**3GPP TSG- Meeting # *s3i250060***

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0721** | **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:*** | LI for 5G ProSe Direct Communication - Stage 3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | SA3LI (Ministère Economie et Finances) | | | | | | | | | |
| ***Source to TSG:*** | SA3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***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 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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Absence of LI for 5G ProSe Direct Communication in Stage 3 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add LI for 5G ProSe Direct Communication in Stage 3 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The LI for 5G ProSe Direct Communication in Stage 3 would still be missing | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 7.X, 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:*** | | Schema changes for this CR can be found on the Forge:  Merge Request: <https://forge.3gpp.org/rep/sa3/li/-/merge_requests/298>  Commit Hash: <https://forge.3gpp.org/rep/sa3/li/-/commit/4d944d5cca55ba158a4c3e1e071ea01d1fe4009f> | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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-26: "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] IETF RFC 2045: "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies".

[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) ".

[122] 3GPP TS 23.316: "Wireless and wireline convergence access support for the 5G System".

[123] 3GPP TS 23.038: "Alphabets and language-specific information".

[124] ITU-T Recommendation X.680 (2021): "Information technology—Abstract Syntax Notation One (ASN.1): Specification of basic notation".

[125] IETF RFC 4282: "The Network Access Identifier".

[126] IETF RFC 7042: "IANA Considerations and IETF Protocol and Documentation Usage for IEEE 802 Parameters".

[127] IEEE "Guidelines for Use of Extended Unique Identifier (EUI), Organizationally Unique Identifier (OUI), and Company ID (CID)", <https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/tutorials/eui.pdf>

[128] 3GPP TS 24.502: "Access to the 3GPP 5G Core Network (5GCN) via Non-3GPP Access Networks (N3AN)".

[129] 3GPP TS 33.503: "Security aspects of Proximity based Services (ProSe) in the 5G System (5GS)".

[130] 3GPP TS 29.228: "IP Multimedia (IM) Subsystem Cx and Dx Interfaces; Signalling flows and message contents".

[131] 3GPP TS 24.174: "Support of multi-device and multi-identity in the IP Multimedia Subsystem (IMS)".

[132] OMA-TS-CPM\_Message\_Storage: "OMA CPM Message Storage".

[133] 3GPP TS 29.520: "Network Data Analytics Services".

[134] 3GPP2 C.S0015-A: "Short Message Service (SMS) for Wideband Spread Spectrum Systems".

[135] ETSI TS 102 232-5: "Lawful Interception (LI); Handover Interface and Service-Specific Details (SSD) for IP delivery; Part 5: Service-specific details for IP Multimedia services".

[136] ETSI TS 102 232-3: "Lawful Interception (LI); Handover Interface and Service-Specific Details (SSD) for IP delivery; Part 3: Service-specific details for internet access services".

[137] 3GPP TS 29.176: "IP Multimedia Subsystem (IMS); Media Function (MF); Services Stage 3".

[138] 3GPP TS 29.175: "IP Multimedia Subsystem (IMS) Application Server (AS) Services Stage 3".

[139] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia Telephony; Media handling and interaction".

[X] 3GPP TS 24.554: " Proximity-services (ProSe) in 5G System (5GS) protocol aspects; Stage 3".

[Y] 3GPP TS 29.555: "5G Direct Discovery Name Management Services; Stage 3".

END OF FIRST CHANGE

START OF SECOND CHANGE

## 7.X LI at 5G DDNMF

### 7.X.1 Provisioning over LI\_X1

#### 7.X.1.1 Provisioning of IRI-POI in 5G DDNMF

The IRI-POI present in the DDNMF is provisioned over LI\_X1 by the LIPF using the X1 protocol as described in clause 5.2.2.

The POI in the 5G DDNMF shall support the target identifier types given in table 7.X.1.1-1.

Table 7.X.1.1-1: TargetIdentifier types for data analytics

|  |  |  |  |
| --- | --- | --- | --- |
| Identifier | Owner | ETSI TS 103 221-1 [7] TargetIdentifier type | Definition |
| SUPIIMSI | ETSI | SUPIIMSI | See ETSI TS 103 221-1 [7] |
| SUPINAI | ETSI | SUPINAI | See ETSI TS 103 221-1 [7] |
| gPSIMSISDN | ETSI | GPSIMSISDN | See ETSI TS 103 221-1 [7] |
| gPSINAI | ETSI | GPSINAI | See ETSI TS 103 221-1 [7] |

Table 7.X.1.1-2 shows the minimum details of the LI\_X1 ActivateTask message used for provisioning the IRI-POI in the 5G DDNMF.

If the IRI-POI in the 5G DDNMF receives an ActivateTask message and the ListOfServiceTypes parameter contains a ServiceType that is not supported, the IRI-POI in the 5G DDNMF shall reject the task with an appropriate error as described in ETSI TS 103 221-1 [7] clause 6.2.1.2.

Table 7.X.1.1-2: ActivateTask message for the IRI-POI in the 5G DDNMF

|  |  |  |
| --- | --- | --- |
| 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 paragraph above. | M |
| DeliveryType | Set to “X2Only”. | M |
| ListOfDIDs | Delivery endpoints for LI\_X2 for the IRI-POI in the 5G DDNMF. These delivery endpoints are configured using the CreateDestination message as described in ETSI TS 103 221-1 [7] clause 6.3.1 prior to the task activation. | M |

#### 7.X.1.2 Provisioning of the MDF2

The MDF2 listed as the delivery endpoint over LI\_X2 for xIRI generated by 5G DDNMF shall be provisioned over LI\_X1 by the LIPF.

The target identities listed in clause 7.X.1.1 shall apply for the provisioning of MDF2.

Table 7.X.1.2-1 table 7.X.1.2-2 show the minimum details of the LI\_X1 ActivateTask message used for provisioning the MDF2.

Table 7.X.1.2-1: 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 table 7.X.1.1-1. | M |
| DeliveryType | Set to “X2Only”. (Ignored by the MDF2). | M |
| 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 7.X.1.2-2). | M |

Table 7.X.1.2-2: Mediation Details for MDF2

|  |  |  |
| --- | --- | --- |
| ETSI TS 103 221-1 [7] field name | Description | M/C/O |
| LIID | Lawful Interception 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 | Service type set to “Data”. Other fields are dependent on the warrant. | M |

### 7.X.2 Generation of xIRI over LI\_X2

#### 7.X.2.1 General

The IRI-POI present in the 5G DDNMF in the HPLMN shall send the xIRIs over LI\_X2 for each of the following events listed in TS 33.127 [5] clause 7.X.4:

- Discovery request.

- Match report.

- Discovery update.

- Announcing alert.

- Usage information report.

The IRI-POI present in the 5G DDNMF in the HPLMN/VPLMN/local PLMN shall send the xIRIs over LI\_X2 for each of the following events listed in TS 33.127 [5] clause 7.X.4:

- Announce authorize.

- Announce update.

- Monitor authorize.

- Monitor update.

- Monitor update notify.

- Discoverer authorize.

- Match information report.

The details of these xIRIs are described in the following clauses.

#### 7.X.2.2 Discovery request

The IRI-POI in the 5G DDNMF in the HPLMN shall generate an xIRI containing a FiveGUDDNMFDiscoveryRequest record when the IRI-POI present in the 5G DDNMF in the HPLMN detects that the 5G DDNMF in the HPLMN receives a request from a target UE to get authorization for discovery services in HPLMN, VPLMN or local PLMN.

This target UE may be:

- An announcing UE requesting ProSe application code(s) to be announced over 5G ProSe-enabled radio interface (PC5) to UEs in proximity or informing the 5G DDNMF that the UE wants to stop announcing Prose application code.

- A monitoring UE requesting discovery filter(s) corresponding to a ProSe application ID to perform direct discovery monitoring corresponding to this ProSe application ID or informing the 5G DDNMF that the UE wants to stop using discovery filter(s) for direct discovery monitoring.

- A discoverer UE requesting query code (s) and discovery response filter(s) to be used for sending query and monitoring responses over the PC5 interface respectively.

- A discoveree UE requesting discovery query filter(s) to be used for monitoring query sent by discoverer UE over the PC5 interface and ProSe response code to be announced over the PC5 interface as a response to the query.

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN generates the xIRI when the following event is detected (see TS 24.554 [X] clauses 6.2.2. to 6.2.7):

- 5G DDNMF in HPLMN returns a PC3a DISCOVERY\_RESPONSE message in response to a PC3a DISCOVERY\_REQUEST message received from a target UE.

Table 7.X.2.2-1: Payload for FiveGDDNMFDiscoveryRequest record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 1 | Identifies the SUPI of the target UE. | M |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGProseDirectDiscoveryRequest | XMLType | 1 | Contains the DISCOVERY\_REQUEST encoded as a "prose-direct-discovery-request" XML structure according to TS 24.554 [X] clause 10.5.3. The XMLType.namespace for this parameter shall be set to "urn:3GPP:ns:5GProSe:Discovery:2021". | M |
| fiveGProseDirectDiscoveryResponse | XMLType | 1 | Contains the DISCOVERY\_RESPONSE encoded as a "prose-direct-discovery-response" XML structure according to TS 24.554 [X] clause 10.5.3. The XMLType.namespace for this parameter shall be set to "urn:3GPP:ns:5GProSe:Discovery:2021". | M |

#### 7.X.2.3 Match Report

The IRI-POI in the 5G DDNMF in the HPLMN shall generate an xIRI containing a FiveGDDNMFMatchReport record when the IRI-POI present in the 5G DDNMF in the HPLMN detects that the 5G DDNMF in the HPLMN receives a request from a target UE to obtain the ProSe application ID corresponding to the provided ProSe application code that was matched during the monitoring operation.

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN generates the xIRI when the following event is detected (see TS 24.554 [X] clauses 6.2.8 and 6.2.9):

- 5G DDNMF in HPLMN returns a PC3a MATCH\_REPORT\_ACK message in response to a PC3a MATCH\_REPORT message received from a target UE.

Table 7.X.2.3-1: Payload for FiveGDDNMFMatchReport record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 1 | Identifies the SUPI of the target UE. | M |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGProseDirectDiscoveryMatchReport | XMLType | 1 | Contains the MATCH\_REPORT encoded as a "prose-direct-discovery-match-report" XML structure according to TS 24.554 [X] clause 10.5.3. The XMLType.namespace for this parameter shall be set to "urn:3GPP:ns:5GProSe:Discovery:2021". | M |
| fiveGProseDirectDiscoveryMatchReportAck | XMLType | 1 | Contains the MATCH\_REPORT\_ACK encoded as a "prose-direct-discovery-match-report-ack" XML structure according to TS 24.554 [X] clause 10.5.3. The XMLType.namespace for this parameter shall be set to "urn:3GPP:ns:5GProSe:Discovery:2021". | M |

#### 7.X.2.4 Discovery update

The IRI-POI in the 5G DDNMF in the HPLMN shall generate an xIRI containing a FiveGDDNMFDiscoveryUpdate record when the IRI-POI present in the 5G DDNMF in the HPLMN detects that the 5G DDNMF in the HPLMN sends a request to the target UE to update or revoke a previously allocated ProSe application code, or discovery filter(s).

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN generates the xIRI when the following event is detected (see TS 24.554 [X] clauses 6.2.11 and 6.2.12):

- The 5G DDNMF in HPLMN receives a PC3a DISCOVERY\_UPDATE\_RESPONSE message from the target UE in response to a PC3a DISCOVERY\_UPDATE\_REQUEST message sent from the 5G DDNMF in HPLMN.

Table 7.X.2.4-1: Payload for FiveGDDNMFDiscoveryUpdate record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 1 | Identifies the SUPI of the target UE. | M |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGProseDirectDiscoveryUpdateRequest | XMLType | 1 | Contains the DISCOVERY\_UPDATE\_REQUEST encoded as a "prose-direct-discovery-update-request " XML structure according to TS 24.554 [X] clause 10.5.3. The XMLType.namespace for this parameter shall be set to "urn:3GPP:ns:5GProSe:Discovery:2021". | M |
| fiveGProseDirectDiscoveryUpdateResponse | XMLType | 1 | Contains the DISCOVERY\_UPDATE\_RESPONSE encoded as a "prose-direct-discovery-update-response " XML structure according to TS 24.554 [X] clause 10.5.3. The XMLType.namespace for this parameter shall be set to "urn:3GPP:ns:5GProSe:Discovery:2021".. | M |

#### 7.X.2.5 Announcing alert

The IRI-POI in the 5G DDNMF in the HPLMN shall generate an xIRI containing a FiveGDDNMFAnnouncingAlert record when the IRI-POI present in the 5G DDNMF in the HPLMN detects that the 5G DDNMF in the HPLMN sends a request to provide a ProSe restricted code to a target announcing UE which has earlier requested "on demand" announcing in restricted mode, The ProSe restricted code is provided by the 5G DDNMF in the HPLMN when the announcing UE and the monitoring UE are close enough.

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN generates the xIRI when the following event is detected (see TS 24.554 [X] clause 6.2.13):

- The 5GDDNMF in HPLMN receives a PC3a ANNOUNCING\_ALERT\_RESPONSE message from the target UE in response to a PC3a ANNOUNCING\_ALERT\_REQUEST message sent from the 5G DDNMF in HPLMN.

Table 7.X.2.5-1: Payload for FiveGDDNMFAnnouncingAlert record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 1 | Identifies the SUPI of the target UE. | M |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGProseDirectDiscoveryAnnouncingAlertRequest | XMLType | 1 | Contains the ANNOUNCING\_ALERT\_REQUEST encoded as a "prose-direct-discovery-announcing-alert-request" XML structure according to TS 24.554 [X] clause 10.5.3. The XMLType.namespace for this parameter shall be set to "urn:3GPP:ns:5GProSe:Discovery:2021". | M |
| fiveGProseDirectDiscoveryAnnouncingAlertResponse | XMLType | 1 | Contains the ANNOUNCING\_ALERT\_RESPONSE encoded as a "prose-direct-discovery-announcing-alert-response" XML structure according to TS 24.554 [X] clause 10.5.3. The XMLType.namespace for this parameter shall be set to "urn:3GPP:ns:5GProSe:Discovery:2021". | M |

#### 7.X.2.6 Usage information report

The IRI-POI in the 5G DDNMF in the HPLMN shall generate an xIRI containing a FiveGDDNMFUsageInformationReport record when the IRI-POI present in the 5G DDNMF in the HPLMN detects that the 5G DDNMF in the HPLMN receives a request from a target UE providing a set of usage information reports indicating the amount of data transmitted and received during 5G ProSe direct communication.

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN generates the xIRI when the following event is detected (see TS 24.554 [X] clause 7.6.2.1):

- 5G DDNMF in HPLMN returns a PC3ach USAGE\_INFORMATION\_REPORT\_LIST\_RESPONSE message in response to a PC3ach PROSE\_USAGE\_INFORMATION\_REPORT\_LIST message received from a target UE.

Table 7.X.2.6-1: Payload for FiveGDDNMFUsageInformationReport record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 1 | Identifies the SUPI of the target UE. | M |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGProseUsageInformationReportList | XMLType | 1 | Contains the PROSE\_USAGE\_INFORMATION\_REPORT\_LIST encoded as a " UsageInformationReportList-Info " XML structure according to TS 24.554 [X] clause 10.7.3. The XMLType.namespace for this parameter shall be set to "urn:3GPP:ns:5GProSe:PC3ach:2022". | M |
| fiveGProseUsageInformationReportListResponse | XMLType | 1 | Contains the PROSE\_USAGE\_INFORMATION\_REPORT\_LIST\_RESPONSE encoded as a "UsageInformationReportListResponse-Info" XML structure according to TS 24.554 [X] clause 10.7.3. The XMLType.namespace for this parameter shall be set to "urn:3GPP:ns:5GProSe:PC3ach:2022". | M |

#### 7.X.2.7 Announce authorize

The IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN shall generate an xIRI containing an FiveGDDNMFAnnounceAuthorize record when the IRI-POI present in the 5G DDNMF in the HPLMN/VPLMN/local PLMN detects that the 5G DDNMF in the HPLMN requests authorization to announce for a target UE in VPLMN or local PLMN.

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN generates the xIRI when the following event is detected (see TS 29.555 [Y] clause 5.2.2.2):

- 5G DDNMF in VPLMN or local PLMN returns a N5g-ddnmf\_Discovery\_AnnounceAuthorize Response in response to N5g-ddnmf\_Discovery\_ AnnounceAuthorize Request received from 5G DDNMF in HPLMN to confirm the authorization for a target UE to announce in VPLMN or local PLMN.

Table 7.X.2.7-1: Payload for FiveGDDNMFAnnounceAuthorize record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 0..1 | Identifies the SUPI of the target UE. | C |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGDDNMFDiscEntryID | FiveGDDNMFDiscoveryEntryId | 1 | Identifies the discovery entry related to this Announce Authorize Request. | M |
| fiveGDDNMFAnnounceAuthReqData | SBIType | 1 | Includes the AnnounceAuthData resource which contains the announce authorization data request for open discovery or restricted discovery for the target UE. Encoded according to TS 29.555 [Y] table 6.1.6.2.2-1. The SBIReference for this parameter shall be populated with 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/AnnounceAuthData' as specified in TS 29.555 [Y] clause A2. | M |
| fiveGDDNMFAnnounceAuthRespData | SBIType | 0..1 | Includes the AnnounceAuthData resource which contains the announce authorization data assigned for open discovery or restricted discovery for the target UE. Encoded according to TS 29.555 [Y] table 6.1.6.2.2-1. The SBIReference for this parameter shall be populated with 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/AnnounceAuthData' as specified in TS 29.555 [Y] clause A2. | C |
| FiveGDDNMFDiscoveryResponseCode | FiveGDDNMFDiscoveryResponseCode | 1 | Identifies the response code associated with the N5g-ddnmf\_Discovery\_AnnounceAuthorize service operation executed by the 5G DDNMF in the VPLMN or local PLMN. | M |
| NOTE: At least one of the SUPI or GPSI fields shall be present. | | | | |

#### 7.X.2.8 Announce update

The IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN shall generate an xIRI containing an FiveGDDNMFAnnounceUpdate record when the IRI-POI present in the 5G DDNMF in the HPLMN/VPLMN/local PLMN detects that the 5G DDNMF in the HPLMN updates or revokes the authorization for a target UE to announce in VPLMN or local PLMN.

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN generates the xIRI when the following event is detected (see TS 29.555 [Y] clause 5.2.2.3):

- 5G DDNMF in VPLMN or local PLMN returns a N5g-ddnmf\_Discovery\_AnnounceUpdate Response in response to N5g-ddnmf\_Discovery\_AnnounceUpdate Request received from 5G DDNMF in HPLMN to confirm the update or revocation for a target UE to announce in VPLMN or local PLMN.

Table 7.X.2.8-1: Payload for FiveGDDNMFAnnounceUpdate record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 0..1 | Identifies the SUPI of the target UE. | C |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGDDNMFDiscEntryID | FiveGDDNMFDiscoveryEntryId | 1 | Identifies the discovery entry related to this Announce Update Request. | M |
| fiveGDDNMFAnnouceUpdateData | SBIType | 1 | Includes the AnnounceUpdateData resource which contains the Announce Authorization Data for open discovery to update for the target UE. Encoded according to TS 29.555 [Y] table 6.1.6.2.6-1. The SBIReference for this parameter shall be populated with 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/AnnounceUpdateData' as specified in TS 29.555 [Y] clause A2. | M |
| fiveGDDNMFDiscoveryResponseCode | FiveGDDNMFDiscoveryResponseCode | 1 | Identifies the response code associated with the N5g-ddnmf\_Discovery\_AnnounceUpdate service operation executed by the 5G DDNMF in the VPLMN or local PLMN. | M |
| NOTE: At least one of the SUPI or GPSI fields shall be present. | | | | |

#### 7.X.2.9 Monitor authorize

The IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN shall generate an xIRI containing an FiveGDDNMFMonitorAuthorize record when the IRI-POI present in the 5G DDNMF in the HPLMN/VPLMN/local PLMN detects that the 5G DDNMF in the HPLMN requests authorization to monitor for a target UE in VPLMN or local PLMN.

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN generates the xIRI when the following event is detected (see TS 29.555 [Y] clause 5.2.2.4):

- 5G DDNMF in VPLMN or local PLMN returns a N5g-ddnmf\_Discovery\_MonitorAuthorize Response in response to N5g-ddnmf\_Discovery\_ MonitorAuthorize Request received from 5G DDNMF in HPLMN to confirm the authorization for a target UE to monitor in VPLMN or local PLMN.

Table 7.X.2.9-1: Payload for FiveGDDNMFMonitorAuthorize record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 0..1 | Identifies the SUPI of the target UE. | C |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGDDNMFDiscEntryID | FiveGDDNMFDiscoveryEntryId | 1 | Identifies the discovery entry related to this Monitor Authorize Request. | M |
| fiveGDDNMFMonitorAuthReqData | SBIType | 1 | Includes the MonitorAuthReqData resource which contains the monitor authorization data for the target UE. Encoded according to TS 29.555 [Y] table 6.1.6.2.7-1. The SBIReference for this parameter shall be populated with 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/MonitorAuthReqData' as specified in TS 29.555 [Y] clause A2. | M |
| fiveGDDNMFMonitorAuthRespData | SBIType | 0..1 | Includes the MonitorAuthRespData resource which contains the authorized data to monitor for the target UE. Encoded according to TS 29.555 [Y] table 6.1.6.2.8-1. The SBIReference for this parameter shall be populated with 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/MonitorAuthRespData' as specified in TS 29.555 [Y] clause A2. | C |
| fiveGDDNMFDiscoveryResponseCode | FiveGDDNMFDiscoveryResponseCode | 1 | Identifies the response code associated with the N5g-ddnmf\_Discovery\_MonitorAuthorize service operation executed by the 5G DDNMF in the VPLMN or local PLMN. | M |
| NOTE: At least one of the SUPI or GPSI fields shall be present. | | | | |

#### 7.X.2.10 Monitor update

The IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN shall generate an xIRI containing an FiveGDDNMFMonitorUpdate record when the IRI-POI present in the 5G DDNMF in the HPLMN/VPLMN/local PLMN detects that the 5G DDNMF in the HPLMN updates or revokes the authorization for a target UE to monitor in VPLMN or local PLMN.

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN generates the xIRI when the following event is detected (see TS 29.555 [Y] clause 5.2.2.5):

- 5G DDNMF in VPLMN or local PLMN returns a N5g-ddnmf\_Discovery\_MonitorUpdate Response in response to N5g-ddnmf\_Discovery\_MonitorUpdate Request received from 5G DDNMF in HPLMN to confirm the update or revocation for a target UE to monitor in VPLMN or local PLMN.

Table 7.X.2.10-1: Payload for FiveGDDNMFMonitorUpdate record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 0..1 | Identifies the SUPI of the target UE. | C |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGDDNMFDiscEntryID | FiveGDDNMFDiscoveryEntryId | 1 | Identifies the discovery entry related to this Monitor Update Request. | M |
| fiveGDDNMFMonitorUpdateData | SBIType | 1 | Includes the MonitorUpdateData resource which contains the monitoring authorization data for open discovery or restricted discovery to update for the target UE. Encoded according to TS 29.555 [Y] table 6.1.6.2.13-1. The SBIReference for this parameter shall be populated with 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/MonitorUpdateData' as specified in TS 29.555 [Y] clause A2. | M |
| fiveGDDNMFDiscoveryResponseCode | FiveGDDNMFDiscoveryResponseCode | 1 | Identifies the response code associated with the N5g-ddnmf\_Discovery\_MonitorUpdate service operation executed by the 5G DDNMF in the VPLMN or local PLMN. | M |
| NOTE: At least one of the SUPI or GPSI fields shall be present. | | | | |

#### 7.X.2.11 Monitor update notify

The IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN shall generate an xIRI containing an FiveGDDNMFMonitorUpdateNotify record when the IRI-POI present in the 5G DDNMF in the HPLMN/VPLMN/local PLMN detects that the 5G DDNMF in the VPLMN or local PLMN notifies the revocation to monitor for the target UE in VPLMN or local PLMN.

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN generates the xIRI when the following event is detected (see TS 29.555 [Y] clause 5.2.2.6):

- 5G DDNMF in HPLMN returns a N5g-ddnmf\_Discovery\_MonitorUpdateResult Response in response to N5g-ddnmf\_Discovery\_MonitorUpdateResult Request received from 5G DDNMF in VPLMN or local PLMN to confirm the revocation for a target UE to monitor in VPLMN or local PLMN.

Table 7.X.2.11-1: Payload for FiveGDDNMFMonitorUpdateNotify record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 0..1 | Identifies the SUPI of the target UE. | C |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGDDNMFMonitorUpdateResult | SBIType | 1 | Includes the MonitorUpdateResult resource which contains the monitoring revocation results for restricted discovery for the target UE. Encoded according to TS 29.555 [Y] table 6.1.6.2.20-1. The SBIReference for this parameter shall be populated with 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/MonitorUpdateResult' as specified in TS 29.555 [Y] clause A2. | M |
| NOTE: At least one of the SUPI or GPSI fields shall be present. | | | | |

#### 7.X.2.12 Discoverer authorize

The IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN shall generate an xIRI containing an FiveGDDNMFDiscovererAuthorize record when the IRI-POI present in the 5G DDNMF in the HPLMN/VPLMN/local PLMN detects that the 5G DDNMF in the HPLMN requests authorization for a discoverer UE to operate Model B restricted discovery in VPLMN or local PLMN.

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN generates the xIRI when the following event is detected (see TS 29.555 [Y] clause 5.2.2.7):

- 5G DDNMF in VPLMN or local PLMN returns a N5g-ddnmf\_Discovery\_Authorize Response in response to N5g-ddnmf\_Discovery\_ Authorize Request received from 5G DDNMF in HPLMN to confirm the authorization for a discoverer UE to operate Model B restricted discovery in VPLMN or local PLMN.

Table 7.X.2.12-1: Payload for FiveGDDNMFDiscovererAuthorize record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 0..1 | Identifies the SUPI of the target UE. | C |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGDDNMFDiscEntryID | FiveGDDNMFDiscoveryEntryId | 1 | Identifies the discovery entry related to this Discovery Authorize Request. | M |
| fiveGDDNMFDiscoveryAuthReqData | SBIType | 1 | Includes the DiscoveryAuthReqData resource which contains the discoverer authorization data for restricted discovery for the target UE. Encoded according to TS 29.555 [Y] table 6.1.6.2.14-1. The SBIReference for this parameter shall be populated with 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/DiscoveryAuthReqData' as specified in TS 29.555 [Y] clause A2. | M |
| fiveGDDNMFDiscoveryAuthRespData | SBIType | 0..1 | Includes the DiscoveryAuthRespData resource which contains the authorized data for the discoverer UE in the PLMN to operate Model B restricted discovery. Encoded according to TS 29.555 [Y] table 6.1.6.2.15-1. The SBIReference for this parameter shall be populated with 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/DiscoveryAuthReqData' as specified in TS 29.555 [Y] clause A2. | C |
| fiveGDDNMFDiscoveryResponseCode | FiveGDDNMFDiscoveryResponseCode | 1 | Identifies the response code associated with the N5g-ddnmf\_Discovery\_Authorize service operation executed by the 5G DDNMF in the VPLMN or local PLMN. | M |
| NOTE: At least one of the SUPI or GPSI fields shall be present. | | | | |

#### 7.X.2.13 Match information report

The IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN shall generate an xIRI containing an FiveGDDNMFMatchInformationReport record when the IRI-POI present in the 5G DDNMF in the HPLMN/VPLMN/local PLMN detects that the 5G DDNMF in the HPLMN requests to obtain the information about the indicated discovery code for a target UE from the 5G DDNMF in the VPLMN or local PLMN.

Accordingly, the IRI-POI in the 5G DDNMF in the HPLMN/VPLMN/local PLMN generates the xIRI when the following event is detected (see TS 29.555 [Y] clause 5.2.2.8):

- 5G DDNMF in VPLMN or local PLMN returns a N5g-ddnmf\_Discovery\_MatchReport Response in response to N5g-ddnmf\_Discovery\_ MatchReport Request received from 5G DDNMF in HPLMN which provides the information about the indicated discovery code for a target UE

Table 7.X.2.13-1: Payload for FiveGDDNMFMatchInformationReport record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 0..1 | Identifies the SUPI of the target UE. | C |
| gPSI | GPSI | 0..1 | Identifies the GPSI of the target UE. | C |
| fiveGDDNMFMatchReportReqData | SBIType | 1 | Includes the MatchReportReqData resource which contains match report data for restricted discovery for the target UE. Encoded according to TS 29.555 [Y] table 6.1.6.2.18-1. The SBIReference for this parameter shall be populated with 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/DiscoveryAuthReqData' as specified in TS 29.555 [Y] clause A2. | M |
| fiveGDDNMFMatchReportRespData | SBIType | 0..1 | Includes the MatchReportRespData resource which contains the match report acknowledgment for the target UE. Encoded according to TS 29.555 [Y] table 6.1.6.2.19-1. The SBIReference for this parameter shall be populated with 'TS29555\_N5g-ddnmf\_Discovery.yaml#/components/schemas/DiscoveryAuthRespData' as specified in TS 29.555 [Y] clause A2. | C |
| fiveGDDNMFDiscoveryResponseCode | FiveGDDNMFDiscoveryResponseCode | 1 | Identifies the response code associated with the N5g-ddnmf\_Discovery\_MatchReport service operation executed by the 5G DDNMF in the VPLMN or local PLMN. | M |
| NOTE: At least one of the SUPI or GPSI fields shall be present. | | | | |

### 7.X.3 Generation of IRI over LI\_HI2

When an xIRI is received over LI\_X2 from the IRI-POI in the 5G DDNMF, the MDF2 shall send the IRI message over LI\_HI2 without undue delay. The IRI message shall contain a copy of the relevant record received from LI\_X2. The record may be enriched by other information available at the MDF (e.g. additional location information).

The ETSI TS 102 232-1 [9] *@LI-PS-PDU.pSHeader.timeStamp* field shall be set to the time at which the NWDAF/RE-NWDAF event was observed (i.e. the timestamp field of the xIRI).

The *@LI-PS-PDU.payload.iRIPayloadSequence.iRIType* parameter shall be included and coded according to table 7.14.2.11-1 (see ETSI TS 102 232-1 [9] clause 5.2.10).

Table 7.X.3-1: IRI type for IRI messages

|  |  |
| --- | --- |
| Record type | IRI Type |
| FiveGDDNMFDiscoveryRequest | REPORT |
| FiveGDDNMFMatchReport | REPORT |
| FiveGDDNMFDiscoveryUpdate | REPORT |
| FiveGDDNMFUsageInformationReport | REPORT |
| FiveGDDNMFAnnouncingAlert | REPORT |
| FiveGDDNMFAnnounceAuthorize | REPORT |
| FiveGDDNMFAnnounceUpdate | REPORT |
| FiveGDDNMFMonitorAuthorize | REPORT |
| FiveGDDNMFMonitorUpdate | REPORT |
| FiveGDDNMFMonitorUpdateNotify | REPORT |
| FiveGDDNMFDiscovererAuthorize | REPORT |
| FiveGDDNMFMatchInformationReport | REPORT |

The *@LI-PS-PDU.payload.iRIPayloadSequence.iRIContents.threeGPP33128DefinedIRI* field of the LI\_HI2 message shall be populated with the BER-encoded *IRIPayload* as described in ETSI TS 102 232-7 [10] clause 15.

END OF SECOND CHANGE

START OF THIRD CHANGE

---a/33128/r19/TS33128Payloads.asn  
+++b/33128/r19/TS33128Payloads.asn

@@ -304,7 +304,21 @@ XIRIEvent ::= CHOICE

304 304 iMSHSSSubscriberRecordChange [174] IMSHSSSubscriberRecordChange,

305 305

306 306 -- AMF events, see clause 6.2.2.2.14, continued from tag 147

307 - aMFUEContextUpdate [175] AMFUEContextUpdate

307 + aMFUEContextUpdate [175] AMFUEContextUpdate,

308 +

309 + -- 5G ProSe Direct Communication events, see clause 7.X.2

310 + fiveGDDNMFDiscoveryRequest [176] FiveGDDNMFDiscoveryRequest,

311 + fiveGDDNMFMatchReport [177] FiveGDDNMFMatchReport,

312 + fiveGDDNMFDiscoveryUpdate [178] FiveGDDNMFDiscoveryUpdate,

313 + fiveGDDNMFAnnouncingAlert [179] FiveGDDNMFAnnouncingAlert,

314 + fiveGDDNMFUsageInformationReport [180] FiveGDDNMFUsageInformationReport,

315 + fiveGDDNMFAnnounceAuthorize [181] FiveGDDNMFAnnounceAuthorize,

316 + fiveGDDNMFAnnounceUpdate [182] FiveGDDNMFAnnounceUpdate,

317 + fiveGDDNMFMonitorAuthorize [183] FiveGDDNMFMonitorAuthorize,

318 + fiveGDDNMFMonitorUpdate [184] FiveGDDNMFMonitorUpdate,

319 + fiveGDDNMFMonitorUpdateNotify [185] FiveGDDNMFMonitorUpdateNotify,

320 + fiveGDDNMFDiscovererAuthorize [186] FiveGDDNMFDiscovererAuthorize,

321 + fiveGDDNMFMatchInformationReport [187] FiveGDDNMFMatchInformationReport

308 322 }

309 323

310 324 -- ==============

@@ -592,7 +606,21 @@ IRIEvent ::= CHOICE

592 606 iMSHSSSubscriberRecordChange [174] IMSHSSSubscriberRecordChange,

593 607

594 608 -- AMF events, see clause 6.2.2.3, continued from tag 147

595 - aMFUEContextUpdate [175] AMFUEContextUpdate

609 + aMFUEContextUpdate [175] AMFUEContextUpdate,

610 +

611 + -- 5G ProSe Direct Communication events, see clause 7.X.3

612 + fiveGDDNMFDiscoveryRequest [176] FiveGDDNMFDiscoveryRequest,

613 + fiveGDDNMFMatchReport [177] FiveGDDNMFMatchReport,

614 + fiveGDDNMFDiscoveryUpdate [178] FiveGDDNMFDiscoveryUpdate,

615 + fiveGDDNMFAnnouncingAlert [179] FiveGDDNMFAnnouncingAlert,

616 + fiveGDDNMFUsageInformationReport [180] FiveGDDNMFUsageInformationReport,

617 + fiveGDDNMFAnnounceAuthorize [181] FiveGDDNMFAnnounceAuthorize,

618 + fiveGDDNMFAnnounceUpdate [182] FiveGDDNMFAnnounceUpdate,

619 + fiveGDDNMFMonitorAuthorize [183] FiveGDDNMFMonitorAuthorize,

620 + fiveGDDNMFMonitorUpdate [184] FiveGDDNMFMonitorUpdate,

621 + fiveGDDNMFMonitorUpdateNotify [185] FiveGDDNMFMonitorUpdateNotify,

622 + fiveGDDNMFDiscovererAuthorize [186] FiveGDDNMFDiscovererAuthorize,

623 + fiveGDDNMFMatchInformationReport [187] FiveGDDNMFMatchInformationReport

596 624 }

597 625

598 626 IRITargetIdentifier ::= SEQUENCE

@@ -5741,6 +5769,145 @@ NWDAFEvent ::= ENUMERATED

5741 5769 pDUSessionTraffic(7)

5742 5770 }

5743 5771

5772 + -- =====================

5773 + -- 5G DDNNMF definitions

5774 + -- =====================

5775 +

5776 + -- See clause 7.X.2.2 for details of this structure

5777 + FiveGDDNMFDiscoveryRequest ::=SEQUENCE

5778 + {

5779 + sUPI [1] SUPI,

5780 + gPSI [2] GPSI OPTIONAL,

5781 + fiveGProseDirectDiscoveryRequest [3] XMLType,

5782 + fiveGProseDirectDiscoveryResponse [4] XMLType

5783 + }

5784 +

5785 + -- See clause 7.X.2.3 for details of this structure

5786 + FiveGDDNMFMatchReport ::=SEQUENCE

5787 + {

5788 + sUPI [1] SUPI,

5789 + gPSI [2] GPSI OPTIONAL,

5790 + fiveGProseDirectDiscoveryMatchReport [3] XMLType,

5791 + fiveGProseDirectDiscoveryMatchReportAck [4] XMLType

5792 + }

5793 +

5794 + -- See clause 7.X.2.4 for details of this structure

5795 + FiveGDDNMFDiscoveryUpdate ::=SEQUENCE

5796 + {

5797 + sUPI [1] SUPI,

5798 + gPSI [2] GPSI OPTIONAL,

5799 + fiveGProseDirectDiscoveryUpdateRequest [3] XMLType,

5800 + fiveGProseDirectDiscoveryUpdateResponse [4] XMLType

5801 + }

5802 +

5803 + -- See clause 7.X.2.5 for details of this structure

5804 + FiveGDDNMFAnnouncingAlert ::=SEQUENCE

5805 + {

5806 + sUPI [1] SUPI,

5807 + gPSI [2] GPSI OPTIONAL,

5808 + fiveGProseDirectDiscoveryAnnouncingAlertRequest [3] XMLType,

5809 + fiveGProseDirectDiscoveryAnnouncingAlertResponse [4] XMLType

5810 + }

5811 +

5812 + -- See clause 7.X.2.6 for details of this structure

5813 + FiveGDDNMFUsageInformationReport ::=SEQUENCE

5814 + {

5815 + sUPI [1] SUPI,

5816 + gPSI [2] GPSI OPTIONAL,

5817 + fiveGProseUsageInformationReportList [3] XMLType,

5818 + fiveGProseUsageInformationReportListResponse [4] XMLType

5819 + }

5820 +

5821 + -- See clause 7.X.2.7 for details of this structure

5822 + FiveGDDNMFAnnounceAuthorize ::=SEQUENCE

5823 + {

5824 + sUPI [1] SUPI OPTIONAL,

5825 + gPSI [2] GPSI OPTIONAL,

5826 + fiveGDDNMFDiscEntryID [3] FiveGDDNMFDiscoveryEntryId,

5827 + fiveGDDNMFAnnounceAuthReqData [4] SBIType,

5828 + fiveGDDNMFAnnounceAuthRespData [5] SBIType OPTIONAL,

5829 + fiveGDDNMFDiscoveryResponseCode [6] FiveGDDNMFDiscoveryResponseCode

5830 + }

5831 +

5832 + -- See clause 7.X.2.8 for details of this structure

5833 + FiveGDDNMFAnnounceUpdate ::=SEQUENCE

5834 + {

5835 + sUPI [1] SUPI OPTIONAL,

5836 + gPSI [2] GPSI OPTIONAL,

5837 + fiveGDDNMFDiscEntryID [3] FiveGDDNMFDiscoveryEntryId,

5838 + fiveGDDNMFAnnounceUpdateData [4] SBIType,

5839 + fiveGDDNMFDiscoveryResponseCode [5] FiveGDDNMFDiscoveryResponseCode

5840 + }

5841 +

5842 + -- See clause 7.X.2.9 for details of this structure

5843 + FiveGDDNMFMonitorAuthorize ::=SEQUENCE

5844 + {

5845 + sUPI [1] SUPI OPTIONAL,

5846 + gPSI [2] GPSI OPTIONAL,

5847 + fiveGDDNMFDiscEntryID [3] FiveGDDNMFDiscoveryEntryId,

5848 + fiveGDDNMFMonitorAuthReqData [4] SBIType,

5849 + fiveGDDNMFMonitorAuthRespData [5] SBIType OPTIONAL,

5850 + fiveGDDNMFDiscoveryResponseCode [6] FiveGDDNMFDiscoveryResponseCode

5851 + }

5852 +

5853 + -- See clause 7.X.2.10 for details of this structure

5854 + FiveGDDNMFMonitorUpdate ::=SEQUENCE

5855 + {

5856 + sUPI [1] SUPI OPTIONAL,

5857 + gPSI [2] GPSI OPTIONAL,

5858 + fiveGDDNMFDiscEntryID [3] FiveGDDNMFDiscoveryEntryId,

5859 + fiveGDDNMFMonitorUpdateData [4] SBIType,

5860 + fiveGDDNMFDiscoveryResponseCode [5] FiveGDDNMFDiscoveryResponseCode

5861 + }

5862 +

5863 + -- See clause 7.X.2.11 for details of this structure

5864 + FiveGDDNMFMonitorUpdateNotify ::=SEQUENCE

5865 + {

5866 + sUPI [1] SUPI OPTIONAL,

5867 + gPSI [2] GPSI OPTIONAL,

5868 + fiveGDDNMFDiscEntryID [3] FiveGDDNMFDiscoveryEntryId,

5869 + fiveGDDNMFMonitorUpdateResult [4] SBIType

5870 + }

5871 +

5872 + -- See clause 7.X.2.12 for details of this structure

5873 + FiveGDDNMFDiscovererAuthorize ::=SEQUENCE

5874 + {

5875 + sUPI [1] SUPI OPTIONAL,

5876 + gPSI [2] GPSI OPTIONAL,

5877 + fiveGDDNMFDiscEntryID [3] FiveGDDNMFDiscoveryEntryId,

5878 + fiveGDDNMFDiscoveryAuthReqData [4] SBIType,

5879 + fiveGDDNMFDiscoveryAuthRespData [5] SBIType OPTIONAL,

5880 + fiveGDDNMFDiscoveryResponseCode [6] FiveGDDNMFDiscoveryResponseCode

5881 + }

5882 +

5883 + -- See clause 7.X.2.13 for details of this structure

5884 + FiveGDDNMFMatchInformationReport ::=SEQUENCE

5885 + {

5886 + sUPI [1] SUPI OPTIONAL,

5887 + gPSI [2] GPSI OPTIONAL,

5888 + fiveGDDNMFMatchReportReqData [3] SBIType,

5889 + fiveGDDNMFMatchReportRespData [4] SBIType OPTIONAL,

5890 + fiveGDDNMFDiscoveryResponseCode [5] FiveGDDNMFDiscoveryResponseCode

5891 + }

5892 +

5893 + -- ====================

5894 + -- 5G DDNNMF parameters

5895 + -- ====================

5896 +

5897 + FiveGDDNMFDiscoveryEntryId ::= UTF8String

5898 +

5899 + FiveGDDNMFDiscoveryResponseCode ::= ENUMERATED

5900 + {

5901 + oK200(1),

5902 + created201(2),

5903 + noContent204(3),

5904 + temporaryRedirect307(4),

5905 + permanentRedirect308(5),

5906 + forbidden403(6),

5907 + notFound404(7),

5908 + unprocessableEbntity422(8)

5909 + }

5910 +

5744 5911 -- ===================

5745 5912 -- 5G LALS definitions

5746 5913 -- ===================

END OF THIRD CHANGE

END OF LAST CHANGE