**3GPP TSG- Meeting # *43***

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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:***  |  |
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| ***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)* |
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| ***Reason for change:*** | Currently, when location is not authorized, there is no way to report any Access Network Information.  |
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| ***Summary of change:*** | This CR extends the existing IMS message structure to include access network information that is not related to location.Additionally, the tables for the IMS messages are updated to include types and cardinality information. Tables for currently undescribed parameters  |
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| ***Consequences if not approved:*** | Some authorized information would not be sent to LEAs. |
|  |  |
| ***Clauses affected:*** | 7.12.4.2.1, 7.12.4.2.2, 7.12.4.2.3, New 7.12.4.X, Annex A |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 33.128 CR 0496  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** | CR 0496 defines the ASN.1 for the new parameter in this CR.This CR is associated with the following changes in the Forge:Merge request: [!152](https://forge.3gpp.org/rep/sa3/li/-/merge_requests/152) Commit hash: [e9aebaab66b606697dbd0686f0a8badc0003f24c](https://forge.3gpp.org/rep/sa3/li/-/merge_requests/152/diffs?commit_id=e9aebaab66b606697dbd0686f0a8badc0003f24c) |
|  |  |
| ***This CR's revision history:*** | S3i230138 |

## \*\*\*\* START OF FIRST 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

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| --- | --- | --- | --- | --- |
| **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: See table 7.12.4.X.Y-1 | 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 |
| 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. |

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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].

##### 7.12.4.2.2 Start of interception with Active IMS session

The IRI-POI present in the IMS signaling function shall generate the xIRI StartOfInterceptionForActiveIMSSession when all of the following conditions are met:

- The IRI-POI receives an LI\_X1: ActivateTask from the LIPF.

- The IRI-POI detects the IMS user identified by one or more of the target identifier (s) included in the ActivateTask is on an active IMS session.

 - The-IRI-POI in the IMS signaling functions meets the criteria mentioned in TS 33.127 [5] for providing the IRI-POI functions.

The generation of the xIRI shall be independent of the IMS media associated with the session. If multiple IMS sessions are active at the start of interception, a StartOfInterceptionForActiveIMSSession record shall be generated for each active session.

The following table contains parameters, with IRITargetIdentifier, generated by the IRI-POI.

Table 7.12.4.2.-3: Payload for StartOfInterceptionForActiveIMSSession record

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| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| originatingId | SEQUENCE OF IMPU | 1..MAX | Identities of the originator of the session. | M |
| terminatingId | IMPU | 1 | Identities of the termination of the service. | M |
| **sDPState** | SEQUENCE OF OCTET STRING | 0..MAX | Latest state of session from IMS signaling function (including LMISF) will provide the agreed SDP answer and related modification (encoded in SDP format as per RFC 4566 [43] clause 5 when known.) for each media stream of the target. | C |
| diversionIdentity | IMPU | 0..1 | Provided if available and applicable. | C |
| voIPRoamingIndication | VoIPRoamingIndication | 0..1 | Indicates whether the roaming mode is 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 |

##### 7.12.4.2.3 IMS CC Unavailable

The IRI-POI present in the IMS signaling function that also has the CC-TF (which would have triggered the media interception at the CC-POI) shall generate the xIRI IMSCCUnavailable when the media is not available for interception in the CSP's network.

Accordingly, the IRI-POI present in the IMS signaling function that has the CC-TF shall generate the xIRI IMSCCUnavailable when the following conditions are met:

- The target of interception is on an IMS session with established SDP offer and answer.

- The media does not enter the IMS network of the CSP that has received the warrant. In other words, the CC-TF does not send the LI\_T3 ActivateTask to the CC-POI.

- The CSP is required to send a notification to the LEMF when the media interception is required but not available for the interception.

NOTE: The details of any interactions required between the IRI-POI and CC-TF present in the same IMS Signaling Function (e.g. IBCF) is outside the scope of the present document.

The payload of the IMSCCUnavailable xIRI is as shown in table 7.12.4.2-4.

Table 7.12.4.2.-4: Payload for IMSCCUnavailable record

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| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| cCUnavailableReason | UTF8String | 1 | Provides the reason for the unavailability of CC. | M |
| sDPState | OCTET STRING | 0..1 | The latest SDP information, if known. | C |

#### 7.12.4.X IMS record parameters

##### 7.12.4.X.1 Type: IMSPayload

Table 7.12.4.X.1-1 contains the details for the IMSPayload type.

Table 7.12.4.X.1-1: Definition of Choices for IMSPayload

|  |  |  |
| --- | --- | --- |
| CHOICE | Type | Description |
| encapsulatedSIPMessage | SIPMessage | Shall be used to report entire SIPMessage when the SIP message does not conatin any unauthorized information. |

##### 7.12.4.X.2 Enumeration: SessionDirection

The SessionDirection indicates the direction of the SIP session with regards to the target.

Table 7.12.4.X.2-1 contains the details for the SessionDirection type.

Table 7.12.4.X.2-1: Enumeration SessionDirection

|  |  |
| --- | --- |
| Enumeration value | Description |
| fromTarget(1) | The session was initiated by the target. |
| toTarget(2) | The session was initiated by a party that is not the target. |
| combined(3) | The target initiates a session toward itself. |
| indeterminate(4) | The direction of the session cannot be determined. |

##### 7.12.4.X.3 Enumeration: VoIPRoamingIndication

The VoIPRoamingIndication indicates the type of roaming in use when the target is in a roaming state.

Table 7.12.4.X.3-1 contains the details for the VoIPRoaminIndication type.

Table 7.12.4.X.3-1: Enumeration VoIPRoamingIndication

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| --- | --- |
| Enumeration value | Description |
| roamingLBO(1) | The target is roaming and using Local Breakout. |
| roamingS8HR(2) | The target is using S8 Home Routed Roaming. |
| roamingN9HR(3) | The target is using N9 Home Routed Roaming. |

##### 7.12.4.X.4 Type: SIPMessage

Table 7.12.4.X.4-1: Structure of the SIPMessage type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| iPSourceAddress | IPAddress | 1 | Indicates 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). | M |
| iPDestinationAddress | IPAddress | 1 | Indicates 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). | M |
| sIPContent | OCTET STRING | 1 | The relevant SIP message, or SIP message header if the warrant requires IRI-only. In addition, for IRI-only intercepts, specific content (e.g. SIP MESSAGE method) may have to be deleted. | M |

##### 7.12.4.X.5 Type: SIPAccessNetworkInformation

Table 7.12.4.X.5-1: Structure of the SIPAccessNetworkInformation type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| accessType | UTF8String | 0..1 | Indicates the access type indicated by the access-type field of the PANI header of the SIP message being reported. Shall be present if this field is populated in the PANI header (see TS 24.229 [74] clauses 7.2A.4.2 and 7.2A.4.3). | C |
| accessClass | UTF8String | 0..1 | Indicates the access class indicated by the access-class field of the PANI header of the SIP message being reported. Shall be present if this field is populated in the PANI header. | C |
| servingPLMN | PLMNID | 0..1 | Indicates the PLMN of the serving network. Shall be included if this information is present in the access-info field of the PANI header. | C |
| networkProvided | Boolean | 0..1 | Shall be present and set to true if the “network-provided” header field parameter is present. If absent, this parameter shall be interpreted as false. | C |
| ePSFallback | Boolean | 0..1 | Indicates that the current access technology is used as a result of EPS fallback. This parameter shall be set to true if the “eps-fallback” header field parameter of the the PANI header of the SIP message being reported is set to 1. This parameter shall be set to false if the “eps-fallback” header field parameter of the the PANI header of the SIP message being reported is set to 0. If this parameter is absent, it is unknown whether EPS fallback has occurred. | C |
| uELocalIPAddress | IPAddress | 0..1 | Indicates the UE local IP Address. Shall be included if Shall be present if this field is populated in the PANI header. | C |
| uDPSourcePort | PortNumber | 0..1 | Indicates the UDP source port (see TS 24.229 [74] clause 7.2A.4.2). Shall be present if this field is populated in the PANI header. | C |
| tCPSourcePort | PortNumber | 0..1 | Indicates the TCP source port (see TS 24.229 [74] clause 7.2A.4.2). Shall be present if this field is populated in the PANI header. | C |
| ePDGIPAddress | IPAddress | 0..1 | Indicates the IP address used by the ePDG (see TS 24.229 [74] clause 7.2A.4.2). Shall be present if this field is populated in the PANI header. | C |

## \*\*\*\* END OF MAIN DOCUMENTS CHANGES \*\*\*