**3GPP TSG- Meeting # *r2***

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
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| *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:*** |  | | | | | | | | | |
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| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
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| ***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 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 current values reported by the SMF records are insufficient to report data connections in EPS/5GS interworking scenarios. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Adds a parameter and changes the triggers for the SMFPDUSessionEstablishment record when the POI is located in an SMF+PGW-C. | | | | | | | | |
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| ***Consequences if not approved:*** | | Reporting of EPS/5GS interworking sessions and associated PDN connections will be insufficient. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 6.2.3.1.1, 6.2.3.2.2, 6.3.1, 6.3.3, 6.3.3.2, 6.3.Cl1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | S3i220242 | | | | | | | | |

\*\*\* Start of 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".

[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-12: "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] IETF RFC 4566: "SDP: Session Description Protocol".

[Re1] 3GPP TS 29.274: "3GPP Evolved Packet System (EPS); Evolved General Packet Radio Service (GPRS) Tunnelling Protocol for Control plane (GTPv2-C); Stage 3".

\*\*\* Start of Next Change \*\*\*

##### 6.2.3.1.1 General

If the SMF is part of a combined SMF+PGW-C, the requirements described in clause 6.3.Cl1.1 shall be used.

If the warrant is for IRI and CC, then the IRI-POI and the CC-TF in the SMF shall be provisioned in accordance with clause 6.2.3.1.2, the MDF2 shall be provisioned in accordance with clause 6.2.3.1.3, and the MDF3 shall be provisioned in accordance with clause 6.2.3.1.4.

If the warrant is for IRI only, the IRI-POI in the SMF shall be provisioned in accordance with clause 6.2.3.1.2 and the MDF2 shall be provisioned in accordance with clause 6.2.3.1.3.

If approach 1 described in clause 6.2.3.9 is used for packet header information reporting, the IRI-TF in the SMF shall be provisioned in accordance with clause 6.2.3.1.2 and the MDF2 shall be provisioned in accordance with clause 6.2.3.1.3. If approach 2 described in clause 6.2.3.9 is used for packet header information reporting, the CC-TF in the SMF shall be provisioned in accordance with clause 6.2.3.1.2, the MDF2 shall be provisioned in accordance with clause 6.2.3.1.3, and the MDF3 shall be provisioned in accordance with clause 6.2.3.1.4.

\*\*\* Start of Next Change \*\*\*

##### 6.2.3.2.2 PDU session establishment

The IRI-POI in the SMF, shall generate an xIRI containing an SMFPDUSessionEstablishment record when the IRI-POI present in the SMF detects that a PDU session has been established for the target UE. The IRI-POI present in the SMF shall generate the xIRI for the following events:

- For a non-roaming scenario, the SMF (or for a roaming scenario, V-SMF in the VPLMN), sends the N1 NAS message (via AMF) PDU SESSION ESTABLISHMENT ACCEPT to the UE and the 5G Session Management (5GSM) state within the SMF is changed to PDU SESSION ACTIVE (see TS 24.501 [13]).

- For a home-routed roaming scenario, the SMF in the HPLMN (i.e. H-SMF) sends the N16: Nsmf\_PDU\_Session\_Create response message with n1SmInfoToUe IE containing the PDU SESSION ESTABLISHMENT ACCEPT (see TS 29.502 [16]).

Table 6.2.3-1: Payload for SMFPDUSessionEstablishment record

|  |  |  |
| --- | --- | --- |
| Field name | Description | M/C/O |
| sUPI | SUPI associated with the PDU session (e.g. as provided by the AMF in the associated Nsmf\_PDU\_Session\_CreateSMContext service operation). Shall be present except for PEI-only unauthenticated emergency sessions (see NOTE). | C |
| sUPIUnauthenticated | Shall be present if a SUPI is present in the message and set to “true” if the SUPI has not been authenticated, or “false” if it has been authenticated. | C |
| pEI | PEI associated with the PDU session if available (see NOTE). | C |
| gPSI | GPSI associated with the PDU session if available (see NOTE). | C |
| pDUSessionID | PDU Session ID See TS 24.501 [13] clause 9.4. | M |
| gTPTunnelID | Contains the F-TEID identifying the GTP tunnel used to encapsulate the traffic, as defined in TS 29.244 [15] clause 8.2.3. Non-GTP encapsulation is for further study. | M |
| pDUSessionType | Identifies selected PDU session type, see TS 24.501 [13] clause 9.11.4.11. | M |
| sNSSAI | Slice identifiers associated with the PDU session, if available. See TS 23.003 [19] clause 28.4.2 and TS 23.501 [2] clause 5.15.2. | C |
| uEEndpoint | UE endpoint address(es) if available. | C |
| non3GPPAccessEndpoint | UE's local IP address used to reach the N3IWF, TNGF or TWIF, if available. IP addresses are given as 4 octets (for IPv4) or 16 octets (for IPv6) with the most significant octet first (network byte order). | C |
| location | Location information provided by the AMF, if available.  Encoded as a *userLocation* parameter (*location>locationInfo>userLocation*), see Annex A. | C |
| dNN | Data Network Name associated with the target traffic, as defined in TS 23.003[19] clause 9A and described in TS 23.501 [2] clause 4.3.2.2. | M |
| aMFID | Identifier of the AMF associated with the target UE, as defined in TS 23.003 [19] clause 2.10.1 when available. | C |
| hSMFURI | URI of the Nsmf\_PDUSession service of the selected H-SMF, if available. See TS 29.502 [16] clause 6.1.6.2.2. | C |
| requestType | Type of request as described in TS 24.501 [13] clause 9.11.3.47 if available. In the case where the network does not support Multi Access (MA) PDU sessions, but receives a MA PDU session request, a request type of “Initial request” shall be reported. | C |
| accessType | Access type associated with the session (i.e. 3GPP or non-3GPP access) if provided by the AMF (see TS 24.501 [13] clause 9.11.2.1A). | C |
| rATType | RAT Type associated with the access if provided by the AMF as part of session establishment (see TS 23.502 [4] clause 4.3.2). Values given as per TS 29.571 [17] clause 5.4.3.2. | C |
| sMPDUDNRequest | Contents of the SM PDU DN Request container, if available, as described in TS 24.501 [13] clause 9.11.4.15. | C |
| uEEPSPDNConnection | This IE shall be present, if available, during an EPS to 5GS Idle mode mobility or handover using the N26 interface. When present, it shall contain the EPS bearer context(s) information present in the uEEPSPDNConnection parameter of the intercepted SmContextCreateData message. (see TS 29.502 [16] clause 6.1.6.2.2). | C |
| ePS5GSComboInfo | Provides detailed information about PDN Connections. Shall be included when the AMF has selected a SMF+PGW-C to serve the PDU session. This parameter shall include the additional IEs in Table 6.2.3-1A, if present. | C |
| NOTE: At least one of the SUPI, PEI or GPSI fields shall be present. | | |

Table 6.2.3-1A: Payload for ePS5GSComboInfo

|  |  |  |
| --- | --- | --- |
| ePSInterworkingIndication | Indication that the AMF has selected a SMF+PGW-C to serve the PDU session. See TS 29.502 [16] clause 6.1.6.3.11. | M |
| ePSSubscriberIDs | Includes the Subscriber Identities associated with the EPS PDN Connection in the UE Context sent from the MME to the AMF. See TS 29.274 [Re1] clause 7.2.1 and TS 23.502 [4] clause 4.11.1. | M |
| ePSPdnCnxInfo | Indicates that the PDU Session may be moved to EPS During its lifetime. See TS 29.502 [16] clause 6.1.6.2.31. | C |
| ePSBearerInfo | Includes the EPS Bearer context(s) successfully setup in EPS for the PDU Session. See TS 29.502 [16] clause 6.1.6.2.4. | C |

\*\*\* Start of Next Change \*\*\*

### 6.3.1 General

The present document allows three options for EPC LI stage 3 interfaces for 4G / LTE:

- Option A: Use LI\_X1, LI\_X2 and LI\_X3 interfaces specified below in clause 6.3.2 and 6.3.3 for the events listed in TS 33.127 [5] clause 6.3.2.3 and 6.3.3.Cl1 and the events related to SMS over NAS as specified in TS 33.107 [36] clause 18.2.4..

- Option B: Use LI\_X1, LI\_X2 and LI\_X3 interfaces as specified in clause 6.3.2 and 6.3.3 for the events listed in TS 33.107 [36] clause 12.2.1.2 and for the events related to the MMEIdentifierAssociation record described in clause 6.3.2.2.2.

- Option C: Use TS 33.107 [36] clause 12 natively as defined in that document.

For implementations that include EPS/5GS interworking, Option A shall be used.

In all cases, the present document specifies the stage 3 for the LI\_HI1, LI\_HI2 and LI\_HI3 interfaces.

\*\*\* Start of Next Change \*\*\*

### 6.3.3 LI at SGW/PGW and ePDG

#### 6.3.3.0 General

Unless otherwise specified, the following clauses apply to both CUPS and non-CUPS EPS architectures. When CUPS architecture is used, unless otherwise specified, the term SGW/PGW refers to both the SGW-U/PGW-U and the SGW-C/PGW-C.

Unless otherwise specified, the following clauses apply in the case of EPC-5GC interworking via combined SMF+PGW-C and UPF+PGW-U.

#### 6.3.3.1 Provisioning over LI\_X1

##### 6.3.3.1.1 General

If the warrant is for IRI and CC, then the LI functions in the SGW/PGW shall be provisioned in accordance with clause 6.3.3.1.2 for CUPS architecture and clause 6.3.3.1.3 for non-CUPS architecture, the MDF2 shall be provisioned in accordance with clause 6.4.3.1.4, and the MDF3 shall be provisioned in accordance with clause 6.3.3.1.5.

If the warrant is for IRI only, the IRI-POI in the SGW/PGW shall be provisioned in accordance with clause 6.3.3.1.2 for CUPS architecture and clause 6.3.3.1.3 for non-CUPS architecture and the MDF2 shall be provisioned in accordance with clause 6.3.3.1.4.If approach 1 described in clause 6.2.3.9 is used for packet header information reporting:

* For CUPS architecture, the IRI-TF in the SGW-C/PGW-c shall be provisioned in accordance with clause 6.3.3.1.3 and the MDF2 shall be provisioned in accordance with clause 6.3.3.1.Cl1.
* For non-CUPS architecture, the IRI-POI in the SGW/PGW shall be provisioned in accordance with clause 6.3.3.1.2 and the MDF2 shall be provisioned in accordance with clause 6.3.3.1.Cl1.

If approach 2 described in clause 6.2.3.9 is used for packet header information reporting:

* For CUPS architecture, the CC-TF in the SGW-C/PGW-C shall be provisioned in accordance with clause 6.3.3.1.3, the MDF2 shall be provisioned in accordance with clause 6.3.3.1.Cl1, and the MDF3 shall be provisioned in accordance with clause 6.3.3.1.Cl2.
* For CUPS architecture, the CC-POI in the SGW/PGW shall be provisioned in accordance with clause 6.3.3.1.2, the MDF2 shall be provisioned in accordance with clause 6.3.3.1.Cl1, and the MDF3 shall be provisioned in accordance with clause 6.3.3.1.Cl2.

The LI functions in the SGW/PGW and ePDG, the MDF2 and the MDF3 shall support the following target identifier formats in the ETSI TS 103 221-1 [7] messages (or equivalent if ETSI TS 103 221-1 [7] is not used):- IMSI.

- MSISDN (using the E164Number target identifier format from ETSI TS 103 221-1 [7]).

- IMEI.

In the case of EPC-5GC interworking via combined SMF+PGW-C and UPF+PGW-U, the LI functions in the SMF+PGW-C, MDF2 and MDF3 shall support the following target identifier formats in the ETSI TS 103 221-1 [7] messages (or equivatlent if ETSI TS 103 221-1 [7] is not used):

- SUPINAI.

- SUPIIMSI.

- IMSI.

- GPSINAI.

- GPSIMSISDN.

- MSISDN (using the E164Number target identifier format from ETSI TS 103 221-1 [7]).

- PEIIMEISV.

- PEIIMEI.

- IMEI.

When the target identifier is an IMSI, the LI functions in the SMF+PGW-C shall also trigger when events associated to a SUPI in the form of an IMSI with a value matching the provisioned IMSI target identifier value are detected. Likewise, then the target identifier is a SUPIIMSI, the LI functions in the SMF+PGW-C shall also trigger when events associated to an IMSI with a value matching the provisioned SUPIIMSI target identifier value are detected.

When the target identifier is an MSISDN, the LI functions in the SMF+PGW-C shall also trigger when events associated to a GPSI in the form of an MSISDN with a value matching the provisioned MSISDN target identifier value are detected. Likewise, then the target identifier is a GPSIMSISDN, the LI functions in the SMF+PGW-C shall also trigger when events associated to an MSISDN with a value matching the provisioned GPSIMSISDN target identifier value are detected.

##### When the target identifier is an IMEI, the LI functions in the SMF+PGW-C shall also trigger when events associated to a PEI in the form of an IMEI with a value matching the provisioned IMEI target identifier value are detected. Likewise, then the target identifier is a PEIIMEI, the LI functions in the SMF+PGW-C shall also trigger when events associated to an IMEI with a value matching the provisioned PEIIMEI target identifier value are detected.6.3.3.1.2 Non-CUPS Architecture

When the EPS is implemented using non-CUPS architecture, the IRI-POI and CC-POI present in the SGW/PGW and ePDG are provisioned over LI\_X1 by the LIPF using the X1 protocol as described in clause 5.2.2. A single task may be used.

Table 6.3.3-Ta1 shows the minimum details of the LI\_X1 ActivateTask message used for provisioning the IRI-POI and the CC-POI in the SGW/PGW.

Table 6.3.3-Ta1: ActivateTask message for the IRI-POI and CC-POI in the SGW/PGW and ePDG in non-CUPS architecture

|  |  |  |
| --- | --- | --- |
| ETSI TS 103 221-1 [7] field name | Description | M/C/O |
| XID | XID assigned by LIPF. | M |
| TargetIdentifiers | One of the target identifiers listed in the clause above. | M |
| DeliveryType | Set to “X2Only”, “X3Only” or “X2andX3” as needed to meet the requirements of the warrant. | M |
| ListOfDIDs | Delivery endpoints of LI\_X2 or LI\_X3. These delivery endpoints shall be configured using the *CreateDestination* message as described in ETSI TS 103 221-1 [7] clause 6.3.1 prior to first use. | M |
| TaskDetailsExtensions/  HeaderReporting | Header reporting-specific tag to be carried in the *TaskDetailsExtensions* field of ETSI TS 103 221-1 [7]. See table 6.2.3.9.2-1. Unless there is a CSP/LEA agreement to not report packet header information, this field shall be present to enable packet header information reporting. | C |

##### To enable packet header information reporting, parameters specified in table 6.2.3.9.2-1: PDHRReportingExtensions parametersshall be provided as the TaskDetailsExtensions/HeaderReporting field of the LI\_X1 provisioning message.6.3.3.1.3 CUPS Architecture

When the EPS is implemented using CUPS architecture, the IRI-POI, IRI-TF and CC-TF present in the SGW-C/PGW-C and the IRI-POI and CC-POI present in the ePDG are provisioned over LI\_X1 by the LIPF using the X1 protocol as described in clause 5.2.2.

Table 6.3.3-Ta2 shows the minimum details of the LI\_X1 ActivateTask message used for provisioning the IRI-POI, CC-TF and IRI-TF in the SGW-C/PGW-C. If the ePDG is used, the minimum details of the LI\_X1 ActivateTask message used for provisioning the IRI-POI and the CC-POI in the ePDG are detailed in Table 6.3.3-Ta-1.

Table 6.3.3-Ta2: ActivateTask message for the IRI-POI, CC-TF and IRI-TF in the SGW-C/PGW-C in CUPS architecture

|  |  |  |
| --- | --- | --- |
| ETSI TS 103 221-1 [7] field name | Description | M/C/O |
| XID | XID assigned by LIPF. If the CC-TF or IRI-TF is also being tasked for the same interception, the same XID shall be used. | M |
| TargetIdentifiers | One or more of the target identifiers listed in clause 6.3.3.1 .1. | M |
| DeliveryType | Set to “X2Only”, “X3Only” or “X2andX3” as needed to meet the requirements of the warrant. (NOTE: "X2Only" for IRI-POI, IRI-TF and "X3Only" for CC-TF can also be also be used). | M |
| TaskDetailsExtensions/  HeaderReporting | Header reporting-specific tag to be carried in the *TaskDetailsExtensions* field of ETSI TS 103 221-1 [7]. See table 6.2.3.9.2-1. Unless there is a CSP/LEA agreement to not report packet header information, this field shall be present to enable packet header information reporting. | C |
| ListOfDIDs | Delivery endpoints of LI\_X2 or LI\_X3. These delivery endpoints shall be configured using the *CreateDestination* message as described in ETSI TS 103 221-1 [7] clause 6.3.1 prior to first use. | M |

##### To enable packet header information reporting, parameters specified in table 6.2.3.9.2-1: PDHRReportingExtensions parametersshall be provided as the TaskDetailsExtensions/HeaderReporting field of the LI\_X1 provisioning message.6.3.3.1.Cl1 Provisioning of the MDF2

The MDF2 listed as the delivery endpoint for xIRI generated by the IRI-POI in the CP entity of the SGW/PGW or ePDG shall be provisioned over LI\_X1 by the LIPF using the X1 protocol as described in clause 5.2.2. Table 6.3.3-Ta3 shows the minimum details of the LI\_X1 ActivateTask message used for provisioning the MDF2.

Table 6.3.3-Ta3: ActivateTask message for MDF2

|  |  |  |
| --- | --- | --- |
| ETSI TS 103 221-1 [7] field name | Description | M/C/O |
| XID | XID assigned by LIPF. | M |
| TargetIdentifiers | One or more of the target identifiers listed in the paragraph above. | M |
| DeliveryType | Set to “X2Only”, “X3Only” or “X2andX3” as needed to meet the requirements of the warrant. (Ignored by the MDF2). | M |
| TaskDetailsExtensions/  HeaderReporting | Header reporting-specific tag to be carried in the *TaskDetailsExtensions* field of ETSI TS 103 221-1 [7]. See table 6.2.3.9.2-1. Unless there is a CSP/LEA agreement to not report packet header information, this field shall be present to enable packet header information reporting. | C |
| ListOfDIDs | Delivery endpoints of LI\_HI2. These delivery endpoints shall be configured using the *CreateDestination* message as described in ETSI TS 103 221-1 [7] clause 6.3.1 prior to first use. | M |
| ListOfMediationDetails | Sequence of Mediation Details, See Table 6.3.3-Ta4. | M |

Table 6.3.3-Ta4: Mediation Details for MDF2

|  |  |  |
| --- | --- | --- |
| ETSI TS 103 221-1 [7] field name | Description | M/C/O |
| LIID | Lawful Intercept ID associated with the task. | M |
| DeliveryType | Set to "HI2Only". | M |
| ListOfDIDs | Details of where to send the IRI for this LIID. Shall be included if deviation from the ListofDIDs in the ActivateTask message is necessary. If included, the ListOfDIDs in the Mediation Details shall be used instead of any delivery destinations authorised by the ListOfDIDs field in the ActivateTask Message. | C |
| ServiceScoping | Shall be included to Identify the service(s) and associated service-related delivery settings for this LIID. May include more than one instance of this parameter to allow for different combinations of subparameters associated with a single LIID. This parameter is defined in ETSI TS 103 221-1 [7], Annex C, Table C.2. | C |
| MediationDetailsExtensions/  HeaderReporting | Header reporting-specific tag to be carried in the MediationDetailsExtensions field of ETSI TS 103 221-1 [7]. See table 6.2.3.9.2-1. This field shall be included if deviation from the taskDetails HeaderReporting TaskDetailsExtensions is required. If included, the details shall be used instead of the HeaderReporting instructions specified in the HeaderReporting field in the TaskDetails structure. | C |

##### 6.3.3.1.Cl2 Provisioning of the MDF3

The MDF3 listed as the delivery endpoint for the xCC generated by the CC-POI in the UP entity of the SGW/PGW or ePDG shall be provisioned over LI\_X1 by the LIPF using the X1 protocol as described in clause 5.2.2. Table 6.3.3-Ta5 shows the minimum details of the LI\_X1 ActivateTask message used for provisioning the MDF3. If packet header reporting is authorised and approach 2 described in clause 6.2.3.9 is used, the endpoint for the MDF3 shall be the MDF2 over LI\_MDF.

Table 6.3.3-Ta5: ActivateTask message for MDF3

|  |  |  |
| --- | --- | --- |
| ETSI TS 103 221-1 [7] field name | Description | M/C/O |
| XID | XID assigned by LIPF. | M |
| TargetIdentifiers | One or more of the target identifiers listed in the paragraph above. | M |
| DeliveryType | Set to “X2Only”, “X3Only” or “X2andX3” as needed to meet the requirements of the warrant. | M |
| TaskDetailsExtensions/  HeaderReporting | Header reporting-specific tag to be carried in the *TaskDetailsExtensions* field of ETSI TS 103 221-1 [7]. See table 6.2.3.9.2-1. Unless there is a CSP/LEA agreement to not report packet header information, this field shall be present to enable packet header information reporting. | C |
| ListOfDIDs | Delivery endpoints of LI\_HI3 or LI\_MDF. These delivery endpoints shall be configured using the *CreateDestination* message as described in ETSI TS 103 221-1 [7] clause 6.3.1 prior to first use. | M |
| ListOfMediationDetails | Sequence of Mediation Details, See Table 6.3.3-Ta5. | M |

Table 6.3.3-Ta5: Mediation Details for MDF3

|  |  |  |
| --- | --- | --- |
| ETSI TS 103 221-1 [7] field name | Description | M/C/O |
| LIID | Lawful Intercept ID associated with the task. | M |
| DeliveryType | Set to "HI3Only". | M |
| ListOfDIDs | Details of where to send the CC for this LIID. Shall be included if deviation from the ListofDIDs in the ActivateTask message is necessary. If included, the ListOfDIDs in the Mediation Details shall be used instead of any delivery destinations authorised by the ListOfDIDs field in the ActivateTask Message. | C |
| ServiceScoping | Shall be included to Identify the service(s) and associated service-related delivery settings for this LIID. May include more than one instance of this parameter to allow for different combinations of subparameters associated with a single LIID. This parameter is defined in ETSI TS 103 221-1 [7], Annex C, Table C.2. | C |
| MediationDetailsExtensions/  HeaderReporting | Header reporting-specific tag to be carried in the MediationDetailsExtensions field of ETSI TS 103 221-1 [7]. See table 6.2.3.9.2-1. This field shall be included if deviation from the taskDetails HeaderReporting TaskDetailsExtensions is required. If included, the details shall be used instead of the HeaderReporting instructions specified in the HeaderReporting field in the TaskDetails structure. | C |

#### 6.3.3.2 Generation of xIRI over LI\_X2

##### 6.3.3.2.Cl1 General

When Option A specified in clause 6.3.1 is used:

- For architectures with EPC/5GC interworking:

- For home routed roaming interception in the visited network, in this version of the specification, the IRI-POI present in the SGW shall be implemented in accordance with Option B or Option C specified in clause 6.3.1.

- For all other cases, the IRI-POI present in the SMF+PGW-C shall send the xIRIs over LI\_X2 for each of the events listed in TS 33.127 [5] clause 6.3.3.3.1.2, as described in clause 6.3.Cl1.

When Option B specified in clause 6.3.1 is used:

- The IRI-POI present in the SGW/PGW and ePDG shall send the xIRIs over LI\_X2 for each of the events listed in TS 33.107 [36] clause 12.2.1.2, the details of which are specified in clause 12.2.3 of the same TS.

- The IRI-POI present in the SGW/PGW and ePDG shall set the payload format to EpsHI2Operations.EpsIRIContent (value 14), see clause 5.3 and ETSI TS 103 221-2 [8] clause 5.4. The payload field shall contain an EpsHI2Operations.EpsIRIContent structure encoded according to TS 33.108 [12] clauses 10.5 and B.9.

- As the LIID may not be available at the SGW/PGW and ePDG but is mandatory in EpsHI2Operations.EpsIRIContent according to TS 33.108 [12] Annex B.9, its value in the lawfulInterceptionIdentifier field of the encoded PDU shall be set to the fixed string "LIIDNotPresent".

\*\*\* Start of Next Change \*\*\*

### 6.3.Cl1 xIRI Messages for LI at the SMF+PGW-C

Editor's Note: LI reporting from the SMF+PGW-C is FFS.

\*\*\* End of All Changes \*\*\*