried to join or send a message does no longer exist

- If a CANCEL request is received before the SMS user has answered, the MSISDN assigned to the session will be released. Following that, or when a response was received already, it shall be handled further according to [RFC3261].
- As the CPM Session invitation does not include a priority header and to be in line with SMS, Priority will always be set to “Normal”
- validity_period will always be set according to the Service Provider’s policy since the SIP INVITE request does not contain an Expires header
- The body of the 200 OK will contain the SDP as described in section 6.1.4

As a clarification for RCS:

- For RCS service provider policy will be to notify the SMS user that the session is terminated

#### 6.2.2.1.4 CPM Session Leaving Request to SMS Message

Following difference with [CPMIW]: As the CPM Session Leaving request does not include a priority header, Priority will always be set according to Service Provider Policy

#### 6.2.2.1.5 CPM Chat Message to SMS Message

Following differences with [CPMIW]:

- In step 1 when receiving an MSRP SEND request, all but the last chunk of the message will be responded to with a MSRP 200 Response
- In step 1 when receiving an MSRP SEND request, as soon as the SMS IWF determines that the size of the message does not allow the message to be sent to the SM-SC even in concatenated messages it will discard the contents received so far and reject all chunks of the message to which no response was sent yet with an MSRP 413 Response
- The described handling of a deliver_sm as a status report is not applicable for RCS as notifications will be generated according to the procedures in [RCS6.0]

As a clarification for RCS:

- Content: the CPIM header From will always be present, but should, as stated in section 6.1.5.1, be ignored in a 1-to-1 session. In that case the CPM user’s identity should be obtained from the SIP P-Asserted-Identity and From headers used in the INVITE.

#### 6.2.2.1.6 Participant Information to SMS Message Procedures and Parameters mapping

Following differences with [CPMIW]:

- The handling as described in section 6.1.7 of [CPMIW] and this document is applicable as well

As a clarification for RCS:

- For participants that are identified by a TEL URI or a SIP URI with a “user=phone” parameter, the participant will be identified with his MSISDN rather than a URI in the body
- If a Display Name is available for a participant, that information will be included in the body as well

#### 6.2.2.2 SMS to CPM

No differences with [CPMIW].

##### 6.2.2.2.1 SMS Message to Pager Mode CPM Standalone Message

Following differences with [CPMIW]:

- In case the SMS Sender is not identified by an E.164 based number steps 1-3 are skipped and a deliver_sm_resp response is sent with a command_status of 0x65
- Also the clarifications given in section 7.2.1 of [CPMCONVENDORSE] have to be taken into account in step 2
- P-asserted-Identity: For RCS, the received source address will always be converted into a TEL URI or SIP URI with a user=phone parameter depending on service provider policy as specified in [RCS6.0]. A SIP URI will not be used, even if available.
- To and Request-URI: For RCS, the received destination address will always be converted into a TEL URI or SIP URI with a user=phone parameter depending on service provider policy as specified in [RCS6.0]. A SIP URI will not be used, even if available.

Priority will be ignored

As a clarification for RCS:

- Body: the content of the SMS message will be wrapped in a CPIM wrapper as specified in section 7.2.1.3 of [CPMCONVFUNC] and [CPMCONVENDORSE]

##### 6.2.2.2.2 SMS Message to CPM Chat Message

Following differences with [CPMIW]:

- Section 6.1.5.1 of [CPMIW] is also applicable to this case, including the changes and clarifications to that section described in the current document
- Regarding note 1: When the SMS message is received for a MSISDN dedicated to a session that is not assigned to a session or to a session in which the sender is not a participant, the message will be handled as a potential response to an invitation as described in section 6.2.2.1.3 of [CPMIW] and this document. The response returned on the deliver_sm request depends on Service Provider policy
- In case based on the above, the message was not interworked, based on service provider policy a message may be sent towards the sender of the SMS message indicating that the message could not be interworked
- If the deliver_sm request, contains content which according to service provider policy should be used by the SMS user to indicate his desire to leave the session, all further processing is skipped and section 6.2.2.2.4 is applied.
- To Path and From Path will be set by the IWF according to the values negotiated during session setup
- The CPIM Content Type will be set to text/plain

As a clarification for RCS:

- In step 1b only a Failure Report will be requested. The value of the received MSRP responses will determine the command_status returned in the deliver_sm_resp

Imdn.DateTime is never set

#### 6.2.2.2.3 SMS Message to Large Message Mode CPM Standalone Message

Following differences with [CPMIW]:

- In case the SMS Sender is not identified by an E.164 based number steps 1-4 are skipped and a deliver_sm_resp response is sent with a command_status of 0x65
- Also the clarifications given in section 7.2.1.2 of [CPMCONVENDORSE] have to be taken into account in step 2
- To and Request-URI: For RCS, the received destination address will always be converted into a TEL URI or SIP URI with a user=phone parameter depending on service provider policy as specified in [RCS6.0]. A SIP URI will not be used, even if available.
- P-asserted-Identity: For RCS, the source address will always be converted into a TEL URI or SIP URI with a user=phone parameter depending on service provider policy as specified in [RCS6.0]. A SIP URI will not be used, even if available.
- An Expires header will not be included. A Message-Expires header will be used instead.

#### 6.2.2.2.4 SMS Message to CPM Session leaving request

Following differences with [CPMIW]:

- Section 6.1.6.2 of [CPMIW] and this document applies as well
- The Media Plane resources shall only be released when a response to the SIP BYE request is received.

### 6.2.3 Unsuccessful SMS delivery

No differences with [CPMIW].

#### 6.2.3.1 Alert procedure when UE is available for SMS

No differences with [CPMIW].

#### 6.2.3.2 CPM Interworking Events handling

No differences with [CPMIW].

### 6.2.4 Successful SMS delivery

No differences with [CPMIW].

## 6.3 Interworking with MMS

No differences with [CPMIW].

As a clarification for RCS:

- CPM Standalone messages containing only content which isn't supported on the interface towards the MMS-C (MMS-Centre) natively or, if available, after applying transcoding will be rejected
- CPM Standalone messages (for which at least part of the content can be supported natively on the interface towards the MMS-C) if available, after applying transcoding, will be accepted. Content which isn't supported will not be included in the resulting MMS message

- If the supported content from a CPM Standalone message is larger than the maximum message size allowed on the interface towards the MMS-C, even after transcoding, the CPM Message will be rejected

### 6.3.1 MM4 Realization

No differences with [CPMIW].

#### 6.3.1.1 Interworking from CPM to MMS

Following differences with [CPMIW]:

- For RCS in order not to alter the MMS NNI, the IWF shall not determine the address of the recipient's MMS Relay/Server (MMS R/S). It shall rather send the request to the MMS Relay in the own network.
- The handling for CPM File Transfers is not applicable for RCS.

##### 6.3.1.1.1 Pager Mode CPM Standalone Message to MMS Message

Following differences with [CPMIW]:

- Before step 1, the IWF shall verify whether at least part of the content of the message conforms or can be transcoded to conform to the possible limitations on the MM4 interface towards the MMS-C (see clarifications in section 6.3 of this document)
- In step 1 the address determined will be the one of the MMS Relays in the home network
- Recipient(s) address: the case of a message sent to a CPM pre-defined group is not applicable for RCS
- The NOTE on privacy for the Sender Address is not applicable for RCS
- Sender visibility is not applicable for RCS
- Priority will be set to Normal
- RCS optionally allows to use the <interworking-notification>.

As a clarification for RCS:

- The handling of the Pager Mode CPM Standalone Message Request and its Response will also take into account the details given in section 6.1.1 of [CPMIW] and this document
- For the "Mail From:" the MMS IWF will extract the E.164 number out of the TEL URI or SIP URI with user=phone parameter included in the P-Asserted-Identity (see [RCS6.0])
- For the "RCPT To:" the MMS IWF will extract the E.164 number out of the TEL URI or SIP URI with user=phone parameter included in the Request-URI (see [RCS6.0])
- Recipient(s) address: only those recipients whose address can be converted to a E.164 address will be included

##### 6.3.1.1.2 Large Message Mode CPM Standalone Message to MMS Message

Following differences with [CPMIW]:

- When handling the INVITE request, the IWF shall, based on the received SDP (Session Description Protocol), verify whether at least part of the content of the message conforms or can be transcoded to conform to the possible limitations on the

MM4 interface towards the MMS-C (see clarifications in chapter 6.3). If not, the INVITE request will be rejected.

- In step 1, an MSRP 200 OK response will be sent for all but the last chunk
- In step 2 the address determined will be the one of the MMS Relays in the home network
- In Step 5: based on the MM4 acknowledgement that was received the last chunk will be acknowledged. In case a positive MM4 acknowledgement was received, a MSRP 200 response will be sent. Otherwise, a MSRP 413 response is sent. A negative MSRP delivery report will never be sent.
- Recipient(s) address: the case of a message sent to a CPM pre-defined group is not applicable for RCS
- Priority will be set to Normal
- The NOTE on privacy for the Sender Address is not applicable for RCS
- Use of <interworking-notification> is optional.
- Sender visibility is not applicable for RCS

As a clarification for RCS:

- The handling of the Large Message Mode CPM Standalone Message Request and its Responses will also take into account the details given in section 6.1.2 of [CPMIW] and this document
- When handling the INVITE request, any non-supported MIME types will remain included in the SDP provided in the 200 OK response. Unsupported content will be discarded once the message has been received completely
- For the “Mail From:” the MMS IWF will extract the E.164 number out of the TEL URI or SIP URI with user=phone parameter included in the P-Asserted-Identity (see [RCS6.0])
- For the “RCPT To:” the MMS IWF will extract the E.164 number out of the TEL URI or SIP URI with user=phone parameter included in the Request-URI (see [RCS6.0])
- Recipient(s) address: only those recipients whose address can be converted to a E.164 address will be included
- Acknowledgement Request: this will be set for RCS

#### 6.3.1.1.3 MMS Delivery Report to CPM Disposition Notification

Following differences with [CPMIW]:

- Before Step 1: if the original request required only a disposition notification for positive delivery and the Delivery report is for negative delivery or vice versa, step 1 and 2 are skipped.
- For the P-Asserted-Identity, From: For RCS always either the TEL URI, as stated in [CPMIW], or a SIP URI with a user=phone parameter will be included depending on service provider policy as specified in [RCS6.0]. Even if a regular SIP URI (that is without a user=phone parameter) would be available, it will not be included. This will towards the RCS clients result in the same behaviour as described in the addressing section in [RCS6.0]
- “CPIM: To” will always be set according to the “Sender Address”
- “SIP: To”, “CPIM: To” and Request-URI: the NOTE is not applicable for RCS. The headers will always include the MSISDN extracted from the Sender Address as a

TEL URI or SIP URI with a user=phone parameter based on service provider policy as specified in [RCS6.0]

- The same Conversation-Id as in the original request and a newly generated Contribution-ID will be included.
- Use of <interworking-notification> is optional.

#### 6.3.1.1.4 MMS Read Reply to CPM Standalone Message Disposition Notification

Following differences with [CPMIW]:

- For the P-Asserted-Identity, From: For RCS always either the TEL URI, as stated in [CPMIW], or a SIP URI with a user=phone parameter will be included depending on service provider policy as specified in [RCS6.0]. Even if a regular SIP URI (that is without a user=phone parameter) would be available, it will not be included. This will towards the RCS clients result in the same behaviour as described in the addressing section in [RCS6.0]
- "CPIM: To" will always be set according to the "Sender Address"
- "SIP: To", "CPIM: To" and Request-URI: the NOTE is not applicable for RCS. The headers will always include the MSISDN extracted from the Sender Address as a TEL URI or SIP URI with a user=phone parameter based on service provider policy as specified in [RCS6.0]
- A Conversation-Id header with the same value as in the original request and a Contribution-ID header with a newly generated value will be included.

#### 6.3.1.1.5 CPM File Transfer to MMS Message

Not applicable for RCS

#### 6.3.1.1.6 CPM Session Interworking

##### 6.3.1.1.6.1 CPM Session Invitation to MMS Message

Following differences with [CPMIW]:

- The MMS IWF shall complete the SIP signalling on behalf of the MMS user as described in section 6.1.4 of [CPMIW] and this document rather than as described in section 6.1.5.1
- In step 1 when it is supposed to ask for the MMS user's response, in order not to alter the MMS NNI, the IWF shall not determine the address of the recipient's MMS Relay/Server. It shall rather send the request to the MMS Relay in the own network.
- In step 2 when it is supposed to ask for the MMS user's response, the MMS IWF will release any MSISDN assigned to the session when the SIP INVITE request times out. In that case also a SIP 408 "Request Timeout" response will be returned on the SIP INVITE request
- In step 4 when it is supposed to ask for the MMS user's response, in order not to alter the MMS NNI, the IWF shall not send the request to the recipient's MMS Relay/Server. It shall rather send it to the MMS Relay in the own network.
- In step 1 when receiving an MM4_forward.REQ to a dedicated MSISDN that is used to assign to sessions, the MM4_forward.REQ will only be acknowledged if requested without performing any action in the CPM domain in following cases:
- The MSISDN is not currently assigned to a session

- The message relayed in the MM4 Forward request originates from an MSISDN that was not invited for this session
- The content of the message does not correspond to a possible answer to a session invitation based on service provider policy if the MM4_forward.REQ addresses multiple recipients
- In case no action was taken towards the CPM domain after receiving an MM4_forward.REQ, based on service provider policy a message may be sent towards the sender of the MMS message indicating that the session to which the MMS user tried to join or send a message does no longer exist
- If the MM4_forward.REQ addresses multiple recipients and according to the service provider policy, interworking should be done, any address in the Simple Mail Transfer Protocol (SMTP) RCPT TO header different from an MSISDN that can be assigned to a session will be ignored. If the request is sent to multiple MSISDNs that can be assigned to a session, all but the first MSISDN that can be assigned to a session will be ignored.
- In step 2 when receiving an MM4_forward.REQ, Table 27 will also apply in case the session is automatically accepted on behalf of the MMS user, so if step 6 of section 6.1.4 is applicable directly.
- Step 4 when receiving an MM4_forward.REQ is only applicable in case an acknowledgement was requested in the MM4_forward.REQ
- After step 4 when receiving an MM4_forward.REQ a delivery and/or read report will be sent in case one was requested and an ACK request is received to a response to the SIP INVITE request, which was sent due to the processing of the MM4_forward.REQ. No Read or delivery reports will be sent otherwise.
- MMS Messages received are handled as described in section 6.3.1.2.5
- If a CANCEL request is received before the MMS user has answered, the MSISDN assigned to the session will be released. Following that, or when a response was received already, it shall be handled further according to [RFC3261].
- As the CPM Session invitation doesn't include a priority, Priority will always be set to "Normal"
- The body of the 200 OK will contain the SDP as described in section 6.1.4

As a clarification for RCS:

- For RCS service provider policy will be to notify the MMS user that the session is terminated

#### 6.3.1.1.6.2 CPM Chat Message to MMS Message

Following differences with [CPMIW]:

- In step 1 when receiving an MSRP SEND request, all but the last chunk of the message will be responded to with a MSRP 200 Response
- In step 1 when receiving an MSRP SEND request, as soon as the MMS IWF determines that the size of the message does not allow the message to be sent to the MMS Relay over the MM4 interface it will discard the contents received so far and reject all chunks of the message to which no response was sent yet with an MSRP 413 Response

- Content type is set according to the actual content which is sent rather than to something based on a service provide policy, although some content could be added based on service provider policy
- Sender visibility is not set for RCS

As a clarification for RCS:

- Content: the CPIM header From will always be present, but should, as stated in section 6.1.5.1, be ignored in a 1-to-1 session. In that case the CPM user's identity should be obtained from the SIP P-Asserted-Identity and From headers used in the INVITE.

#### 6.3.1.1.6.3 MMS Message to CPM Chat Message

Following differences with [CPMIW]:

- Section 6.1.5.1 of [CPMIW] is also applicable to this case, including the changes and clarifications to that section described in the current document
- When the content of the MMS message cannot be supported in the session based on the SDP negotiation during its set up, the message will be discarded and a negative MM4_forward.RES will be sent in case a response was requested.
- If the content of the MMS message is sent to multiple recipients (detected either through multiple addresses being present in the Recipient(s) Address in the MM4_Forward.REQ or even in the SMTP RCPT To header) among which there is one or more MSISDN that can be assigned to a session, interworking to CPM will be dependent on service provider policy. If no interworking is to be done, the message will be discarded and a positive MM4_forward.RES will be sent in case a response was requested.
- If the content of the MMS message is sent to multiple recipients among which there is one or more MSISDN that can be assigned to a session and service provider policy indicates that interworking should be done, all addresses but the first MSISDN that can be dedicated to a session in the RCPT TO, will be ignored. In that case the message will be processed further, as if only that MSISDN that can be dedicated to a session had been included.
- When the MMS message is received for a MSISDN dedicated to a session that is not assigned to a session or to a session in which the sender is not a participant, the message will be handled as a potential response to an invitation as described in section 6.3.1.1.6.1 of [CPMIW] and this document.
- In case based on the above, the message was not interworked, based on service provider policy a message may be sent towards the sender of the MMS message indicating that the message could not be interworked
- When the content of the MMS message cannot be supported in the session based on the SDP negotiation during its set up, the message will be discarded and a negative MM4_forward.RES will be sent in case a response was requested.
- If the MM4_forward.REQ, contains content which according to service provider policy should be used by the MMS user to indicate his desire to leave the session, all further processing is skipped and section 6.3.1.1.6.5 is applied.
- For RCS step 1 a is only applicable in case of a group session

- In case a response was requested to the MM4_forward.REQ request, a positive MM4_forward.RES is sent in all cases
- To Path and From Path will be set by the IWF according to the values negotiated during session setup
- Content Type is set by the IWF to message/CPIM. The CPIM Content Type will be set based on the type of the actual content
- Success-Report is never requested for RCS. A delivery report will be sent in case it is requested based on the answer to the last MSRP chunk. If for all chunks a 200 Response was received a positive delivery report will be sent. Otherwise a failure in the delivery will be indicated
- Failure Report will always be set to “Yes”. In case no acknowledgement was requested on the MM4_forward.REQ request, the MSRP responses will be ignored. Otherwise a positive response will only be sent in case of a no MSRP errors were received.
- For the CPIM header From, if Sender visibility is set to Hide, the message will be discarded and a negative response will be sent to the MM4_forward.REQ if a response was requested. In a 1-to-1 session, CPIM From header itself will always be set to “sip:anonymous@anonymous.invalid” though. It will be based on the sender’s identity only in an ad-hoc group session.
- Body: the content received in the MMS message is wrapped in a CPIM body

As a clarification for RCS:

- In step 1b only a Failure Report will be requested
- Requests for Read reports are ignored
- Imdn.DateTime is never set

#### 6.3.1.1.6.4 CPM-Originated Session Leaving request Handling

Following differences with [CPMIW]:

- Section 6.1.6.1 of [CPMIW] and this document applies, meaning that the MMS user will always be notified
- Content/Type is set to text/plain.

As a clarification for RCS:

- For RCS, Privacy will never be requested. Sender visibility will thus never be set.
- For RCS, Acknowledgement Request is not set

#### 6.3.1.1.6.5 MMS Originated Session Leaving request Handling

Following differences with [CPMIW]:

- In case an MM4_forward.REQ is received containing content indicating that the MMS user wished to leave the session, section 6.1.6.2 of [CPMIW] and this document applies
- In case the MM4_forward.REQ indicated that an acknowledgement should be sent to the request and/or that a delivery report is requested, the MMS IWF will respectively send an MM4_forward.RES indicating positive reception as soon as the BYE request is sent and indicate positive delivery when a response to the BYE request is received.

#### 6.3.1.1.6.6 Sending Participant Information to MMS User

Following differences with [CPMIW]:

- For RCS, the IWF will subscribe to participant information as described in section 6.1.7 of [CPMIW] and this document and thus not as in section 7.3.10.1 of [CPMCONVFUNC]
- For RCS, the IWF will handle the NOTIFY request as described in section 6.1.7 of [CPMIW] and this document

As a clarification for RCS:

- For participants that are identified by a TEL URI or a SIP URI with a “user=phone” parameter, the participant will be identified with his MSISDN rather than a URI in the body
- If a Display Name is available for a participant, that information will be included in the body as well

#### 6.3.1.1.7 Successful MMS Transmission

No differences with [CPMIW].

### 6.3.1.2 Interworking from MMS to CPM

Following differences with [CPMIW]:

- The case for receiving an MMS Message within the scope of the session is not applicable for RCS, neither as a message nor as a session leaving request

#### 6.3.1.2.1 MMS to Pager Mode CPM Standalone Message

Following differences with [CPMIW]:

- In case the MMS Sender requested Anonymity (that is if Sender visibility is set to Hide) steps 1-3 are skipped and the response is sent in step 4 will have a Request-Status of “Error-unsupported-message”
- In case a delivery report or a read report is requested, the Message-ID received in the MM4_forward.REQ will be stored for every recipient in combination with the CPM Message IDs until the message expires or the requested report(s) have been sent
- Step 3 is not applicable for RCS: step 4 will be executed without waiting for a SIP response. That is the SIP response will be ignored and Delivery reports will be used to notify the sender of any issues in the delivery if a report was requested. The Status code in the MM4_forward.RES will be “OK” unless the IWF detects an error in the message. This handling avoids issues in case the IWF needs to deliver the request to multiple recipients as only a single MM4_forward.RES can be generated.
- Also the clarifications given in section 7.2.1.1 of [CPMCONVENDORSE] have to be taken into account in step 1
- Recipient-list-history: e-mail addresses will not be included in the recipient-list-history of the CPM Pager Mode request
- Recipient-list-history: NOTE 1 is not applicable for RCS. The MSISDNs of the applicable recipients are inserted after conversion into a TEL URI or SIP URI with a user=phone parameter depending on service provider policy as specified in [RCS6.0]
- P-Asserted-Identity and From: the statement on anonymity is not applicable for RCS

- P-asserted-Identity: For RCS, The received MSISDNs will always be converted into a TEL URI or SIP URI with a user=phone parameter depending on service provider policy as specified in [RCS6.0]
- Priority will be ignored
- Privacy header is not applicable for RCS

As a clarification for RCS:

- IMDN. Disposition-Notification is a CPIM header
- In case a disposition notification is requested, the IWF will include an IMDN.Record-Route CPIM header including its own address
- Body: the content of the MMS message will be wrapped in a CPIM wrapper as specified in section 7.2.1.3 of [CPMCONVFUNC] and [CPMCONVENDORSE]

#### 6.3.1.2.2 MMS Message to a Large Message Mode CPM Standalone Message

Following differences with [CPMIW]:

- In case the MMS Sender requested Anonymity (that is if sender visibility is set to Hide) steps 1-3 are skipped and the response is sent in step 4 will have a Request-Status of “Error-unsupported-message”
- Also the clarifications given in section 7.2.1.2 of [CPMCONVENDORSE] have to be taken into account in step 1
- Once the MMS message has been completely received, an MM4_forward.RES will be generated with a status code of “OK” unless errors were found in the message. Tables 37 and 38 of [CPMIW] will be used to map respectively the SMTP and the MM4_forward.RES details.
- In case a delivery report or a read report is requested, the Message-ID received in the MM4_forward.REQ will be stored for every recipient in combination with the CPM Message IDs until the message expires or the requested report(s) have been sent
- In step 1: the accept-wrapped-types attribute in the SDP will be set according to the content types included in the received MMS message
- In step 2: if no 200 OK response is received, an ACK request will be sent to the CPM user and step 3 will be skipped.
- Step 2: in case a BYE request is received before all MSRP SEND requests have been acknowledged, a 200 OK response will be sent to the BYE request and the media plane will be released. Step 3 will be skipped
- Step 2 in case the TCP (Transmission Control Protocol) connection for MSRP is lost or an error response is received on one of the MSRP requests, no further data will be sent and step 3 will be initiated.
- In Step 3 a, once a response has been received to the BYE request, the media plane resources will be released
- Step 3 b is not applicable for RCS
- Request-URI and To: will be set to either the TEL URI or the SIP URI with a user=phone parameter corresponding to the received MSISDN based on service provider policy as specified in [RCS6.0]
- Recipient-list-history: e-mail addresses will not be included in the recipient-list-history of the CPM Pager Mode request

- Recipient-list-history: NOTE 1 is not applicable for RCS. The MSISDNs of the applicable recipients are inserted after conversion to an applicable format as defined in the addressing section of the [RCS6.0]
- P-Asserted-Identity and From: the statement on anonymity is not applicable for RCS
- P-asserted-Identity: For RCS, the IWF will follow the addressing section of the [RCS6.0]
- Priority will be ignored
- Privacy header is not applicable for RCS
- MSRP SEND Content-Type: will be set to Message/CPIM
- MSRP SEND IMDN.Disposition-Notification: will also include a value of “display” when the MM4_forward.REQ included a request for a read report

As a clarification for RCS:

- imdn.Disposition-Notification is a CPIM header
- In case a disposition notification is requested, the IWF will include an IMDN.Record-Route CPIM header including its own address
- Body: the content of the MMS message will be wrapped in a CPIM wrapper as specified in section 7.2.1.3 of [CPMCONVFUNC] and [CPMCONVENDORSE] before chunking

#### 6.3.1.2.3 CPM Delivery Notification to MMS MM4_delivery_report

Following differences with [CPMIW]:

- In Step 3 the 200 “OK” response is send as defined in [RFC5438] rather than in [RFC3261]
- Sender Address: The NOTE is not applicable for RCS. Anonymizing identity is not supported at all.

As a clarification for RCS:

- RCPT To: will be set to the MSISDN corresponding to the TEL URI or SIP URI with a user=phone parameter in the To header (see [RCS6.0])
- Message-ID will be retrieved from the value that was stored for the original request (see chapters 6.3.1.2.1 and 6.3.1.2.2)
- Recipient Address will be set to the MSISDN corresponding to the TEL URI or SIP URI with a user=phone parameter in the To header (see [RCS6.0])
- Sender Address will be set to the MSISDN corresponding to the TEL URI or SIP URI with a user=phone parameter in the P-Asserted-Identity header (see [RCS6.0])
- Acknowledgement Request will not be set for RCS

#### 6.3.1.2.4 CPM Read Report to MMS MM4 Read Reply

Following differences with [CPMIW]:

- Sender Address: The NOTE is not applicable for RCS. Anonymizing identity is not supported at all.
- Message-ID will be set to the value the value that was stored for the original request (see chapters 6.3.1.2.1 and 6.3.1.2.2)

As a clarification for RCS:

- If a read report is received for a message that would have expired already, it won't be delivered
- RCPT To: will be set to the MSISDN corresponding to the TEL URI or SIP URI with a user=phone parameter in the To header (see [RCS6.0])
- Recipient Address will be set to the MSISDN corresponding to the TEL URI or SIP URI with a user=phone parameter in the To header (see [RCS6.0])
- Sender Address will be set to the MSISDN corresponding to the TEL URI or SIP URI with a user=phone parameter in the P-Asserted-Identity header (see [RCS6.0])
- Acknowledgement Request will not be set for RCS

#### 6.3.1.2.5 MMS Message to CPM Chat Message

Not applicable for RCS, section 6.3.1.1.6.3 is followed

### 6.4 Interworking with E-Mail

Not applicable for RCS

### 6.5 Interworking with OMA SIMPLE IM

No differences with [CPMIW].

#### 6.5.1 NNI Interworking

No differences with [CPMIW].

### 6.6 Interworking Security

No differences with [CPMIW].

## Appendix A. Change History

Appendix not relevant for RCS: as with the other RCS documents the history table is at the end of the document.

## Appendix B. Static Conformance Requirements

Appendix not relevant for RCS

## Appendix C. Release Version in User-Agent and Server Headers

No differences with [CPMIW].

## C.1. VERSION 1.0

Not applicable for this version of RCS.

## C.2. VERSION 2.0

Not applicable for this version of RCS.

## C.3. VERSION 2.1

No differences with [CPMIW].

# Appendix D. Non-CPM Communication Service Identifier

No differences with [CPMIW].

# Appendix E. Mapping Of CPM Standalone Message and E-Mail Identities

Appendix not relevant for RCS

# Appendix F. Calculation of the Message-Correlator for SMS

Appendix of [CPMIW] not applicable for RCS:

- The procedures to be applied are described in section 4.1.4.4 of [RCS6.0].

Following clarifications for RCS:

- Additional procedures to be applied as described in section 4.1.4.3 and 4.1.4.5 of [RCS6.0].

# Document Management

## Document History

| Version | Date | Brief Description of Change | Approval Authority | Editor / Company |
|---|---|---|---|---|
| 1.0 | 13 Aug 2012 | First version for RCS 5.1 based on RCS 5.0 Document<br>Approved by DAG and PSMC | PSMC | Tom Van Pelt / GSMA |
| 1.0 | 26 Sep 2012 | Added RCC.10 number | | Tom Van Pelt / GSMA |
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## Other Information

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