**3GPP TSG- Meeting #**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  |
| *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:*** |  |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *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 canbe 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:*** | There are times when it is beneficial to reuse structures defined in other documents within LI reports. However, some of these encapsulated payloads may need to have unauthorized information removed prior to being included in an IRI record sent over LI\_HI2. In addition, there needs to be a way to signal what information was removed and how it was removed in order for the payload to be correctly decoded and the integrity of the remaining information to be preserved. This CR proposes a solution for the flexible reporting of encapsulated payloads. |
|  |  |
| ***Summary of change:*** | This CR proposes a structure that allows for the reporting of encapsulated data that has had unauthorized information removed along with the details of the modifications that were made. |
|  |  |
| ***Consequences if not approved:*** | There will not be a solution to remove unauthorized information from encapsulated payloads. |
|  |  |
| ***Clauses affected:*** | 2, 7.4.1, 7.4.X (NEW), 7.12.4.2.1, 7.12.4.3.1, 7.12.4.3.X, 7.12.9.2.2, 7.13.3.3.2.2, 7.13.3.3.2.X, M.2 (NEW), TS33128Payloads.asn |
|  |  |
|  | **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 is associated with the following changes in the Forge:Merge request: [!198](https://forge.3gpp.org/rep/sa3/li/-/merge_requests/198)  Commit hash: [728bf0fd963159041ae5ad6a4c1e847468b18d81](https://forge.3gpp.org/rep/sa3/li/-/merge_requests/198/diffs?commit_id=728bf0fd963159041ae5ad6a4c1e847468b18d81) |
|  |  |
| ***This CR's revision history:*** | s3i230388 |

## \*\*\*\* START OF FIRST CHANGE (MAIN DOCUMENT) \*\*\*

# 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".

[65] 3GPP TS 33.535: "Authentication and Key Management for Applications (AKMA) based on 3GPP credentials in the 5G System (5GS)".

[66] IETF RFC 5246: "The Transport Layer Security (TLS) Protocol Version 1.2".

[67] GSMA IR.88: "IR.88 LTE and EPC Roaming Guidelines".

[68] GSMA NG.114 "IMS Profile for Voice, Video and Messaging over 5GS".

[69] IETF RFC 8225: "PASSporT: Personal Assertion Token".

[70] IETF RFC 8224: "Authenticated Identity Management in the Session Initiation Protocol (SIP)".

[71] IETF RFC 8588: "Personal Assertion Token (PaSSporT) Extension for Signature-based Handling of Asserted information using toKENs (SHAKEN)".

[72] 3GPP TS 24.196: "Enhanced Calling Name (eCNAM)".

[73] IETF draft-ietf-stir-passport-rcd-17: "PASSporT Extension for Rich Call Data".

NOTE: The above document cannot be formally referenced until it is published as an RFC.

[74] 3GPP TS 24.229: "IP multimedia call control protocol based on Session Initiation Protocol (SIP)and Session Description Protocol (SDP); Stage 3".

[75] IANA Session Initiation Protocol (SIP) Parameters: <https://www.iana.org/assignments/sip-parameters/sip-parameters.xhtml>

[76] IETF RFC 8946: "Personal Assertion Token (PASSporT) Extension for Diverted Calls".

[77] 3GPP TS 23.204: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Support of Short Message Service (SMS) over generic 3GPP Internet Protocol (IP) access; Stage 2".

[78] GSMA RCC.07: "Rich Communication Suite – Advanced Communications Services and Client Specification".

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

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

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

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

[83] Void.

[84] 3GPP TS 36.455: "Evolved Universal Terrestrial Radio Access (E-UTRA); LTE Positioning Protocol A (LPPa) ".

[85] 3GPP TS 37.355: "LTE Positioning Protocol (LPP)".

[86] 3GPP TS 38.455: "NG-RAN; NR Positioning Protocol A (NRPPa)".

[87] 3GPP TS 29.274: "3GPP Evolved Packet System (EPS); Evolved General Packet Radio Service (GPRS) Tunnelling Protocol for Control plane (GTPv2-C); Stage 3".

[88] 3GPP TS 29.513: "5G System; Policy and Charging Control signalling flows and QoS parameter mapping".

[89] 3GPP TS 29.512: "5G System; Session Management Policy Control Service; Stage 3".

[90] 3GPP TS 29.508: "5G System; Session Management Event Exposure Service; Stage 3".

[91] 3GPP TS 29.514: "5G System; Policy Authorization Service; Stage 3".

[92] 3GPP TS 29.214: "Policy and Charging Control over Rx reference point".

[93] 3GPP TS 24.558: "Enabling Edge Applications; Protocol specification".

[94] 3GPP TS 29.558: "Enabling Edge Applications; Application Programming Interface (API) specification".

[95] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".

[96] 3GPP TS 29.551: "5G System; Packet Flow Description Management Service; Stage 3".

[97] ETSI TS 103 280: "Lawful Interception (LI); Dictionary for common parameters".

[98] 3GPP TS 26.512: "5G Media Streaming (5GMS); Protocols".

[99] 3GPP TS 26.247: "Transparent end-to-end Packet-switched Streaming Service (PSS); Progressive Download and Dynamic Adaptive Streaming over HTTP (3GP-DASH)".

[100] 3GPP TS 29.563: "5G System; Home Subscriber Server (HSS) services for interworking with Unified Data Management (UDM); Stage 3".

[101] 3GPP TS 29.562: "5G System; Home Subscriber Server (HSS) Services; Stage 3".

[102] 3GPP TS 24.341 "Support of SMS over IP networks, Stage 3".

[103] 3GPP TS 38.473 "NG-RAN;F1 application protocol (F1AP)".

[104] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".

[105] ITU-T Recommendation Q.763 (1999): "Specifications of Signalling System No.7; Formats and codes".

[106] 3GPP TS 29.272: "Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) related interfaces based on Diameter protocol".

[107] IETF RFC 6442: "Location Conveyance for the Session Initiation Protocol".

[108] Void.

[109] OMA-TS-CPM\_Conv\_Function: "OMA CPM Conversation Functions".

[110] IETF RFC 2045: "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies".

[111] 3GPP TS 32.299: " Telecommunication management; Charging management; Diameter charging applications".

[112] 3GPP TS 32.423: "Telecommunication management; Subscriber and equipment trace; Trace data definition and management".

[113] 3GPP TS 38.414: "NG-RAN; NG data transport".

[114] VOID

[115] IETF RFC 5322: "Internet Message Format".

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

[117] IETF RFC 6901: "JavaScript Object Notation (JSON) Pointer".

[118] IETF RFC 3261: "SIP: Session Initiation Protocol".

[119] W3C Recommendation: "XML Path Language (XPath)".

[120] IETF RFC 2046: "Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types".

[121] 3GPP TR 33.928: "ADMF Logic for Provisioning Lawful Interception (LI) ".

[YY] 3GPP TS 23.038: "Alphabets and language-specific information".

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*

### 7.4.1 Introduction

Stage 3 intercept capabilities for SMS at an SMSF are defined in clause 6.2.5. Details on how to remove unauthorised content from SMS messages are defined in clause 7.4.X.2.

Stage 3 for MMS interception follows in clause 7.4.3.

Stage 3 intercept capabilities for RCS are defined in clause 7.13.

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*

### 7.4.X Redaction of unauthorized information from encapsulated messages

#### 7.4.X.1 General

The details on the removal of unauthorized information from encapsulated messages are detailed in the following clauses.

#### 7.4.X.2 SMS Redaction

When the removal of the short message (SM) portion of an SMS message is required, the SM portion of the TP-User-Data (TS 23.040 [XX] clause 9.2.3.24) shall be replaced by the equivalent of "Space" in the original encoding for the total length of the SM portion as determined by the TP-User-Data-Length field (TS 23.040 [18] clause 9.2.3.16), and accounting for the Length of the User Data Header (UDHL) field (TS 23.040 [18] clause 9.2.3.24) if the latter is present as indicated by the TP-User-Data-Header-Indicator field (TS 23.040 [18] clause 9.2.3.23). While replacing the SM data, the Data Coding Scheme (TS 23.038 [YY] clause 4) shall be considered.

If the TP-User-Data-Header-Indicator indicates the TP-User-Data Header is present, the Header shall be rewritten so that each of the Information Elements that are not classified as "SMS Control" in TS 23.040 [18] clause 9.2.3.24 shall be converted to a Filler Information Element per TS 23.040 [18] clause 9.2.3.24.17.

In any case, the overall length of the TP-User-Data, and if present, the overall length of the TP-User-Data Header, shall not be changed.

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*

##### 7.12.4.2.1 IMS Message

For an intercepted IMS based communication (see clause 7.12.2.8), the IRI-POI present in the IMS Signaling Function shall generate the xIRI IMSMessage from the SIP message used to handle that IMS based communication. All SIP messages use the same xIRI record as shown in table 7.12.4.2-1.

Table 7.12.4.2-1: Payload for IMSMessage record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| payload | IMSPayload | 1 | One of the following payload types (other payload types may be added in future versions of the specification):- encapsulatedSIPMessage shall be chosen when the SIP message does not contain any unauthorised information.- modifiedSIPMessage shall be chosen when the SIP message contains information that is not authorised for reporting. | M |
| sessionDirection | SessionDirection | 1 | Indicates the direction of the SIP session: fromTarget, toTarget, combined (if target calls him/herself) or indeterminate if the direction cannot be determined reliable (see NOTE). | M |
| voIPRoamingIndication | VoIPRoamingIndication | 0..1 | Indicates whether the roaming mode is inbound LBO, S8HR or N9HR when the target is in roaming situation. | C |
| location | Location | 0..1 | Location with timestamp, if available.Shall include all location information for the target UE available at the NF where the POI is located encoded as *location>IMSLocation.* | C |
| accessNetworkInformation | SEQUENCE OF SIPAccessNetworkInformation | 0..MAX | Provides non-location related access network information. Shall be present if available at the NF where the POI is located. One instance of SIPAccessNetworkInformation shall be used for each P-Access-Network-Information header. | C |
| cellularNetworkInformation | SEQUENCE OF SIPCellularNetworkInformation | 0..MAX | Provides non-location related cellular network information. Shall be present if available at the NF where the POI is located. One instance of SIPCellularNetworkInformation shall be used for each Cellular-Network-Info header. | C |
| NOTE: When an incoming call to a target is redirected to another user, the sessionDirection field shall be set to toTarget. When an incoming call from a target non-local ID to an IMS user is redirected to, the sessionDirection field shall be set to fromTarget. |

Table 7.12.4.2-2: Void

The IRI-POI present in the IMS signaling function generating an xIRI containing an IMSMessage record shall set:

- The Payload Direction field in the PDU header to the direction of the signaling message carried in the IRI payload (see ETSI TS 103 221-2 [8] clause 5.2.6). If the signalling message was sent from the target, the Direction Value "3" (sent from the target) shall be used, if the signalling message was sent to the target, the Direction Value "2" (sent to the target) shall be used; if the direction could not be determined reliably, the Direction Value "1" (not known to the POI) shall be used. If the SIP message is sent from and to the target, the Direction Value "4" (more than one direction) shall be used. For the SIP messages generated by the network, the Direction Value "5" (not applicable) shall be used.

- The conditional source IPv4 address or source IPv6 address field in the PDU header to the source IP address of the intercepted SIP message (see ETSI TS 103 221-2 [8] clause 5.3). It shall contain the source address of the packet from the 32-bit "Source Address" field in IPv4, as defined in IETF RFC 791 [34], or from the 128-bit "Source Address" field in IPv6, as defined in IETF RFC 2460 [27].

- The conditional destination IPv4 address or destination IPv6 address field in the PDU header to the destination IP address of the intercepted SIP message (see ETSI TS 103 221-2 [8] clause 5.3). It shall contain the destination address of the packet from the 32-bit "Source Address" field in IPv4, as defined in IETF RFC 791 [34], or from the 128-bit "Source Address" field in IPv6, as defined in IETF RFC 2460 [27].

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*

##### 7.12.4.3.1 Type: IMSPayload

Table 7.12.4.3.1-1 contains the details for the IMSPayload type.

Table 7.12.4.3.1-1: Definition of Choices for IMSPayload

|  |  |  |
| --- | --- | --- |
| CHOICE | Type | Description |
| encapsulatedSIPMessage | SIPMessage | Used to report entire SIPMessage when the SIP message contains only authorised information. |
| modifiedSIPMessage | ModifiedSIPMessage | Used to report the SIPMessage when the SIP message contains information that should be removed. |

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*

##### 7.12.4.3.X Type: ModifiedSIPMessage

Table 7.12.4.3.X-1: Structure of the SIPMessage type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| modifiedSIPContent | SIPMessage | 1 | The relevant SIP message with the unauthorized information removed as described in clause 7.12.9. | M |
| modifications | PayloadModifications | 1 | Contains the list of modifications done to the modifiedSIPContent. | M |

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*

##### 7.12.9.2.2 P-Access-Network-Info location removal

Each character of each access-info parameter field of the P-Access-Network-Info header shall be over-written with zeros (see TS 24.229 [74] clause 7.2A.4). If multiple P-Access-Network-Info headers are present in the message, each shall be modified.

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*

##### 7.12.9.3.2 Removal of SMS content

If the Content-Type of any body part of the SIP message is "application/vnd.3gpp.sms", the TP-User-Data (TS 23.040 [18] clause 9.2.3.4) of the SMS TPDU shall be modified as described in clause 7.4.X.2.

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*

###### 7.13.3.3.2.2 Type: RCSPayload

Table 7.13.3.3.2.2-1: Choices for RCSPayload parameter

|  |  |  |
| --- | --- | --- |
| Choice name | Type | Description |
| fullPayload | EncapsulatedRCSPayload | Shall be chosen if the payload of the RCS message being reported contains only authorized information. |
| modifiedPayload | ModifiedRCSPayload | Shall be chosen if the original payload of the RCS message being reported contains any information that should be removed. |

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*

###### 7.13.3.3.2.X Type: ModifiedRCSPayload

Table 7.13.3.3.2.X-1: Structure of the ModifiedRCSPayload type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| modifiedRCSPayload | EncapsulatedRCSPayload | 1 | Contains the modified payload in the original enoding. | M |
| modifications | PayloadModifications | 1 | Contains the list of modifications done to the modifiedRCSPayload. | M |

## \*\*\*\* START OF NEXT CHANGE (MAIN DOCUMENT) \*\*\*

# M.2 Encapsulated information modification

## M.2.1 General

When encapsulated information needs to be modified, the following structures may be used to report that payload in IRI messages.

In general, the predefined redactions listed in the PredefinedPayloadModification table below should be used whenever possible. In cases where none of the predefined modifications describe the required redactions, the PayloadModificationDescription may be used.

When an encapsulated payload is modified to redact unauthorized information each type of modification applied shall be reported in the PayloadModifications parameter. If the same type of modification is performed in multiple locations, this PayloadModification shall only be indicated once. Additionally, the indication of a PayloadModification indicates that all instances that match the conditions for that modification profile were modified.

## M.2.1 Predefined modifications

The current document provides details for the following predefined methods for redacting unauthorized information from encapsulated payloads:

- SMS TP-User-Data content redaction as described in clause XEEEEEEEEEEEEE.

- IMS location and content information redaction as described in clause 7.12.9.

## M.2.2 Use of described modifications.

Each modification is described using a ModificationLocation (see clause M.2.2.5) and a ModificationType (see clause M.2.2.4).

## M.2.2 Encapsulated information modification parameters

### M.2.2.1 Simple Types for encapsulated information modification

Table M.2.2.1-Ta1: Simple Types for LI reporting of encapsulated information with modifications

|  |  |  |
| --- | --- | --- |
| Type name | Type definition | Description |
| ABNFRuleLocation | UTF8String | The ABNF rule name defining the syntax of the portion of the payload that was modified. |

### M.2.2.2 Type: PayloadModifications

Table M.2.2.2-Ta1: Structure of the PayloadModifications type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field name** | **Type** | **Cardinality** | **Description** | **M/C/O** |
| modificationList | SEQUENCE OF PayloadModification | 1..MAX | Contains a list of modifications performed on the payload being reported. | M |

### M.2.2.3 Type: PayloadModification

Table M.2.2.3-Ta1: Choices for the PayloadModification type

|  |  |  |
| --- | --- | --- |
| **Field name** | **Type** | **Description** |
| predefinedModification | PredefinedPayloadModification | Shall be chosen if one of the predefined payload modification profiles was applied to the reported payload. |
| describedModification | PayloadModificationDescription | Shall be chosen if the modification used is described using the PayloadModificationDescription below. |

### M.2.2.4 Enumeration: PredefinedPayloadModification

The PredefinedModificationPayload shall be set to indicate which predefined payload modification profile was used on the reported modified payload.

Table M.2.2.4-1: Enumeration for PredefinedPayloadModification parameter

|  |  |
| --- | --- |
| Enumeration | Description |
| pANILocationRemoval | Shall be selected if location information was redacted from an encapsulated P-Access-Network-Info header using the process described in clause 7.12.9.2.2. |
| cNILocationRemoval | Shall be selected if location information was redacted from an encapsulated Cellular-Network-Info header using the process described in clause 7.12.9.2.3. |
| sIPGeolocationInfoRemoval | Shall be selected if location information was redacted due to the presence of a Geolocation header using the process described in clause 7.12.9.2.4. |
| presenceInformationLocationRemoval | Shall be selected if location information was redacted from the geopriv element of an encapsulated presence information document using the process described in clause 7.12.9.2.5. |
| tS33128SMSTPDURedaction | Shall be selected if content is redacted from an encapsulated SMS TPDU using the process described in clause 7.4.X.2. |
| tS33128TruncatedSMSTPDU | Shall be selected if content is removed from an encapsulated SMS TPDU using the process described in clause 6.2.5.3. |
| iMSTextContentRemoval | Shall be selected if content is redacted from an encapsulated SIP message using the process described in clause 7.12.9.3.3. |
| iMSSubjectContentRemoval | Sall be selected if content is redacted from an encapsulated SIP message using the process described in clause 7.12.9.3.4. |

### M.2.2.5 Type: PayloadModificationDescription

The PayloadModificationDescription shall be used to describe redactions performed on a payload.

Table M.2.2.5-Ta1: Structure of the PayloadModificationDescription type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field name** | **Type** | **Cardinality** | **Description** | **M/C/O** |
| modificationLocation | ModificationLocation | 1 | Contains criteria used to identify where the information redacted from the encapsulated payload was located within the payload. | M |
| modificationType | ModificationType | 1 | Contains details on the method used to redact the information from the encapsulated payload. | M |

### M.2.2.6 Type: ModificationLocation

Table M.2.2.6-Ta1: Choices for ModificationLocation Type

|  |  |  |
| --- | --- | --- |
| **Choice name** | **Type** | **Description** |
| jSONPointer | UTF8String | JSON pointer that indicates location of the modified information within a JSON Document. Shall be sent in the form of a JSON string value (See RFC 6901 [117], clause 5). |
| xPath | UTF8String | XPath indicating the node or nodes within an XML document that were modified. Shall be sent in the form of a XPath string value (See W3C Recommendation: "XML Path Language (XPath)" [119]). |
| sIPHeader | UTF8String | Indicates the header field-name (see RFC 3261 [118] clause 7.3.1) of the SIP Header field that was modified. |
| sIPBody | NULL | Indicates the body of the SIP message was modified. |
| mIMEHeader | UTF8String | Indicates the header field-name (see RFC 2045 [110] clause 3 and RFC 5322 [115] clause 3.6) of the MIMEHeader that was modified. |
| mIMEBody | MIMEBody | Indicated that the body of the MIME Message was modified. |
| uTF8Location | IndexRange | Indicates that the portion of a UTF8String identified by the IndexRange was modified. |
| octetLocation | IndexRange | Indicates that the portion of the OCTET STRING identified by the IndexRange was modified. |
| aBNFRule | ABNFRuleLocation | Indicates the ABNF rule name of the rule that was modified. |

### M.2.2.7 Type: ModificationType

Table M.2.2.7-Ta1: Choices for ModificationType Type

|  |  |  |
| --- | --- | --- |
| **Choice name** | **Type** | **Description** |
| removed | PayloadInformationRemoved | Indicates that modification being described was the removal of information from the modifiedPayload. |
| replacedWithCharacters | PayloadInformationReplacedWithCharacters | Indicates that the information was replaced with characters. |
| replacedWithOctets | OCTET STRING | Indicates that the information was replaced with octets. Shall contain the value of the octets used to replace the information. If the length of the information being replaced is longer than the OCTET STRING included in this parameter, the value included in this parameter is repeated until the full length of the information being replaced is filled. |
| replacedWithBits | BIT STRING | Indicates that the information was replaced with bits. Shall contain the value of the bits used to replace the information. If the length of the information being replaced is longer than the BIT STRING included in this parameter, the value included in this parameter is repeated until the full length of the information being replaced is filled. |

### M.2.2.8 Type: PayloadInformationReplacedWithCharacters

Table M.2.2.8-Ta1: Structure of the PayloadInformationReplacedWithCharacters type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field name** | **Type** | **Cardinality** | **Description** | **M/C/O** |
| characters | UTF8String | 1 | Shall contain the characters used to replace the information. If the length of the information being replaced is longer than the string included in this parameter, the value included in this parameter is repeated until the full length of the information being replaced is filled. The replacement shall be done using the encoding  | M |

### M.2.2.9 Type: PayloadInformationRemoved

Table M.2.2.9-Ta1: Choices for PayloadInformationRemoved Type

|  |  |  |
| --- | --- | --- |
| **Choice name** | **Type** | **Description** |
| charactersRemoved | INTEGER | Indicates the number of characters removed from the modifiedPayload as a part of the described modification. |
| octetsRemoved | INTEGER | Indicates the number of octets removed from this portion of the modifiedPayload as a part of the described modification. |
| bitsRemoved | INTEGER | Indicates the number of bits removed from this portion of the modifiedPayload as a part of the described modification. This choice shall only be used if the information removed cannot be measured in octets. |

### M.2.2.10 Type: MIMEBody

Table M.2.2.10-Ta1: Choices for MIMEBody Type

|  |  |  |
| --- | --- | --- |
| **Choice name** | **Type** | **Description** |
| fullBody | NULL | Indicates that the entire body of the MIME Entity was modified or that the MIME Entity had only one body part. |
| bodyPart | MIMEPartIdentifier | Indicates which part of a multipart message was modified by the described modification. |

### M.2.2.11 Type: IndexRange

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field name** | **Type** | **Cardinality** | **Description** | **M/C/O** |
| start | INTEGER | 1 | Indicates the location where the modification starts.The first octet, character, or bit of the portion of the message that is being modified is referred to as 1. | M |
| end | INTEGER | 1 | Indicates the location where the modification ends.The first octet, character, or bit of the portion of the message that is being modified is referred to as 1. | M |

Table M.2.2.11-Ta1: Structure of the IndexRange type

## \*\*\*\* END OF MAIN DOCUMENT CHANGES \*\*\*

## \*\*\*\* START OF FIRST CHANGE (ATTACHMENTS) \*\*\*

---a/33128/r18/TS33128Payloads.asn
+++b/33128/r18/TS33128Payloads.asn

@@ -3999,7 +3999,14 @@ IMSCCPDUPayload ::= OCTET STRING

3999 3999

4000 4000 IMSPayload ::= CHOICE

4001 4001 {

4002 - encapsulatedSIPMessage [1] SIPMessage

- 4002 encapsulatedSIPMessage [1] SIPMessage,

- 4003 modifiedSIPMessage [2] ModifiedSIPMessage

- 4004 }

- 4005

- 4006 ModifiedSIPMessage ::= SEQUENCE

- 4007 {

- 4008 modifiedSIPContent [1] SIPMessage,

- 4009 modifications [2] PayloadModifications

4003 4010 }

4004 4011

4005 4012 SIPMessage ::= SEQUENCE

@@ -6651,7 +6658,8 @@ SIPCellularNetworkInformation ::= SEQUENCE

6651 6658

6652 6659 RCSPayload ::= CHOICE

6653 6660 {

6654 - fullPayload [1] EncapsulatedRCSPayload

- 6661 fullPayload [1] EncapsulatedRCSPayload,

- 6662 modifiedPayload [2] ModifiedRCSPayload

6655 6663 }

6656 6664

6657 6665 EncapsulatedRCSPayload ::= CHOICE

@@ -6661,6 +6669,82 @@ EncapsulatedRCSPayload ::= CHOICE

6661 6669 sIP [3] SIPMessage

6662 6670 }

6663 6671

- 6672 ModifiedRCSPayload ::= SEQUENCE

- 6673 {

- 6674 modifiedRCSPayload [1] EncapsulatedRCSPayload,

- 6675 modifications [2] PayloadModifications

- 6676 }

- 6677

- 6678 PayloadModifications ::= SEQUENCE

- 6679 {

- 6680 modificationList [1] SEQUENCE OF PayloadModification

- 6681 }

- 6682

- 6683 PayloadModification ::= CHOICE

- 6684 {

- 6685 predefinedModification [1] PredefinedPayloadModification,

- 6686 describedModification [2] PayloadModificationDescription

- 6687 }

- 6688

- 6689 PredefinedPayloadModification ::= ENUMERATED

- 6690 {

- 6691 pANILocationRemoval(1),

- 6692 cNILocationRemoval(2),

- 6693 sIPGeolocationInfoRemoval(3),

- 6694 presenceInformationLocationRemoval(4),

- 6695 tS33128SMSTPDURedaction(5),

- 6696 tS33128TruncatedSMSTPDU(6),

- 6697 iMSTextContentRemoval(7),

- 6698 iMSSubjectContentRemoval(8)

- 6699 }

- 6700

- 6701 PayloadModificationDescription ::= SEQUENCE

- 6702 {

- 6703 modificationLocation [1] ModificationLocation,

- 6704 modificationType [2] ModificationType

- 6705 }

- 6706

- 6707 ModificationLocation ::= CHOICE

- 6708 {

- 6709 jSONPointer [1] UTF8String,

- 6710 xPath [2] UTF8String,

- 6711 sIPHeader [3] UTF8String,

- 6712 sIPBody [4] NULL,

- 6713 mIMEHeader [5] UTF8String,

- 6714 mIMEBody [6] MIMEBody,

- 6715 uTF8Location [7] IndexRange,

- 6716 octetLocation [8] IndexRange,

- 6717 aBNFRule [9] ABNFRuleLocation

- 6718 }

- 6719

- 6720 ABNFRuleLocation ::= UTF8String

- 6721

- 6722 ModificationType ::= CHOICE

- 6723 {

- 6724 removed [1] PayloadInformationRemoved,

- 6725 replacedWithCharacters [2] PayloadInformationReplacedWithCharacters,

- 6726 replacedWithOctets [3] OCTET STRING,

- 6727 replacedWithBits [4] BIT STRING

- 6728 }

- 6729

- 6730 PayloadInformationRemoved ::= CHOICE

- 6731 {

- 6732 charactersRemoved [1] INTEGER,

- 6733 octetsRemoved [2] INTEGER,

- 6734 bitsRemoved [3] INTEGER

- 6735 }

- 6736

- 6737 PayloadInformationReplacedWithCharacters ::= SEQUENCE

- 6738 {

- 6739 characters [1] UTF8String

- 6740 }

- 6741

- 6742 IndexRange ::= SEQUENCE

- 6743 {

- 6744 start [1] INTEGER,

- 6745 end [2] INTEGER

- 6746 }

- 6747

6664 6748 -- ===============================================

6665 6749 -- Externally Defined Structures - MSRP Parameters

6666 6750 -- ===============================================

## \*\*\*\* END OF ALL CHANGES \*\*\*