**3GPP SA3LI#91 S3i230605**

**Sydney; October 24-27, 2023**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **33.128** | **CR** | **0578** | **rev** | **1** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Clearer triggering events for the RCS related xIRIs | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | SA3-LI (Nokia, Nokia Shanghai Bell, AT&T) | | | | | | | | | |
| ***Source to TSG:*** | SA3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LI18 | | | | |  | ***Date:*** | | | 2023-10-26 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | ***C*** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The way the triggering events are defined for RCS sessions may lead to the generation of multiple redundant xIRIs in deployment model of RCS. The specification should not mandate such multiple xIRI generation for other implementation choices when it is possible to avoid the same with clearer definitions. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The text around the triggering events is modified to add deployment option A to provide a clearer definition. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The requirements around RCS LI remain unclear. The RCS related LI can lead to the generation of multiple redundant xIRIs. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.13.3.1.1, 7.13.3.3.1, 7.13.3.4.2.2, 7.13.3.4.2.3, 7.13.3.4.3.2, 7.13.3.4.3.3, 7.13.3.4.4.1, 7.13.3.4.3.3, 7.13.3.4.4.2, 7.13.3.4.4.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | S3i230525 | | | | | | | | |

### \*\* First Change \*\*

##### 7.13.3.1.1 Introduction

The IRI-POI present in the RCS Servers shall send xIRI over LI\_X2 for the events listed in 3GPP TS 33.127 [5] clause 7.13.4, the details of which are described in the following clauses.

If the RCS implementation uses protocols other than SIP and MSRP, alternative triggers may be used such that the IRI-POI in the RCS Server generates appropriate xIRIs for the events listed in 3GPP TS 33.127 [5] clause 7.13In the subsequent clauses two deployment options are defined for RCS:

- RCS deployment option A.

- RCS deployment option B.

When an RCS Server is provided by the CSP that has the IMS, the RCS deployment option A shall be used. When the RCS server is provided by a third party provider (i.e. different from IMS provider) and only one instance of RCS Server is used during an RCS session establishment (i.e. originating side and terminating side are handled by the same instance of RCS Server), the RCS deployment option B may be used as an alternate option.

### \*\* Next Change \*\*

##### 7.13.3.3.1 RCS Message record

The IRI-POI present in the RCS Server shall generate an xIRI containing an RCSMessage record when the IRI-POI present in the RCS Server detects that an RCS target has sent or received an RCS message. In this specification, an RCS message refers to any message sent or received in the context of pager mode standalone messaging, large message mode messaging, 1-to-1 chat or group chat. This xIRI is also generated when the target sends or receives a delivery notification or display notification.

Accordingly, the IRI-POI in the RCS Server shall generate the RCSMessage xIRI when it detects the following events:

RCS deployment option A:

- At originating end, the RCS Server receives a SIP MESSAGE from the target or sends a SIP MESSAGE to target non-local ID and:

* + The "Contact" or "Accept-Contact" header includes a service feature tag among the feature tags listed in GSMA RCC.07 [78] clause 2.4.4.1 table 3.
  + The SIP "Content-Type" header is "message/cpim".

- At the terminating end, the RCS Server receives a SIP MESSAGE destined to the target or originated from a target non-local ID with:

* + The "Contact" or "Accept-Contact" header includes a service feature tag among the feature tags listed in GSMA RCC.07 [78] clause 2.4.4.1 table 3.
  + The SIP "Content-Type" header is "message/cpim“.

- At the originating end, the RCS Server receives an MSRP packet from the target or sends an MSRP packet to a target non-local ID and:

* + The content of the MSRP packet is a CPIM (Common Presence and Instant Messaging) object (see definition in IETF RFC 3862 [80]).

- At the terminating end, the RCS Server receives an MSRP packet destined to the target or initiated by a target non-local Id and:

* + The content of the MSRP packet is a CPIM (Common Presence and Instant Messaging) object (see definition in IETF RFC 3862 [80]).

NOTE: In the above text, the originating end refers to the side where the UE initiates the SIP MESSAGE or the MSRP packet. Likewise, in the above text, the terminating end refers to the side where the UE would receive the SIP MESSAGE or the MSRP packet.

RCS deployment option B:

- The RCS Server receives a SIP MESSAGE from the target or destined to the target, determined by the direction attribute present in the CPM Header, and:

- The "Contact" or "Accept-Contact" header includes a service feature tag among the feature tags listed in GSMA RCC.07 [78] clause 2.4.4.1 table 3.

- The SIP "Content-Type" header is "message/cpim".

- The RCS Server receives an MSRP packet from the target or destined to the target and:

- The content of the MSRP packet is a CPIM (Common Presence and Instant Messaging) object (see definition in IETF RFC 3862 [80]).

Table 7.13.3.3.1-1: Payload for RCSMessage record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| rCSTargetIdentities | SEQUENCE OF RCSIdentity | 1..MAX | Provide RCS target identities. All identities associated to the target known at the POI shall be included. | M |
| groupChatSessionID | RCSGroupChatSessionID | 0..1 | Group chat session URI. Shall be present if the message is part of a CPM Group Chat. See OMA-TS-CPM\_System\_Description-V2 [82] clause 5.1.1.5. | C |
| originatingIdentity | SEQUENCE OF RCSIdentity | 1..MAX | Shall identify the originating party. | M |
| destinationIdentities | SEQUENCE OF RCSDestinations | 1..MAX | Shall identify the destination(s) of the message. | M |
| direction | Direction | 1 | Shall be provided to identify the direction of the message relative to the target: "toTarget" or "fromTarget". | M |
| messageType | RCSMessageType | 1 | Identifies the type of information being transmitted by the RCS Message. | M |
| conversationID | RCSConversationID | 1 | CPM Conversation Identity associated with the CPM Standalone Message, CPM File Transfer, or CPM Session.  See OMA-TS-CPM\_Conversation\_Function [109] clause 5.3. | M |
| contributionID | RCSContributionID | 1 | CPM Contribution Identity of the individual CPM Standalone Message, CPM File Transfer, or CPM Session (see OMA-TS-CPM\_Conversation\_Function [109] clause 5.3). | M |
| inReplyToContributionID | RCSContributionID | 0..1 | InReplyTo-Contribution-ID identifying the Contribution-ID of the CPM Standalone Message, CPM File Transfer or CPM Session that is being replied to (see OMA-TS-CPM\_Conversation\_Function [109] clause 5.3). Shall be included if the InReplyTo-Contribution-ID header field is present for the message being reported. | C |
| messageID | IMDNMessageID | 0..1 | IMDN Message-ID of the individual message (see RFC 5438 [81]). Shall be included if present in the RCS message. | C |
| location | Location | 0..1 | Shall include the target’s location when available according to the location reporting type provisioned for the task. | C |
| messagePayload | RCSPayload | 1 | One of the following payload types (other payload types may be added in future versions of the specification):  - encapsulatedRCSPayload shall be chosen when the RCS message does not contain any unauthorized information. | M |

### \*\* Next Change \*\*

###### 7.13.3.4.2.2 Large Message Mode CPM Standalone session

The IRI-POI in the RCS Server shall generate the RCSSessionEstablishmentAttempt xIRI when it detects the following events:

RCS deployment option A:

- At the originating end, the RCS Server receives a SIP INVITE sent from the target or sends a SIP INVITE destined to the target non-local ID with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the Large Message Mode CPM Standalone Message or the Deferred CPM Message features for which an RCS session was not already established.

- At the terminating end, the RCS Server receives a SIP INVITE destined to the target or originated from a target non-local ID with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the Large Message Mode CPM Standalone Message or the Deferred CPM Message features for which an RCS session was not already established.

NOTE: In the above text, the originating end refers to the side where the SIP INVITE is initiated (e.g. the UE sends the SIP INVITE). Likewise, in the above text, the terminating end refers to the side where the UE would receive the SIP INVITE.

RCS deployment option B:

- The RCS Server receives a SIP INVITE sent to or from the target with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the Large Message Mode CPM Standalone Message or the Deferred CPM Message features for which a SIP session was not already established.

### \*\* Next Change \*\*

###### 7.13.3.4.2.3 CPM 1-to-1 Chat session establishment

The IRI-POI in the RCS Server shall generate the RCSSessionEstablishmentAttempt xIRI when it detects the following events:

RCS deployment option A:

- At the originating end, the RCS Server receives a SIP INVITE sent from the target or sends a SIP INVITE destined to the target non-local ID with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the CPM Session feature for which there is not an existing CPM Session.

- At the terminating end, the RCS Server receives a SIP INVITE destined to the target or originated from a target non-local ID with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the CPM Session feature for which there is not an existing CPM Session.

NOTE: In the above text, the originating end refers to the side where the SIP INVITE is initiated (e.g. the UE sends the SIP INVITE). Likewise, in the above text, the terminating end refers to the side where the UE would receive the SIP INVITE.

RCS deployment option B:

- The RCS Server receives a SIP INVITE sent to or from the target with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the CPM Session feature for which there is not an existing CPM Session.

### \*\* Next Change \*\*

###### 7.13.3.4.3.2 CPM Standalone Message session modification

The IRI-POI in the RCS Server shall generate the RCSSessionModification xIRI when it detects the following events:

RCS deployment option A:

- At the originating end, the RCS Server that received a SIP INVITE from the target with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the Large Message Mode CPM Standalone Message or the Deferred CPM Message features sends a SIP INVITE to the destination and the outgoing SIP INVITE has changes as compared to the original SIP INVITE.

- At the terminating end, the RCS Server sends a SIP INVITE to the target with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the Large Message Mode CPM Standalone Message or the Deferred CPM Message features.

- For an RCS session being intercepted, the RCS Server receives SIP 200 OK (INVITE) from the target or sends a 200 OK (INVITE) to the target. This applies to target non-local ID as well.

- For an RCS session being intercepted, the RCS Server receives SIP BYE from the target or sends a BYE destined to the target. This applies to target non-local ID as well.

RCS deployment option B:

- The RCS Server sends a SIP INVITE to or from a target with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the Large Message Mode CPM Standalone Message or the Deferred CPM Message features.

- The RCS Server sends or receives SIP response within a SIP dialog where the original SIP INVITE had any service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the Large Message Mode CPM Standalone Message or the Deferred CPM Message features and at least one of the legs of the session known by the RCS Server remain.

### 

### \*\* Next Change \*\*

###### 7.13.3.4.3.3 CPM 1-to-1 Chat session modification

The IRI-POI in the RCS Server shall generate the RCSSessionModification xIRI when it detects the following events:

RCS deployment option A:

- At the originating end, the RCS Server that received a SIP INVITE from the target with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating CPM session feature sends a SIP INVITE to the destination and the outgoing SIP INVITE has changes as compared to the original SIP INVITE.

- At the terminating end, the RCS Server sends a SIP INVITE to the target with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating CPM session feature.

- For an RCS session being intercepted, the RCS Server receives SIP 200 OK (INVITE) from the target or sends a 200 OK (INVITE) to the target. This applies to target non-local ID as well.

- For an RCS session being intercepted, the RCS Server receives SIP BYE from the target or sends a BYE to the target. This applies to target non-local ID as well.

- For an RCS session being intercepted, the RCS Server receives SIP 200 OK (BYE) from the target or sends a BYE (200 OK) to the target if and only if the 200 OK (BYE) does not lead to a release of the RCS session in its entirety for that target. This applies to target non-local ID as well.

RCS deployment option B:

- The RCS Server sends a SIP INVITE to or from a target with a service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the CPM Session feature.

- The RCS Server sends or receives SIP response or SIP BYE within a SIP dialog where the original SIP INVITE had any service feature tag among the feature tags listed in OMA-TS-CPM\_Conv\_Function [109] Table 7 indicating the CPM Session feature.

### \*\* Next Change \*\*

###### 7.13.3.4.4.2 CPM Standalone Message session release

The IRI-POI in the RCS Server shall generate the RCSSessionRelease xIRI when it detects the following events:

RCS deployment option A:

- For an RCS session being intercepted, the RCS Server receives SIP 200 OK (BYE) from the target or sends a 200 OK (BYE) to the target when the RCS session was established to transfer a Large Mode CPM Standalone Message, This applies to target non-local ID as well.

- When the RCS Server releases the RCS session for that target upon determining that the SIP 200 OK in response to a SIP BYE is not going to be received from the target (e.g. Timer F (see IETF RFC 3261 [118], clause 17.1.2.2 or the Table 4) expires). This applies to target non-local ID as well.

RCS deployment option B:

- The RCS Server returns a SIP 200 OK in response to a SIP BYE sent to or from the target for a SIP session established to transfer a Large Message Mode CPM Standalone Message.

### \*\* Next Change \*\*

###### 7.13.3.4.4.1 RCSSessionRelease record

The IRI-POI in the RCS Server shall generate an RCSSessionRelease record when the IRI-POI in the RCS Server detects any of the following:

- a SIP session for the transfer of a Large Message Mode CPM Standalone message to or from a target has been released (see clause 7.13.3.4.4.2).

- a CPM 1-to-1 Chat Session established for the target's communications has been released (see clause 7.13.3.4.4.3).

Table 7.13.3.4.4-1: Payload for RCSSessionRelease record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| rCSTargetIdentities | SEQUENCE OF RCSIdentity | 1..MAX | RCS target identities. All identities associated to the target known at the POI shall be included. | M |
| conversationID | RCSConversationID | 1 | Set to the value of the Conversion-ID header in the original SIP INVITE request. | M |
| contributionID | RCSContributionID | 1 | Set to the value of the Contribution-ID header in the original SIP INVITE request. | M |
| rCSSessionType | RCSSessionType | 1 | Indicates the type of RCSSession. | M |
| sessionDirection | Direction | 1 | Shall be provided to identify the direction of the session relative to the target: "toTarget" or "fromTarget". | M |
| sessionEndpoints | RCSSessionEndpoints | 1 | Indicates whether the session continued through the server or is terminated at the server. | M |
| rCSSIPSessionMessage | RCSSIPSessionMessage | 1 | Shall contain the SIP message that triggered the xIRI, an indication of whether the establishment or removal of a leg has been attempted or completed. | C |
| location | Location | 0..1 | Shall include the target’s location when reporting of the target’s location information is authorized and available. | C |

### \*\* Next Change \*\*

###### 

###### 7.13.3.4.4.3 CPM 1-to-1 Chat session release

The IRI-POI in the RCS Server shall generate the RCSSessionRelease xIRI when it detects the following events:

RCS deployment option A

- For an RCS session being intercepted, the RCS Server receives SIP 200 OK (BYE) from the target or sends a SIP 200 OK (BYE) to the target when the 200 OK (BYE) leads to a release of the RCS session in its entirety for that target. This applies to target non-local ID as well.

- When the RCS Server releases the RCS session for that target upon determining that the SIP 200 OK in response to a SIP BYE is not going to be received from the target (e.g. Timer F (see IETF RFC 3261 [118], clause 17.1.2.2 or the Table 4) expires). This applies to target non-local ID as well.

RCS deployment option B:

- The RCS Server returns a SIP 200 OK in response to a SIP BYE sent to or from the target for the last active leg of a SIP session established for a CPM Session.

### \*\* End of all Changes \*\*