Rich Communication Suite Release 3 Endorsement of OMA SIP/SIMPLE IM 1.0

Version 2.0

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1 Introduction

1.1 Overview

This document describes which sections of the OMA SIMPLE IM specification (see [OMASIMPLEIM]) are supported by RCS release 3.

For general overview of RCS including high-level requirements regarding messaging, please see document RCS Functional Description [FUNCDESC].

For details on how this fits technically in this RCS release please see document RCS Technical Realization [TECHREAL].

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

1.2 Scope

This document provides the details of the IM technology used in this release of RCS.

1.3 Definition of Terms

Term	Description
RCS	Rich Communication Suite

1.4 Document Cross-References

Document	Name
[IR.79]	Image Share Interoperability Specification http://www.gsmworld.com/documents/ireg/ir79_11.pdf
[FUNCDESC]	RCS Functional Description https://infocentre.gsm.org/cgi-bin/grp_details.cgi?RD&group
[TECHREAL]	Rich Communication Suite: Technical Realization (Stage 2/3) https://infocentre.gsm.org/cgi-bin/grp_details.cgi?RD&group
[OMASIMPLEIM]	Instant Messaging using SIMPLE, Open Mobile Alliance Ltd. OMA-TS-SIMPLE_IM-V1_0-20080903-C http://member.openmobilealliance.org/ftp/public_documents/COM/IM/Permanent_documents/OMA-TS-SIMPLE_IM-V1_0-20080903-C.zip
[IMCR090003]	OMA IM CR ““OMA-IM-2009- 0003 CR-IM-TS Subject header” http://member.openmobilealliance.org/ftp/public_documents/COM/IM/2009/OMA-IM-2009-0003-CR_IM_TS_Subject_header.zip Note: This approved CR is part of a newer update of [OMASIMPLEIM]. Since due to other changes endorsing a newer version might result in backward compatibility issues, the CR is endorsed directly.
[IMCR090009]	OMA IM CR ““OMA-IM-2009-0009-CR Chat Clarification on the Server Side”, http://member.openmobilealliance.org/ftp/public_documents/COM/IM/2009/OMA-IM-2009-0009-CR_Chat_Clarification_on_Server_side_.zip Note: This approved CR is part of a newer update of [OMASIMPLEIM]. Since due to other changes endorsing a newer version might result in backward compatibility issues, the CR is endorsed directly.
[IMCR090010]	OMA IM CR ““OMA-IM-2009-0010-CR Chat Clarification on the Client Side”, http://member.openmobilealliance.org/ftp/public_documents/COM/IM/200

Document	Name
	9/OMA-IM-2009-0010-CR_Chat_clarifications_on_client_side.zip Note: This approved CR is part of a newer update of [OMASIMPLEIM]. Since due to other changes endorsing a newer version might result in backward compatibility issues, the CR is endorsed directly.
[IMCR090011]	OMA IM CR ""OMA-IM-2009-0011-CR Send Request from IM client in IM Conference", http://member.openmobilealliance.org/ftp/public_documents/COM/IM/2009/OMA-IM-2009-0011- CR_Send_Request_from_IM_client_in_IM_Conference.zip Note: This approved CR is part of a newer update of [OMASIMPLEIM]. Since due to other changes endorsing a newer version might result in backward compatibility issues, the CR is endorsed directly.
[File_Transfer]	Session Description Protocol (SDP) Offer/Answer Mechanism to Enable File Transfer, IETF, November 2008 http://tools.ietf.org/id/draft-ietf-mmusic-file-transfer-mech-09.txt
[RFC3261]	SIP: Session Initiation Protocol, IETF, June 2002 http://www.rfc-editor.org/rfc/rfc3261.txt
[RFC3994]	Indication of Message Composition for Instant Messaging, IETF, January 2005 http://www.ietf.org/rfc/rfc3994.txt?number=3994
[RFC4145]	TCP-Based Media Transport in the Session Description Protocol (SDP), IETF, September 2005 http://www.ietf.org/rfc/rfc4145.txt?number=4145
[RFC4975]	The Message Session Relay Protocol (MSRP),IETF, September 2007 http://www.ietf.org/rfc/rfc4975.txt?number=4975
[RFC5366]	Conference Establishment using Request-contained lists in the Session Initiation Protocol (SIP), IETF, October 2008 http://www.ietf.org/rfc/rfc5366.txt?number=5366
[draft-ietf-simple-msrp-acm]	An Alternative Connection Model for the Message Session Relay Protocol, IETF, April 2010 http://tools.ietf.org/id/draft-ietf-simple-msrp-acm-08.txt
[draft-ietf-simple-msrp-sessmatch]	Session Matching Update for the Message Session Relay Protocol (MSRP), IETF, April 2010 http://tools.ietf.org/id/draft-ietf-simple-msrp-sessmatch-05.txt

2 References

See chapter 1.4.

3 Terminology and Conventions

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

4 Introduction

Note:
RCS Release 3 supports following modes of communication

- One-to-one session and Ad-hoc session mode messaging (chapter 4.3.1)
- Peer-to-peer IM Session (chapter 4.3.2)

RCS Release 3 does not support following modes of communication

- Pager Mode (chapter 4.2.1)
- Large Message Mode messaging (chapter 4.2.1)
- Group Messages (chapter 4.2.2)
- Deferred Messages (chapter 4.2.3)

- Predefined session mode messaging (chapter 4.3.1)

4.1 Version 1.0

No differences with [OMASIMPLEIM].

4.2 Pager Mode And Large Message Mode Messaging

4.2.1 General

Not applicable for RCS. Pager Mode and Large message Mode are reserved and can be used for an implementation of the SMS/MMS services for packet-only devices.

4.2.2 Group Messages

Not applicable for RCS.

4.2.3 Deferred Messages

Not applicable for RCS.

4.3 Session Mode Messaging

No differences with [OMASIMPLEIM].

4.3.1 Session Mode Messaging as an IM conference

Only one difference with [OMASIMPLEIM]: the statement referring to pre-defined groups is not applicable for RCS, as it does not support them.

4.3.2 Peer-to-Peer IM Session

No differences with [OMASIMPLEIM].

5 Common Procedures

5.1 Authenticated Originator's IM Address

No differences with [OMASIMPLEIM].

5.2 IM Service Registration

5.2.1 General

Registration will be done as described in [TECHREAL]. This means one small difference with [OMASIMPLEIM]: In step 2, the feature tags for the other RCS use cases will be included. A further difference is that in Step 2a, the inclusion of the feature-tags '+g.oma.sip-im.system-message' and '+g.oma.sip-im.large-message', is not applicable for RCS.

5.2.2 IM Service Registration and Re-Registration

No differences with [OMASIMPLEIM].

5.2.3 IM Service De-Registration

Only one difference with [OMASIMPLEIM]: in step 2 the feature tags "+g.oma.sip-im.system-message" and '+g.oma.sip-im.large-message' are not applicable for RCS.

5.2.4 IM Service Settings Client procedure

Not applicable for RCS

5.3 Getting Information on Client Status

No differences with [OMASIMPLEIM].

5.4 IM Server Sending System Message

Not applicable for RCS

5.5 Display Name

Not applicable for RCS

5.6 Warning Header

No differences with [OMASIMPLEIM].

5.7 Final Delivery Report

Not applicable for RCS

5.8 MSRP Connection Set Up

Only one difference with [OMASIMPLEIM]
In addition for RCS: the IM functional entities supporting MSRP SHOULD support [draft-ietf-simple-msrp-acm] and [draft-ietf-simple-msrp-sessmatch].

5.8.1 Negotiate Direction of the MSRP Connection Setup

Only one difference with [OMASIMPLEIM]:
An RCS client/server SHALL support [RFC4145] (instead of MAY)

As a clarification for RCS:

- Not receiving any setup attribute in the Session Invitation shall be interpreted as in [RFC4145]; the offerer is the active party and the receiving client shall either include a=setup:passive in the response, or not include any a=setup attribute at all in the response. Note that as per [RFC4145], not including a=setup:passive in the response is the same as including it, since that is the default value if it is not present in the response.
- With regards to the initiation of the TCP connection during session establishment in MSRP: If the offered session invitation includes a = setup:"actpass", then the offerer shall start listening to its own advertised port before sending the ACK to a response from the receiving client/server (the answerer) including a=setup:”active”
- With regards to the initiation of the TCP connection during session establishment in MSRP: the answerer, receiving client/server, that responds to the offerer with a=setup :”active”, shall initiate the TCP connection after receiving ACK from the sending client/server

5.8.2 Support of Application Level Gateway

Only one difference with [OMASIMPLEIM]
In addition for RCS: the IM functional entities supporting MSRP SHALL support [draft-ietf-simple-msrp-sessmatch] when receiving an incoming request.

6 Procedures at the IM Server

6.1 Participating IM Functions Procedures

6.1.1 Originating Participating Function

Only one difference with [OMASIMPLEIM]: the statement referring to the conversational history function is not applicable for RCS.

6.1.1.1 General

No differences with [OMASIMPLEIM] for the general sections and the handling of the response. For the handling of the request only step 1 (checking of authenticated originator’s address) applies.

6.1.1.2 IM Session

6.1.1.2.1 Determination of Session Handling

Only one difference with [OMASIMPLEIM]: Step 1 (checking of feature tag '+g.oma.sip-im.large-message') is not applicable for RCS.

6.1.1.2.2 Reception of an Initial SIP INVITE IM Session Request

Only one difference with [OMASIMPLEIM]: the section on history handling (step 7 of 200 "OK" response) is not applicable for RCS.
As a clarification for RCS: The IM Server shall transparently pass any received subject header into the outgoing SIP Invite request.

6.1.1.2.3 Void

No content in [OMASIMPLEIM].

6.1.1.2.4 IM Session Modification

Not Supported for RCS. A session modification request will be rejected.

6.1.1.2.5 SIP SUBSCRIBE Request

Only a small difference with [OMASIMPLEIM]: in the support for IM Groups needs to be removed from the Note.

6.1.1.2.6 SIP REFER Request

Steps 1 and 2 (Delete and History) are NOT supported by RCS. Step 3b is NOT supported by RCS: REFER with the Request URI set to a IM session identity and the method set to BYE. Step 3a is supported by RCS: REFER with the Request URI set to a IM session identity and no method or the INVITE method is specified.

6.1.1.2.7 SIP CANCEL Request

No differences with [OMASIMPLEIM].

6.1.1.2.8 SIP BYE Request from IM Client

Only one difference with [OMASIMPLEIM]: the paragraph on history handling is not applicable for RCS.

6.1.1.2.9 SIP Session Timer Expiry

Only one difference with [OMASIMPLEIM]: the paragraph on history handling is not applicable for RCS.

6.1.1.3 Pager Mode Messaging

Not applicable for RCS

6.1.1.4 Large Message Mode

Not applicable for RCS

6.1.1.5 IM Service Setting Procedure

Not applicable for RCS

6.1.2 Terminating Participating Function

Only one difference with [OMASIMPLEIM]: the statement on the Conversational History function is not applicable for RCS

6.1.2.1 General

The general sections are supported. Steps 1 to 5 are not supported.

6.1.2.2 IM Session

6.1.2.2.1 Determination of Session Handling

The only difference with [OMASIMPLEIM] is that step 1a is not supported.

6.1.2.2.2 Receiving request for IM Session

Only two differences with [OMASIMPLEIM]:

- Anonymity is not supported: step 3 when receiving a request and when receiving a 200 "Ok" responses are not applicable for RCS.
- The section on history handling (step 10 when receiving a 200 "Ok" response) is not applicable for RCS.

As a clarification for RCS: The IM Server shall transparently pass any received subject header into the outgoing SIP Invite request.

6.1.2.2.3 IM Session modification

Not applicable for RCS

6.1.2.2.4 SIP CANCEL Request

No differences with [OMASIMPLEIM].

6.1.2.2.5 SIP BYE request

Only 1 difference with [OMASIMPLEIM]: the paragraph on history handling is not applicable for RCS.

6.1.2.3 Pager mode Messaging

Not applicable for RCS

6.1.2.4 Large Message Mode

Not applicable for RCS

6.1.2.5 SIP Notify request

No differences with [OMASIMPLEIM].

6.1.2.6 Extended Group Advertisement

Not applicable for RCS

6.1.3 User Plane

Only 1 difference with [OMASIMPLEIM]: In the general section, Large Message is not applicable for RCS.

When the Participating Function remains in the media path, it SHOULD, depending on Local Server Policy[1], start forwarding each MSRP SEND request in either direction as soon as it has completely received the headers of the incoming MSRP SEND request. The

[1] Several policies can be available depending on Operator requirements: the specified behaviour is highly recommended when there are no screening requirements: it minimizes buffering delays on the Participating Function.

Participating Function shall thus forward the MSRP SEND request without waiting for it to be received completely.

6.1.4 Private Messages

Not applicable for RCS

7 IM Sessions

7.1 IM Client Procedures for IM Sessions

7.1.1 Originating Client Procedures

7.1.1.1 General

Only 2 differences with [OMASIMPLEIM]:

- Anonymity is not supported: step 5 including the NOTE and step 8 when generating an initial request is not applicable for RCS.
- The use of a display name is not supported: step 9 when generating an initial request is not applicable for RCS.

As a clarification for RCS: An RCS client shall include a Subject header set to the value provided by the RCS user in the IM Session invite.
Note: This is following the additional step 10 in the IM Client procedures introduced in [IMCR090003].

7.1.1.2 Establishment of an One-to-One IM session

No differences with [OMASIMPLEIM].

As a clarification for RCS: When a 200 OK response is received on an INVITE request from a user with whom a one-to-one IM session is established already, an RCS client will terminate the existing session by sending a SIP BYE request. This situation may happen when multiple INVITE requests have been sent to a user and more than one of these requests are answered with a 200 OK.

7.1.1.3 IM Client initiates an Ad-hoc IM Conference

Only one difference with [OMASIMPLEIM]:

- RCS refers to [RFC5366] instead of the [draft-URI-list] in both step 3 of the receiving a request from the user procedure and the NOTE in the receiving a 200 OK response procedure

As a clarification for usage of [RFC5366] in step 3:

- Only the mandatory parts of the URI-List are applicable for RCS
- RCS clients will not use the possibility to indicate that some contacts would be invited as “CC” or “BCC”, nor will they indicate that some contacts have to be anonymized.

7.1.1.4 IM Client initiates a Pre-Defined IM Conference

Not applicable for RCS

7.1.1.5 IM Client IM Session Modification

Not applicable for RCS

7.1.1.6 IM Client extends 1-to-1 IM Session to an Ad-hoc IM conference

In general no differences with [OMASIMPLEIM], but one clarification, see appendix L.

7.1.1.7 IM Client adding IM User(s) to an IM Conference Session

Only One difference with [OMASIMPLEIM]: the section on anonymity (step 6 when receiving a request from the IM user) including the NOTE1 is not applicable for RCS.

7.1.1.8 SIP Session refresh

No differences with [OMASIMPLEIM].

7.1.1.9 IM Client rejoins an IM Conference Session

No differences with [OMASIMPLEIM].

7.1.1.10 IM Client joins a Public Conference Session

Not applicable for RCS

7.1.1.11 IM Client subscription to the conference state event package

There are only two differences with [OMASIMPLEIM]:

- In step 2 the usage of an IM group identity is not applicable for RCS.
- Step 4 when receiving a SIP NOTIFY request (checking of the access policy) including the NOTE is not applicable for RCS.

7.1.1.12 IM Client leaving an IM Session

Only one difference with [OMASIMPLEIM]: the section on anonymity (step 3 when the participant wants to leave the session) is not applicable for RCS.

7.1.1.13 IM Client cancelling a IM Session

Only one difference with [OMASIMPLEIM]: in the first sentence, the reference to “IM Client initiates a Pre-defined IM conference” is not applicable for RCS.

7.1.1.14 IM Client removing IM User from an IM Conference Session

Not applicable for RCS: this is seen as a quite advanced use case.

7.1.1.15 Joining an IM conference with a chat alias

This is chapter is only applicable for a pre-defined conference: Not applicable for RCS.

7.1.1.16 Ending a One-to-One IM session

No differences with [OMASIMPLEIM].

7.1.2 Terminating Client Procedures

Only two differences with [OMASIMPLEIM]:

1. In the first list, item “a” (Large Message session) is not applicable for RCS.
2. In the second section, the handling of the ‘+g.oma.sip-im.large-message’ feature tag is not applicable for RCS.

7.1.2.1 IM Client invited to an IM session

Only one difference with [OMASIMPLEIM]: step 7 when receiving an initial SIP INVITE request (including a display name) is not applicable for RCS.

Following clarifications are given for RCS:

1. At receipt of a SIP INVITE for an IM Session, the RCS client behaviour shall be based on an operator configurable parameter, whether to immediately handle (that is, locally store and display) the content received in the Subject header field as a normal message or to first ask for user's acceptance. The default value automatically handles an incoming one-to-one IM session request. In addition, at receipt of a SIP INVITE for a Group IM Session, the RCS client shall always ask for user's acceptance of the Group IM Session invitation.
2. The invited RCS device shall respond with SIP 180 to announce to inviting user that the IM Session Invite has reached the invited user.
3. The RCS client shall accept the IM Session Invite, that is send a 200 OK, when the RCS user actively responds to the IM Session invitation (for example start typing an answer for a 1-1 chat or selecting to join a group chat)
4. When accepting or rejecting the IM Session Invite, the RCS client will respond to any other pending received SIP INVITE request for an IM Session from the same user with a SIP 600 response in order to terminate the outstanding transaction.
5. When an accepted session has not been fully established yet, the RCS client will handle any subsequent SIP INVITE request for an IM Session received from the same user as described in this chapter with the clarifications 1-4 above. Thereafter the RCS client responds to the subsequent INVITE request with a SIP 600 response.
6. When there is an outstanding INVITE request sent to a user, the RCS client shall handle any SIP INVITE request for an IM Session received from the same user, as described in this chapter with the clarifications 1-4 above. Thereafter the RCS client responds to the received SIP INVITE request with a SIP 600 response.
7. When an INVITE request is received from a user with whom a session is established already, the RCS client shall handle it as described in this chapter with the clarifications 1-4 above. The RCS client will then accept the session automatically with a SIP 200 OK response and terminate the already established session by sending a SIP BYE request.
8. If a participant list according to [RFC5366] is present in the invitation, the client shall communicate it to the user.

7.1.2.2 IM Client receiving an IM Session Modification request

An RCS client receiving a SIP re-INVITE request that includes a new SDP offer in the body SHALL reject the request with a SIP 488 "Not Acceptable Here" response towards the IM Server according to the rules and procedures of SIP/IP Core and exit this procedure.

7.1.2.3 IM Client receiving an IM Session release request

No differences with [OMASIMPLEIM].

7.1.2.4 IM Client receiving an IM Session SIP CANCEL request

No differences with [OMASIMPLEIM].

7.1.3 User Plane

7.1.3.1 General

No differences with [OMASIMPLEIM].

7.1.3.2 Generating MSRP requests in an IM Session

No differences with [OMASIMPLEIM]. In RCS, the mechanism that is described in the second paragraph for not rendering the content automatically will be used for in-session file transfer.

As a clarification for RCS: For 1-to-1 IM Sessions,

- Message/cpim wrapped messages MSRP requests shall not be used.
- The content type of the MSRP request shall be set in accordance to the actual content being sent.
- All RCS clients shall send text with “text/plain” content type.
- An RCS Client shall offer the user to send the content using the File Transfer mechanism if the content to be sent is larger than the value of the parameter for “maximum allowed content size in 1-to-1 chat” defined in [FUNCDESC]

7.1.3.2.1 Generating MSRP requests in an IM conference

Only four differences with [OMASIMPLEIM]:

- In step 2 when generating an MSRP request the use of an IM Group Identity is not applicable for RCS.
- Step 3 (handling of private messages) is not applicable for RCS
- Step 6 when generating an MSRP request (requesting a Final Delivery Report) is not applicable for RCS.
- RCS shall take into account the bug fixes done in [IMCR090011].

As a clarification for RCS:

- For Group IM Sessions, all RCS clients shall send text with “text/plain” content type inside the cpim wrapper.
- An RCS Client shall notify the user that the content is not possible to send in a group chat if the content to be sent is larger than the value of the parameter for “maximum allowed content size in group chat” defined in [FUNCDESC]. Alternatively, the RCS client may offer the possibility to adapt the content to fit within the configured limit after consulting the user.

7.1.3.3 Receiving MSRP requests in an IM conference

Only 2 differences with [OMASIMPLEIM]:

- In the additional procedure 2 when receiving an MSRP request, the use of an IM Group Identity or the IM identity of the IM user (for private messaging) in the “To” header of the Message/CPIM is not applicable for RCS.
- RCS shall take into account the bug fixes done in [IMCR090010].

7.1.3.4 Sending isComposing status during IM Session

No differences with [OMASIMPLEIM]. RCS clients will send isComposing status.

7.1.3.5 Receiving isComposing status during IM Session

No differences with [OMASIMPLEIM].
As a clarification for RCS: RCS clients shall signal support of isComposing content type defined in [RFC3994] in the SDP part of the SIP Session setup according to [RFC4975] (together with other supported content types).

7.2 IM Controlling Functions for IM Sessions

One difference with [OMASIMPLEIM]: RCS clients shall support reception of isComposing status and SHALL (instead of SHOULD) display the status of the sender to the user. Whether the status is shown per participant or as a collective status of one or more participants is up to the RCS client.

7.2.1 Requests Terminating at the IM Server

7.2.1.1 General

Only 1 difference with [OMASIMPLEIM]: step 4b when sending a 200 “Ok” response (the use of an IM Group Identity) is not applicable for RCS.

7.2.1.2 Ad-hoc IM Group setup request

Only 3 differences with [OMASIMPLEIM]:

- Step 5 when receiving an initial SIP INVITE request (the use of a display name) is not applicable for RCS.
- Step 7 when receiving an initial SIP INVITE request (checking of the SDP parameters against the operator policy) is not applicable for RCS.
- In the NOTE below step 9 on when receiving an initial SIP INVITE request, RCS refers to [RFC5366] instead of to [draft-URI-list]

As a clarification for RCS: In step 3 when receiving an initial SIP INVITE the IM server will always deny anonymity.

7.2.1.3 Pre-defined IM Group setup request

Not applicable for RCS

7.2.1.4 Joining Pre-defined IM Group Session request

Not applicable for RCS

7.2.1.5 Rejoining IM Group Session request

Only 3 differences with [OMASIMPLEIM]:

- Step 3 when receiving a SIP INVITE request that includes an IM Session Identity (the checking of <max-participant-count>) is not applicable for RCS.
- Step 5 when receiving a SIP INVITE request that includes an IM Session Identity (the use of a display name) is not applicable for RCS.
- Step 6 when receiving a SIP INVITE request that includes an IM Session Identity (privacy handling) is not applicable for RCS.

7.2.1.6 IM Session modification

Not applicable for RCS

7.2.1.7 Adding Participants to IM Group Session request

Only 2 differences with [OMASIMPLEIM]:

- Step 2 when receiving a SIP REFER request (privacy handling) including the NOTE is not applicable for RCS.
- Step 10 when receiving a SIP REFER request (handling of a Refer-Sub header that is not present or set to true) including the NOTE is not applicable for RCS.

7.2.1.8 SIP REFER BYE request received when using IM Group session

Not applicable for RCS

7.2.1.9 Void

No content in [OMASIMPLEIM].

7.2.1.10 SIP BYE request received in a IM Session

No differences with [OMASIMPLEIM].

7.2.1.11 SIP Session refresh procedure

No differences with [OMASIMPLEIM].

7.2.1.12 Subscribing to Participant information

Only 2 differences with [OMASIMPLEIM]:

- Step 2 when receiving a SIP SUBSCRIBE request (a IM Group Identity in the Request-URI) is not applicable for RCS.
- In step 4 when receiving a SIP SUBSCRIBE request, the check on the authorization of the subscriber based on the <allow-conference-state> action is not applicable for RCS.

7.2.2 Requests Initiated by the IM Server

7.2.2.1 General

Only 4 differences with [OMASIMPLEIM]:

- Step 4b when generating an initial SIP INVITE (the Authenticated Originator's IM Address in case of a pre-defined group) is not applicable for RCS.
- In step 5 when generating an initial SIP INVITE, the case of a Pre-defined IM Group Session is not applicable for RCS
- Step 9 when generating an initial SIP INVITE (privacy handling) is not applicable for RCS.
- Step 11 when generating an initial SIP INVITE (the use of a "Subject" header for a pre-defined group) is not applicable for RCS.

As a clarification for RCS: The IM Server shall transparently pass any received subject header into the outgoing SIP Invite requests for an Ad-hoc group.

7.2.2.2 IM Session Invitation Requests

Only 2 differences with [OMASIMPLEIM]:

- Step 3 in the procedure for inviting an IM user (the handling of a pre-defined group) is not applicable for RCS.
- Step 3 when receiving a 200 "Ok" response (privacy handling) is not applicable for RCS

As a clarification for RCS: In step 2, the list of invited participants will be sent to the invitees.

7.2.2.3 IM Session Initiation Policy

Not applicable for RCS

7.2.2.4 Cancel of IM Session Invitation Requests

No differences with [OMASIMPLEIM].

7.2.2.5 Ending an IM Session

No differences with [OMASIMPLEIM].

7.2.2.6 IM Session Modification

Not applicable for RCS

7.2.2.7 IM Session Adding Policy

The two present paragraphs are not applicable for RCS as they concern pre-defined groups.

As a clarification for RCS: In case of an Ad-hoc IM Group chat, only the originator of the group chat session is allowed to add participants to the Ad-hoc IM Session.

7.2.2.8 IM Session Release Policy

Several differences with [OMASIMPLEIM]:

- The first paragraph (the use of the rules defined in the Group definition of a pre-defined group) is not applicable for RCS.
- The second paragraph (the use of <session-active-policy> in case of a pre-defined group) is not applicable for RCS.
- The auto-release variable influencing the release policy is not applicable for RCS
- The case for a Pre-defined IM Group session in the number-of-remaining-participants is not applicable fro RCS.
- In the release policy section 1 (releasing the remaining participants from the session) whether in item a the departure of the initiator from the session will trigger a release of the remaining participants from the session will, for RCS, be up to local server policy.
- In the release policy section 1 (releasing the remaining participants from the session), item b (originator leaves in case of a predefined group) is not applicable for RCS.
- In the release policy section 1 (releasing the remaining participants from the session) in item d, the case of a Pre-defined IM Group session is not applicable for RCS.
- In the release policy section 1 (releasing the remaining participants from the session), item f (a predefined group is deleted) is not applicable for RCS.
- In the release policy, section 2 (removing an individual participant from the IM Session) is not applicable for RCS. This includes item a (the group definition is changed in case of a Pre-defined IM Group Session).

7.2.2.9 IM Session Joining Policy

Only the first section from [OMASIMPLEIM] (the case of an ad-hoc group) is applicable for RCS. The sections on the case of a Pre-defined group based on the <join-handling>, the <age-restrictions> and <age-limit> elements in the group definition are not applicable for RCS, as is the section on the joining of the history function.

7.2.2.10 Generating a SIP NOTIFY Request

Only 3 differences with [OMASIMPLEIM]:

- In limitation 1 of the MIME application/conference-info+xml body, the use the IM Group Identity in case of a Pre-defined IM group Session is not applicable for RCS.
- In limitation 2/a/iii of the MIME application/conference-info+xml body, the use the identity defined in the IM Group definition in case of a Pre-defined IM group Session is not applicable for RCS.
- In limitation 2/a/iii of the MIME application/conference-info+xml body, the condition on privacy is not applicable for RCS.

7.2.2.11 Terminating the Subscription

No differences with [OMASIMPLEIM].

7.2.2.12 Removal of Participant from IM Session

No differences with [OMASIMPLEIM].

7.2.3 User Plane

No differences with [OMASIMPLEIM].

7.2.3.1 MSRP Switch

Only 3 differences with [OMASIMPLEIM]:

- The use of anonymity (4th bullet in [OMASIMPLEIM]) is not applicable for RCS.
- The use of private messaging (6th bullet in [OMASIMPLEIM]) is not applicable for RCS.
- RCS shall take into account the bug fixes done in [IMCR090009].

7.2.3.2 Chat Alias in an IM conference

Not applicable for RCS

7.2.3.3 Receiving and Sending messages in an IM conference Server

Only 2 differences with [OMASIMPLEIM]:

- Step 3 (private messages) is not applicable for RCS.
- RCS shall take into account the bug fixes done in [IMCR090009].

As a clarification for RCS: If the total message size is larger than the "max-size" of a particular intended recipient(s) of the original message, the IM Server shall not send the message to the intended recipient(s):

- The IM Server SHALL indicate that message has not been delivered by sending a 'system message' from an IM Conference as define in section "*7.2.3.5 System Messages from an IM Conference"* of [OMASIMPLEIM] to both the sender and the intended recipient(s)
- The content of this system message is targeted for human consumption and SHALL be of content type text/plain

7.2.3.4 Receiving and Sending Private messages in an IM Conference

Not applicable for RCS.

7.2.3.5 System Messages from an IM Conference

Only 1 difference with [OMASIMPLEIM], RCS shall take into account the bug fixes done in [IMCR090009].

8 IM Pager Mode

Not applicable for RCS.

9 IM Large Message Mode

Not applicable for RCS.

10 File Transfer

No differences with [OMASIMPLEIM].

RCS has the following restrictions on file transfer:

- Only One-to-One
- The file transfer mechanism is not used for transfer in an ongoing session. In that case, a new dedicated file transfer session will always be set up (that is, no support for session modification).
- Only one file is sent per file transfer session.
- Only sending of files is supported for RCS Release 3. Requesting files is not part of the RCS use cases

10.1 File Transfer

Only 6 differences with [OMASIMPLEIM]:

- In the general section, the requesting of files is not applicable for RCS.
- Step 1 when instructions are received to send a file (file transfer with a re-invite during an ongoing session) is not applicable for RCS. The user can send a file to the participants of an ad-hoc session by using the mechanism described in chapter 7.1.3.2 of [OMASIMPLEIM] in step 2. In that case, a receiving client can reject the file with an MSRP 413 error response.
- In step 1-5: for RCS [file-transfer] shall be used which is a more recent version than the one referred to in [OMASIMPLEIM]
- In step 2 when instructions are received to send a file the cases for sending the file to a list of participants or to a Pre-defined group are not applicable for RCS.
- Step 4 when instructions are received to send a file (sending more than one file) is not applicable for RCS.
- Step 5, sending a re-Invite with the m line set to zero, is not applicable for RCS. This will always be the case, only a single file is transferred, after the transfer, RCS clients will always release the session as described in chapter 10.2.

As a clarification for RCS:

- Usage of the SDP attributes provided in [file-transfer] shall be identical to what is described in [IR.79] chapter 3.4. The only exception is the use of the file-disposition attribute. For File Transfer this will be set to ‘attachment’ or ‘render’ depending on the requested service. For a file transfer, ‘attachment’ shall be used. ‘render’ is used to indicate an immediate display of the image during an Image Sharing session.
- For RCS File transfer, message/cpim wrapped MSRP requests shall not be used. The content type of the MSRP request for File Transfer shall be set in accordance to the actual content being sent.
- If the file to be transferred is larger than the value of the parameter for “maximum allowed file size for File transfer” defined in [FUNCDESC], the RCS Client shall notify the user that the file is not possible to send. Alternatively, the RCS Client may offer the possibility to adapt the content to fit within the configured limit after consulting the user.
- RCS strongly recommends clients to send a file in one chunk, following the recommendation in [RFC4975] using as few chunks as possible.

10.2 File Transfer Session Release

Only 3 differences with [OMASIMPLEIM]:

- Since only one file per session is supported, RCS clients will send new files always in separate sessions. Therefore, the use of the timer is not applicable for RCS. The procedure described will therefore be executed immediately once the transfer is done.

- The case where a re-INVITE with the media line set to zero is send by the IM client when the timer expires in case there is any other media stream in the SDP (2nd bullet) is not applicable for RCS.
- The case where a re-INVITE with the media line set to zero is send by the IM client when the timer expires in case multiple files are transferred (3rd bullet) is not applicable for RCS.

10.3 Client Receiving File Transfer Request

No differences with [OMASIMPLEIM].

11 Error Handling

11.1 Conference-Factory Uri Does Not Exist

No differences with [OMASIMPLEIM].

11.2 Conference Uri Does Not Exist

No differences with [OMASIMPLEIM].

12 Deferred Messaging

Not applicable for RCS.

13 Conversation History Function

Not applicable for RCS.

14 System Concepts

14.1 Security

No differences with [OMASIMPLEIM].

14.1.1 General

No differences with [OMASIMPLEIM].

14.1.2 Trust Model

No differences with [OMASIMPLEIM].

14.1.3 SIP signalling security

No differences with [OMASIMPLEIM].

14.1.3.1 Integrity and confidentiality protection

No differences with [OMASIMPLEIM].

14.1.3.2 Assurance of user identity

No differences with [OMASIMPLEIM].

14.1.3.3 SIP MESSAGE Security

Not applicable for RCS

14.1.4 User Plane security

No differences with [OMASIMPLEIM].

14.1.5 Relation between SIP Signalling and User Plane Security

No differences with [OMASIMPLEIM].

14.1.5.1 Denial of Services

No differences with [OMASIMPLEIM].

14.1.6 XDMS Security

No differences with [OMASIMPLEIM].

14.2 Authorization

No differences with [OMASIMPLEIM].

14.3 Privacy

Not applicable for RCS
Privacy is not compatible with the conversational view. If people are on each other's contact lists, there is no reason to request privacy.

15 Timers

No differences with [OMASIMPLEIM].

15.1 Timers In The IM Server

Not applicable for RCS

15.2 Timers In The IM Client

For Tc3 there are no differences with [OMASIMPLEIM]. Tc1 and Tc2 are not applicable for RCS.

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. Initial Filter Criteria

Appendix not relevant for RCS

APPENDIX D. Examples Of Signalling Flows

Appendix not relevant for RCS

APPENDIX E. IM Service Settings

Appendix not relevant for RCS

APPENDIX F. OMA IM Parameter Definition And Conventions

F.1. Release Version In User-Agent And Server Headers

No differences with [OMASIMPLEIM].

F.2. Global Uri Definition An Convention

No differences with [OMASIMPLEIM].

Appendix G.

APPENDIX H. OMA Sec Group Security Threats Analysis

Appendix not relevant for RCS

APPENDIX I. Presence Information Elements And Procedures

No differences with [OMASIMPLEIM].

I.1. IM SPECIFIC PRESENCE INFORMATION ELEMENTS OVERVIEW

Only 4 differences with [OMASIMPLEIM]:

- In the table, the “Availability for IM Pager Mode and Large Message Mode Messaging” is not applicable for RCS.
- In the table, the “Willingness for IM Pager Mode and Large Message Mode Messaging” is not applicable for RCS.
- In the table, the “Willingness for IM Session Mode Messaging” is not applicable for RCS.
- In the table, the “Willingness for File Transfer” is not applicable for RCS.

I.1.1. Availability for IM Pager Mode and Large Mode Messaging

Not applicable for RCS

I.1.2. Availability for IM Pager Mode and Large Mode Messaging

Not applicable for RCS

I.1.3. Availability for IM Session Mode Messaging

Only 2 differences with [OMASIMPLEIM]:

- The description that the <basic> sub element is set to “open” when the user registers and does not activate the incoming barring or does not decide to remain invisible is not applicable for RCS.
- The description that the <basic> sub element is set to “closed” when the user unregisters, activates the incoming barring, or decides to remain invisible is not applicable for RCS.

I.1.4. Willingness for IM Session Mode Messaging

Not applicable for RCS

I.1.5. Availability for File Transfer

Only 2 differences with [OMASIMPLEIM]:

- The description that the <basic> sub element is set to “open” when the user registers and does not activate the incoming barring or does not decide to remain invisible is not applicable for RCS.
- The description that the <basic> sub element is set to “closed” when the user unregisters, activates the incoming barring, or decides to remain invisible is not applicable for RCS.

I.1.6. Willingness for File Transfer

Not applicable for RCS

I.2. IM SERVER PROCEDURES

Not applicable for RCS: Presence is maintained from the client and not checked by the IM server.

I.3. IM CLIENT PROCEDURES

Not applicable for RCS: the behaviour for a RCS client acting as a presence source and watcher is described in [TECHREAL].

I.4. IM SPECIFIC PRESENCE VALUES

Only 1 difference with [OMASIMPLEIM]:

- Service ID org.openmobilealliance:IM-pager-mode is not applicable for RCS

APPENDIX J. The Parameters to be Provisioned For IM Service

Appendix not relevant for RCS

APPENDIX K. Retrieve Deferred Messages

Appendix not relevant for RCS

APPENDIX L. Saving IM Content

Appendix not relevant for RCS

APPENDIX M. Extending One To One Session to a Conference

Just one clarification to [OMASIMPLEIM]. The procedure is supported, see section 7.1.1.6:
The format of the original participant should be:
<entry uri=”bob@biloxi.com:method=INVITE?Replaces=a84b4c76e66710%3Bto-tag%3D1928301774%3Bfrom-tag%3Da6c85cf” />
According to [RFC3261]

NOT (as indicated in appendix L of [OMASIMPLEIM]) :
<entry uri="bob@biloxi.com;method=INVITE?Replaces:a84b4c76e66710;to-tag=1928301774;from-tag= a6c85cf " /" />

APPENDIX N. Conference Event Package

No differences with [OMASIMPLEIM].

N.1. Extensions to the Conference Event Package Xml Schema

No differences with [OMASIMPLEIM].

APPENDIX O. Emoticons

O.1. List Of Supported Emoticons

No differences with [OMASIMPLEIM].

O.2. Emoticon Processing By The Clients

No differences with [OMASIMPLEIM].

O.2.1. Emoticons in composed sent instant messages

No differences with [OMASIMPLEIM].

O.2.2. Emoticons in received/displayed instant messages

No differences with [OMASIMPLEIM].

APPENDIX P. Final Delivery Report

Appendix not relevant for RCS

APPENDIX Q. Use Of Refer Method in IM

No differences with [OMASIMPLEIM]. The procedure is supported for adding a participant to a Group IM Session, see section 7.1.1.7.

APPENDIX R. IM Related Shared XDM Extensions

Appendix not relevant for RCS

APPENDIX S. Access Policy Examples

Appendix not relevant for RCS

APPENDIX T. Charging Use Cases

Appendix not relevant for RCS

Document Management

Document History

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
0.1	26 Oct 09	First version of the document for Release 3. "Endorsement of OMA SIP/SIMPLE IM 1.0, RCS Release 2, version 1.0" was used as a basisRelease 3 recipient list handling was added.	RCS Programme	Tom Van Pelt/ Nokia Siemens Networks
0.2	28 Oct 09	Include file-transfer use for Image Share	RCS Programme	Tom Van Pelt /Nokia Siemens Networks
0.3	2 Dec 09	Editorial updates and include 2009-TR0107	RCS Programme	Tom Van Pelt/ Nokia Siemens Networks
0.4	11 Dec 09	Update 0.3 (Approved at Plenary 3/12/09) with front pages for DAG approval. No review comments received during consistency review See SPEC DOC RCS SPEC R3_006 in https://infocentre.gsm.org/cgi-bin/docindex.cgi?34307	RCS Programme	Dirk Raeymaekers Nokia Siemens Networks
1.0	25 Feb 2010	Approved by DAG/EMC, removal DAG review sheet	RCS Programme	Dirk Raeymaekers /NSN
1.0.1	01 Jun 2010	Inclusion of accepted RCS R2 bug fix CRs: • RCS3-BF0001 • RCS3-BF0005 • RCS3-BF0006	RCS Programme	Tom Van Pelt/ Nokia Siemens Networks
1.0.2	24 JUN 10	Update 1.0.1 (Approved at Plenary 17/6/10) with front pages for DAG approval.	RCS Programme	Dirk Raeymaekers /NSN
1.1	AUG 10	Approved by DAG/EMC, removal DAG review sheet	RCS Programme	Dirk Raeymaekers /NSN
1.1.1	01 Dec 2010	Inclusion of accepted RCS bug fix CRs: • RCS1-BF0301 • RCS1-BF0206 • RCS2_BF0201 Corrected References	RCS Programme	Tom Van Pelt/ Nokia Siemens Networks
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Other Information

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