**3GPP TSG-SA3 Meeting #83-LI-e-b *s3i210823r1***

**Online, , 1st Nov 2021 - 5th Nov 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **33.128** | **CR** | **0276** | **rev** | **1** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | SA3-LI(OTD) | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LI17 | | | | |  | ***Date:*** | | | 2021-11-03 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | RCS services (capability discovery, standalone messaging, chat, file transfer) cannot be intercepted. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Adds Stage 3 details for RCS Registration, Message and Session Establishment event reporting. | | | | | | | | |
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| ***Consequences if not approved:*** | | LI for RCS Services would continue to be missing. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 7.X.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:*** | | CR 0274 (S3i210821) contains the parrent clause this CRs content will fall in, the provisioning details for the POIs and MDFs and some references this CR uses. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | S3i210823 | | | | | | | | |

First change

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.501: "System Architecture for the 5G System".

[3] 3GPP TS 33.126: "Lawful Interception Requirements".

[4] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[5] 3GPP TS 33.127: "Lawful Interception (LI) Architecture and Functions".

[6] ETSI TS 103 120: "Lawful Interception (LI); Interface for warrant information".

[7] ETSI TS 103 221-1: "Lawful Interception (LI); Internal Network Interfaces; Part 1: X1".

[8] ETSI TS 103 221-2: "Lawful Interception (LI); Internal Network Interfaces; Part 2: X2/X3".

[9] ETSI TS 102 232-1: "Lawful Interception (LI); Handover Interface and Service-Specific Details (SSD) for IP delivery; Part 1: Handover specification for IP delivery".

[10] ETSI TS 102 232-7: "Lawful Interception (LI); Handover Interface and Service-Specific Details (SSD) for IP delivery; Part 7: Service-specific details for Mobile Services".

[11] 3GPP TS 33.501: "Security Architecture and Procedures for the 5G System".

[12] 3GPP TS 33.108: "3G security; Handover interface for Lawful Interception (LI)".

[13] 3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS)".

[14] 3GPP TS 24.007: "Mobile radio interface signalling layer 3; General Aspects".

[15] 3GPP TS 29.244: "Interface between the Control Plane and the User Plane nodes".

[16] 3GPP TS 29.502: "5G System; Session Management Services; Stage 3".

[17] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[18] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS)".

[19] 3GPP TS 23.003: "Numbering, addressing and identification ".

[20] OMA-TS-MLP-V3\_5-20181211-C: "Open Mobile Alliance; Mobile Location Protocol, Candidate Version 3.5", <https://www.openmobilealliance.org/release/MLS/V1_4-20181211-C/OMA-TS-MLP-V3_5-20181211-C.pdf>.

[21] 3GPP TS 29.540: "5G System; SMS Services; Stage 3".

[22] 3GPP TS 29.518: "5G System; Access and Mobility Management Services; Stage 3".

[23] 3GPP TS 38.413: "NG Application Protocol (NGAP)".

[24] 3GPP TS 29.572: "Location Management Services; Stage 3".

[25] 3GPP TS 29.503: "5G System; Unified Data Management Services".

[26] IETF RFC 815: "IP datagram reassembly algorithms".

[27] IETF RFC 2460: "Internet Protocol, Version 6 (IPv6) Specification".

[28] IETF RFC 793: "Transmission Control Protocol".

[29] IETF RFC 768: "User Datagram Protocol".

[30] IETF RFC 4340: "Datagram Congestion Control Protocol (DCCP)".

[31] IETF RFC 4960: "Stream Control Transmission Protocol".

[32] IANA (www.iana.org): Assigned Internet Protocol Numbers, "Protocol Numbers".

[33] IETF RFC 6437: "IPv6 Flow Label Specification".

[34] IETF RFC 791: "Internet Protocol".

[35] Open Geospatial Consortium OGC 05-010: "URNs of definitions in ogc namespace".

[36] 3GPP TS 33.107: "3G security; Lawful interception architecture and functions".

[37] 3GPP TS 37.340: "Evolved Universal Radio Access (E-UTRA) and NR-Multi-connectivity; Stage 2".

[38] 3GPP TS 36.413: "S1 Application Protocol (S1AP)".

[39] OMA-TS-MMS\_ENC-V1\_3-20110913-A: "Multimedia Messaging Service Encapsulation Protocol".

[40] 3GPP TS 23.140: "Multimedia Messaging Protocol. Functional Description. Stage 2".

[41] 3GPP TS 38.415: "NG-RAN; PDU Session User Plane Protocol".

[42] 3GPP TS 23.273: "5G System (5GS) Location Services (LCS); Stage 2".

[43] IETF RFC 4566: "SDP: Session Description Protocol".

[44] 3GPP TS 24.193: "Stage 3: Access Traffic Steering, Switching and Splitting (ATSSS)".

[45] 3GPP TS 29.509: "5G System; Authentication Server Services; Stage 3".

[46] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[47] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".

[48] 3GPP TS 29.504: "5G System; Unified Data Repository Services; Stage 3".

[49] 3GPP TS 29.505: "5G System; Usage of the Unified Data Repository services for Subscription Data; Stage 3".

[50] 3GPP TS 23.401 "General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access".

[51] 3GPP TS 24.301 "Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS), Stage 3".

[52] 3GPP TS 23.271 "Functional stage 2 description of Location Services (LCS)".

[53] 3GPP TS 29.172 "Evolved Packet Core (EPC) LCS Protocol (ELP) between the Gateway Mobile Location Centre (GMLC) and the Mobile Management Entity (MME); SLg interface".

[54] 3GPP TS 29.171 "LCS Application Protocol (LCS-AP) between the Mobile Management Entity (MME) and Evolved Serving Mobile Location Centre (E-SMLC); SLs interface".

[55] 3GPP TS 24.379: "Mission Critical Push to Talk (MCPTT) call control; protocol specification".

[56] OMA-TS-PoC-System\_Description-V2\_1-20110802-A: "OMA PoC System Description".

[57] 3GPP TS 29.541: "5G System; Network Exposure (NE) function services for Non-IP Data Delivery (NIDD); Stage 3".

[58] 3GPP TS 29.522: "5G System; Network Exposure Function Northbound APIs; Stage 3".

[59] 3GPP TS 29.338: "Diameter based protocols to support Short Message Service (SMS) capable Mobile Management Entities (MMEs); Stage 3".

[60] 3GPP TS 29.337: "Diameter-based T4 interface for communications with packet data networks and applications".

[61] 3GPP TS 24.250: "Protocol for Reliable Data Service; Stage 3".

[62] 3GPP TS 29.128: "Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) interfaces for interworking with packet data networks and applications".

[63] 3GPP TS 29.122: "T8 reference point for Northbound APIs".

[64] 3GPP TS 29.598: "5G System; Unstructured Data Storage Services; Stage3".

[Re2] IETF RFC 4975: "The Message Session Relay Protocol (MSRP)".

[Re3] IETF RFC 3862: "Common Presence and Instant Messaging (CPIM): Message Format".

[Re4] IETF RFC 5438: "Instant Message Disposition Notification (IMDN)".

[Re5] OMA-TS-CPM\_System\_Description-V2\_2-20170926-C: "OMA Converged IP Messaging System Description".

[Re6] IETF RFC 4566: "SDP: Session Description Protocol".

Second change

### 7.X.3 Generation of xIRI at IRI-POI in the RCS Server over LI\_X2

#### 7.X.3.1 General

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

#### 7.X.3.2 Registration

The xIRI containing an RCSRegistration recocd shall be generated when the IRI-POI in the S-CSCF or in an RCS Server detects that an RCS target matching one of the RCS identifiers, provided via LI\_X1 has registered, re-registered or de-registered for RCS services. Accordingly, the IRI-POI in the RCS Server generates the xIRI when the following event is detected:

- When the IRI-POI is located in the S-CSCF:

- If the S-CSCF uses third-party registrations to notify the RCS Server when a UE registers, when the S-CSCF receives a 200 OK from the RCS Server in response to a third-party SIP REGISTER request registering, re-registering or de-registering a target with the RCS Server.

- If the S-CSCF is the NF responsible for handling RCS Registrations:

- When the S-CSCF sends a 200 OK to a target in response to a SIP REGISTER request that includes any of the service feature tags listed in GSMA RCC.07 [Re1] clause 2.4.4.1 Table 3.

- When the S-CSCF sends a 200 OK to a target in response to a SIP REGISTER request for de-registration when the service features supported by the target include any of the service features listed in GSMA RCC.07 [Re1] clause 2.4.4.1 Table 3.

- When the IRI-POI is located in the RCS Server:

- When the RCS Server sends a 200 OK to a target in response to a SIP REGISTER request that includes any of the service feature tags listed in GSMA RCC.07 [Re1] clause 2.4.4.1 Table 3.

- When the RCS Server sends a 200 OK to a target in response to a SIP REGISTER request for de-registration when the service features supported by the target include any of the service features listed in GSMA RCC.07 [Re1] clause 2.4.4.1 Table 3.

#### 7.X.3.3 RCS Message

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. The user generated content of the RCS message shall be delivered as CC in accordance with clause 7.X.5. 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:

- 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 +g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.oma.cpm.msg".

- 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 [Re3]).

#### 7.X.3.4 Session establishment

The IRI-POI present in the RCS Server shall generate an xIRI containing an RCSSessionEstablishment record when the IRI-POI in the RCS Server detects that a SIP session has been established for a large message mode standalone message delivery, a 1-to-1 chat session or a group chat session.

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

- The RCS Server receives a SIP 200 OK from the target in response to a SIP INVITE sent to the target with service feature tag +g.gsma.rcs.cpm.pager-large or +g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.oma.cpm.largemsg" in the SIP "Contact" header.

- The RCS Server returns a SIP 200 OK to the target in response to a SIP INVITE received from the target with service feature tag +g.gsma.rcs.cpm.pager-large or +g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.oma.cpm.largemsg" in the SIP "Contact" header.

- The RCS Server receives a SIP 200 OK from the target in response to a SIP INVITE sent to the target with service feature tag +g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.oma.cpm.session" in the SIP "Contact" header.

- The RCS Server returns a SIP 200 OK to the target in response to a SIP INVITE received from the target with service feature tag +g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.oma.cpm.session" in the SIP "Contact" header.

- The RCS Server receives a SIP 200 OK from the target in response to a SIP INVITE sent to the target with service feature tag +g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.oma.cpm.filetransfer" in the SIP "Contact" header.

- The RCS Server returns a SIP 200 OK to the target in response to a SIP INVITE received from the target with service feature tag +g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.oma.cpm.filetransfer" in the SIP "Contact" header.

End of All Changes