**3GPP TSG- Meeting # *s3i230599***

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** | **0568** | **rev** | **1** | **Current version:** |  |  |
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| *For* [***HELP***](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:*** | SA3-LI(Ministère Economie et Finances) | | | | | | | | | |
| ***Source to TSG:*** | SA3 | | | | | | | | | |
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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 following information related to NTN are missing :   * LTE NTN and NR NTN location information of the target UE * Unavailability Period Duration of NTN coverage for the target UE * If the AN serving the UE is connected to the core network via satellite backhaul, the following information is missing : Satellite Backhaul Category and Geo satellite ID if category is GEO. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Provide NTN releated information updating xIRIs generated by AMF and SMF POIs. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | CSPs may not be able to meet their lawful obligations. The specification and record will remain incomplete. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2.2.2.1A, 6.2.2.2.2, 6.2.2.2.3, 6.2.2.2.4, 6.2.2.2.5, 6.2.3.2.2, 6.2.3.2.3, 6.2.3.2.5, 6.2.3.2.7.2, Annex A | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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/211>  Commit Hash: [https://forge.3gpp.org/rep/sa3/li/-/commit/](https://forge.3gpp.org/rep/sa3/li/-/commit/43b823b253e74a0a025e5605779485bcde639f39)ae7eb8577724aab3d6bd78fa228727234bba90bc | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | s3i230514 | | | | | | | | |

\*\*\* Start of first change \*\*\*

##### 6.2.2.2.1A Simple data types for AMF

Table 6.2.2.2.1A-1: Simple types for AMF

|  |  |  |
| --- | --- | --- |
| Type name | Type | Description |
| MUSIMUERequestType | OCTET STRING (SIZE (1)) | The purpose of the MUSIMUERequestType type is to indicate a MUSIM UE has requested the network to perform specific requests due to activity on another USIM. Shall contain the UE request type information octet sent in the REGISTRATION REQUEST message, omitting the first two octets. Encoded per TS 24.301 [51] clause 9.9.3.65. |
| RATFrequencySelectionPriority | INTEGER (1..256) | This field is used to define local configuration for RRM strategies such as camp priorities in idle mode and control of inter-RAT/inter-frequency handover in Active mode. See TS 23.501 [13] clause 5.3.4.3.1. Encoded per TS 38.413 [23] clause 6.3.1.61. |
| FiveGMMCapability | OCTET STRING (SIZE (1..13)) | The purpose of the FiveGMMCapability type is to provide information concerning aspects of the UE related to the 5GCN or interworking with the EPS. Omitting the first two octets. Defined in TS 24.501 [13] clause 9.11.3.1. |
| FiveGSUpdateType | OCTET STRING (SIZE (1)) | The purpose of the FiveGSUpdateType is to allow the UE to provide additional information to the network when performing a registration procedure. Defined in TS 24.501 [13] clause 9.11.3.9A, omitting the first two octets. |
| UnavailabilityPeriodDuration | OCTET STRING (SIZE (1)) | The purpose of UnavailabilityPeriodDuration is to indicate the period duration the UE is unavailable, see TS 24.501 [13] clause 8.2.6.1. Encoded as GPRS Timer 3, see TS 24.008 [95] clause 10.5.7.4a, omitting the first two octets. |

\*\*\* End of first change \*\*\*

\*\*\* Start of second change \*\*\*

##### 6.2.2.2.2 Registration

The IRI-POI in the AMF shall generate an xIRI containing an AMFRegistration record when the IRI-POI present in the AMF detects that a UE matching one of the target identifiers provided via LI\_X1 has successfully registered to the 5GS via 3GPP NG-RAN or non-3GPP access. Accordingly, the IRI-POI in the AMF generates the xIRI when the following event is detected:

- AMF sends a N1: REGISTRATION ACCEPT message to the target UE and the UE 5G Mobility Management (5GMM) state for the access type (3GPP NG-RAN or non-3GPP access) within the AMF is changed to 5GMM-REGISTERED.

Table 6.2.2-1: Payload for AMFRegistration record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| registrationType | AMFRegistrationType | 1 | Specifies the type of registration, see TS 24.501 [13] clause 9.11.3.7. This is derived from the information received from the UE in the REGISTRATION REQUEST message. | M |
| registrationResult | AMFRegistrationResult | 1 | Specifies the result of registration, see TS 24.501 [13] clause 9.11.3.6. | M |
| Slice | Slice | 0..1 | Provide, if available, one or more of the following:  - allowed NSSAI (see TS 24.501 [13] clause 9.11.3.37).  - configured NSSAI (see TS 24.501 [13] clause 9.11.3.37).  - rejected NSSAI (see TS 24.501 [13] clause 9.11.3.46).  This is derived from the information sent to the UE in the REGISTRATION ACCEPT message. | C |
| sUPI | SUPI | 1 | SUPI associated with the registration (see clause 6.2.2.4). | M |
| sUCI | SUCI | 0..1 | SUCI used in the registration, if available. | C |
| pEI | PEI | 0..1 | PEI provided by the UE during the registration, if available. | C |
| gPSI | GPSI | 0..1 | GPSI obtained in the registration, if available as part of the subscription profile. | C |
| gUTI | FiveGGUTI | 1 | 5G-GUTI provided as outcome of initial registration or used in other cases, see TS 24.501 [13] clause 5.5.1.2.2. | M |
| Location | Location | 0..1 | Location information determined by the network during the registration, if available.  Encoded as a *userLocation* parameter (*location>locationInfo>userLocation*) and, when Dual Connectivity is activated, as an *additionalCellIDs* parameter (*location>locationInfo>additionalCellIDs*), see Annex A. | C |
| non3GPPAccessEndpoint | UEEndpointAddress | 0..1 | 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 |
| fiveGSTAIList | TAIList | 0..1 | List of tracking areas associated with the registration area within which the UE is current registered, see TS 24.501 [13] clause 9.11.3.9 (see NOTE) | C |
| sMSoverNASIndicator | SMSOverNASIndicator | 0..1 | Indicates whether SMS over NAS is supported. Provide, if included in registrationResult, see TS 24.501 [13] clause 9.11.3.6. | C |
| oldGUTI | EPS5GGUTI | 0..1 | GUTI or 5G-GUTI, if provided in the REGISTRATION REQUEST message, see TS 24.501 [13] clause 5.5.1.2.2. | C |
| eMM5GRegStatus | EMM5GMMStatus | 0..1 | UE Status, if provided in the REGISTRATION REQUEST message, see TS 24.501 [13] clause 9.11.3.56. | C |
| nonIMEISVPEI | NonIMEISVPEI | 0..1 | MACAddress or EUI-64 used as UE equipment identity if IMEI or IMEISV based PEI is not available. Provide if known, see TS 24.501 [13] clause 8.2.26.4. | C |
| mACRestIndicator | MACRestrictionIndicator | 0..1 | Indicates whether the non-IMEISV PEI MACAddress can be used as an equipment identifier. Required if non-IMEISVPEI is used, see TS 24.501 [13] clause 9.11.3.4. | C |
| pagingRestrictionIndicator | PagingRestrictionIndicator | 0..1 | Indicates if paging is restricted or the type of paging allowed. Include if sent in the REGISTRATION REQUEST message. Encoded per TS 24.501 [13] clause 9.11.3.77.2, omitting the first two octets. | C |
| rATType | RATType | 0..1 | RAT Type shall be present if known by the AMF. RAT Type is determined by the AMF during registration. See TS 23.501 [2] clause 5.3.2.3 | C |
| rRCEstablishmentCause | RRCEstablishmentCause | 0..1 | Indicates the reason for UE RRC Connection Establishment. This parameter shall be populated with information provided by the serving RAN during NAS establishment in the Initial UE Message. See TS 38.413 [23] clause 9.3.1.111. | C |
| nGInformation | NGInformation | 0..1 | Provides application layer related information for the serving Global RAN Node provided by the NG-RAN node to the serving AMF during NG setup. This parameter shall be populated using information from the NG SETUP REQUEST and NG SETUP RESPONSE. See TS 38.413 [23] clauses 9.2.6.1 and 9.2.6.2. | C |
| nASTransportInitialInformation | NASTransportInitialInformation |  | Provides information related to the NAS Transport setup for the target UE over the NG interface. Shall be included when received by the AMF per TS 38.413 [23]. This parameter is only conditional for backward compatibility. See TS 38.413 [23] clause 9.2.5.1. | C |
| equivalentPLMNList | PLMNList | 0..1 | Provides a list of equivalent PLMNs in the REGISTRATION ACCEPT message. See clause TS 24.501 [13] clause 8.2.7.3. | C |
| fiveGMMCapability | FiveGMMCapability | 0..1 | Shall contain the target 5GMM capability information octets sent in the REGISTRATION REQUEST message, omitting the first two octets. Defined in TS 24.501 [13] clause 9.11.3.1. | C |
| initialRANUEContextSetup | InitialRANUEContextSetup | 0..1 | Provides information sent in the INITIAL CONTEXT SETUP message from the AMF to the RAN for a target. See TS 38.413 [23] clause 9.2.2.1. | C |
| mUSIMUERequestType | MUSIMUERequestType | 0..1 | Indicates a MUSIM UE has requested release of NAS signalling or has rejected paging. Include if sent in the REGISTRATION REQUEST message. Encoded per UE Request Type omitting the first two octets. See TS 24.301 [51] clause 9.9.3.65. | C |
| sORTransparentContainer | SORTransparentContainer | 0..1 | Provides the list of preferred PLMN/access technology combinations. Included if sent in the NAS N1 message REGISTRATION ACCEPT. Given as a SoR Transparent container encoded per TS 24.501 [13] clause 9.11.3.51 omitting the first three octets. | C |
| unavailabilityPeriodDuration | UnavailabilityPeriodDuration | 0..1 | Period duration the UE is unavailable. Include if sent in the REGISTRATION REQUEST message. See TS 24.501 [13] clause 8.2.6.1. Encoded as GPRS Timer 3, see TS 24.008 [95] clause 10.5.7.4a, omitting the first two octets. | C |
| fiveGSUpdateType | FiveGSUpdateType | 0..1 | Shall contain the target 5GS Update Type information octets if sent in the REGISTRATION REQUEST message. Defined in TS 24.501 [13] clause 9.11.3.9A, omitting the first two octets. | C |
| uEAreaIndication | UEAreaIndication | 0..1 | Contains a country, area in a country or international area indication where UE is located, if available. If UE is outside of the area of any known country, i.e. international area, it contains the international area indication without a country. UEAreaIndication is derived from the data present in the UEAreaIndication information element defined in TS 29.572 [24] clause 6.1.6.2.42. | C |
| NOTE: List shall be included each time there is a change to the registration area. | | | | |

Table 6.2.2-1A: Payload for UEAreaIndication

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| Country | UTF8String (SIZE (2)) | 0..1 | Indicates the country or the area of country where the UE is located. Contains the two-letter ISO 3166 country code in capital ASCII letters, e.g., DE or US. Shall be encoded as described in TS 29.572 [24] table 6.1.6.2.42-1. | C |
| internationalAreaIndication | BOOLEAN | 0..1 | Indicates international area.  Set to true if UE is located in international area and set to false (default) if UE is not located in international area. | C |
| NOTE: Either country or internationalAreaIndication shall be present. | | | | |

\*\*\* End of second change \*\*\*

\*\*\* Start of third change \*\*\*

##### 6.2.2.2.3 Deregistration

The IRI-POI in the AMF shall generate an xIRI containing an AMFDeregistration record when the IRI-POI present in the AMF detects that a UE matching one of the target identifiers provided via LI\_X1 has deregistered from the 5GS over at least one access type. Accordingly, the IRI-POI in AMF generates the xIRI when any of the following events is detected:

- For network initiated de-registration, when the AMF receives the N1: DEREGISTRATION ACCEPT message from the target UE or when implicit deregistration timer expires; and in both cases the UE 5GMN state for the access type (3GPP NG-RAN or non-3GPP access) within the AMF is changed to 5GMM-DEREGISTERED.

- For UE initiated de-registration, when the AMF sends the N1: DEREGISTRATION ACCEPT message to the target UE or when the AMF receives the N1: DEREGISTRATION REQUEST message from the target UE with deregistration type value of “switch off”; and in both cases the UE 5GMN state for the access type (3GPP NG-RAN or non-3GPP access) within the AMF is changed to 5GMM-DEREGISTERED.

- For network initiated AMF UE relocation, the AMFDeregistration xIRI shall not be sent unless the 5GMM COMMON PROCEDURE INITIATED (see TS 24.501 [13] clause 5.1.3.2.3.3) results in deregistration.

Table 6.2.2-2: Payload for AMFDeregistration record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| deregistrationDirection | AMFDirection | 1 | Indicates whether the deregistration was initiated by the network or by the UE. | M |
| accessType | AccessType | 1 | Indicates the access for which the deregistration is handled, see TS 24.501 [13] clause 9.11.3.20. | M |
| sUPI | SUPI | 0..1 | SUPI associated with the deregistration (see clause 6.2.2.4), if available. | C |
| sUCI | SUCI | 0..1 | SUCI used in the deregistration, if available (see NOTE). | C |
| pEI | PEI | 0..1 | PEI used in the deregistration, if available (see NOTE). | C |
| gPSI | GPSI | 0..1 | GPSI associated to the deregistration, if available as part of the subscription profile. | C |
| gUTI | FiveGGUTI | 0..1 | 5G-GUTI used in the deregistration, if available, see TS 24.501 [13] clause 5.5.2.2.1 (see NOTE). | C |
| Cause | FiveGMMCause | 0..1 | Indicates the 5GMM cause value for network-initiated deregistration, see TS 24.501 [13] clause 9.11.3.2. | C |
| location | Location | 0..1 | Location information determined by the network during the deregistration, if available.  Encoded as a *userLocation* parameter (*location>locationInfo>userLocation*), see Annex A. | C |
| switchOffIndicator | SwitchOffIndicator | 0..1 | Indicates whether the deregistration type is normal or switch off, if available, see TS 24.501 [13] clause 9.1.3.20.1. | C |
| reRegRequiredIndicator | ReRegRequiredIndicator | 0..1 | Indicates whether UE re-registration is required in the DEREGISTRATION REQUEST message, if available, see TS 24.501 [13] clause 9.1.3.20.1. | C |
| unavailabilityPeriodDuration | UnavailabilityPeriodDuration | 0..1 | Period duration the UE is unavailable. Include if sent in the DEREGISTRATION REQUEST message. See TS 24.501 [13] clause 8.2.12.1. Encoded as GPRS Timer 3, see TS 24.008 [95] clause 10.5.7.4a, omitting the first two octets. | C |
| NOTE: At least one among SUCI, PEI and GUTI shall be provided. | | | | | |

\*\*\* End of third change \*\*\*

\*\*\* Start of fourth change \*\*\*

##### 6.2.2.2.4 Location update

The IRI-POI in the AMF shall generate an xIRI containing an AMFLocationUpdate record each time the IRI-POI present in an AMF detects that the target’s UE location is updated due to target UE mobility or as a part of an AMF service procedure and the reporting of location information is not restricted by service scoping. The generation of such separate xIRI is not required if the updated UE location information is obtained as a part of a procedure producing some other xIRIs (e.g. mobility registration). In that case the location information is included into the respective xIRI.

The UE mobility events resulting in generation of an AMFLocationUpdate xIRI include the *N2 Path Switch Request* (*Xn based inter NG-RAN handover* procedure described in TS 23.502 [4] clause 4.9.1.2) and the *N2 Handover Notify* (*Inter NG-RAN node N2 based handover* procedure described in TS 23.502 [4] clause 4.9.1.3).

The AMFLocationUpdate xIRI is also generated when the AMF receives an NG-RAN NGAP *PDU Session Resource Modify Indication* message as a result of Dual Connectivity activation/release for the target UE, as described in TS 37.340 [37] clause 10.

Optionally, based on operator policy, other NG-RAN NGAP messages that do not generate separate xIRI but carry location information (e.g. RRC INACTIVE TRANSITION REPORT) may trigger the generation of an xIRI AMFLocationUpdate record.

Additionally, based on regulatory requirements and operator policy, the location information obtained by AMF from NG-RAN or LMF in the course of some service operation (e.g. emergency services, LCS) may generate xIRI AMFLocationUpdate record. The AMF services providing the location information in these cases include the AMF Location Service (ProvideLocInfo, ProvidePosInfo, NotifiedPosInfo and EventNotify service operations) and the AMF Exposure Service (AmfEventReport with LOCATION\_REPORT) (see TS 29.518 [22]). Additionally, the AMF Communication Service (Namf\_Communication\_N1MessageNotify service operation) may be monitored to capture the location information in the scenarios described in TS 23.273 [42] clause 6.3.1. Also, in the case of Mobile Originated LCS service invoked by the target, the location information may be derived from a Nlmf\_Location\_DetermineLocation Response to AMF (see TS 23.273 [42] clause 6.2).

The AMFLocationUpdate record is also used by LARF to deliver Location Acquisition responses to MDF2, as described in clause 7.3.5.6. The IRI-POI in the AMF shall not generate the AMFLocationUpdate xIRI when the location is acquired as the result of a LARF request, as described in TS 33.127 [5], clause 7.3.5.2.

Table 6.2.2-3: Payload for AMFLocationUpdate record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 1 | SUPI associated with the location update (see clause 6.2.2.4). | M |
| sUCI | SUCI | 0..1 | SUCI associated with the location update, if available, see TS 24.501 [13]. | C |
| pEI | PEI | 0..1 | PEI associated with the location update, if available. | C |
| gPSI | GPSI | 0..1 | GPSI associated with the location update, if available as part of the subscription profile. | C |
| gUTI | GUTI | 0..1 | 5G-GUTI associated with the location update, if available, see TS 24.501 [13]. | C |
| location | Location | 1 | Updated location information determined by the network.  Depending on the service or message type from which the location information is extracted, it may be encoded in several forms (Annex A):  1) as a *userLocation* parameter (*location>locationInfo>userLocation*) in the case the information is obtained from an NGAP message, except the LOCATION REPORT message (see TS 38.413 [23]);  2) as a *locationInfo* parameter (*location>locationInfo*) in the case the information is obtained from a **ProvideLocInfo** (TS 29.518 [22] clause 6.4.6.2.6);  3) as a *locationPresenceReport* parameter (*location>locationPresenceReport*) in the case the information is obtained from an **AmfEventReport** (TS 29.518 [22] clause 6.2.6.2.5) with event type **Location-Report** or **Presence-In-AOI-Report;**  4) as a *positionInfo* parameter (*location>positioningInfo>positionInfo*) in the case the information is obtained from a **ProvidePosInfo** (TS 29.518 [22] clause 6.4.6.2.3) or a **NotifiedPosInfo** (TS 29.518 [22] clause 6.4.6.2.4). | M |
| sMSoverNASIndicator | SMSOverNASIndicator | 0..1 | No longer used in present version of this specification. | C |
| oldGUTI | EPS5GGUTI | 0..1 | No longer used in present version of this specification. | C |
| uEAreaIndication | UEAreaIndication | 0..1 | Contains a country, area in a country or international area indication where UE is located, if available. If UE is outside of the area of any known country, i.e. international area, it contains the international area indication without a country. See table 6.2.2-1A for details on this data type. | C |

\*\*\* End of fourth change \*\*\*

\*\*\* Start of fifth change \*\*\*

##### 6.2.2.2.5 Start of interception with registered UE

The IRI-POI in the AMF shall generate an xIRI containing an AMFStartOfInterceptionWithRegisteredUE record when the IRI-POI present in the AMF detects that interception is activated on a UE that has already been registered in the 5GS (see clause 6.2.2.4 on identity privacy). A UE is considered already registered to the 5GS when the 5GMM state for the access type (3GPP NG-RAN or non-3GPP access) for that UE is 5GMM-REGISTERED. Therefore, the IRI-POI present in the AMF shall generate the xIRI AMFStartOfInterceptionWithRegisteredUE record when it detects that a new interception for a UE is activated (i.e. provisioned by the LIPF) and the 5G mobility management state for the access type (3GPP NG-RAN or non-3GPP access) within the AMF for that UE is 5GMM-REGISTERED. If the UE is registered over both 3GPP NG-RAN and non-3GPP access, the IRI-POI present in the AMF shall generate an xIRI containing an AMFStartOfInterceptionWithRegisteredUE record for each access type.

Table 6.2.2-4: Payload for AMFStartOfInterceptionWithRegisteredUE record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| registrationResult | AMFRegistrationResult | 1 | Specifies the result of registration, see TS 24.501 [13] clause 9.11.3.6. | M |
| registrationType | AMFRegistrationType | 0..1 | Specifies the type of registration, see TS 24.501 [13] clause 9.11.3.7, if available. | C |
| Slice | Slice | 0..1 | Provide, if available, one or more of the following:  - allowed NSSAI (see TS 24.501 [13] clause 9.11.3.37).  - configured NSSAI (see TS 24.501 [13] clause 9.11.3.37). | C |
| sUPI | SUPI | 1 | SUPI associated with the target UE. | M |
| sUCI | SUCI | 0..1 | SUCI used in the registration, if available. | C |
| pEI | PEI | 0..1 | PEI associated with the target UE, if available. | C |
| gPSI | GPSI | 0..1 | GPSI associated with the target UE, if available. | C |
| gUTI | FiveGGUTI | 1 | Latest 5G-GUTI assigned to the target UE by the AMF. | M |
| location | Location | 0..1 | Location information associated with the access type for the target UE, if available.  Encoded as a *userLocation* parameter (*location>locationInfo>userLocation*) and, when Dual Connectivity is activated, as an *additionalCellIDs* parameter (*location>locationInfo>additionalCellIDs*), see Annex A. | C |
| non3GPPAccessEndpoint | UEEndpointAddress | 0..1 | 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 |
| timeOfRegistration | Timestamp | 0..1 | Time at which the last registration occurred, if available. This is the time stamp when the REGISTRATION ACCEPT message was sent to the UE or (when applicable) when the REGISTRATION COMPLETE was received from the UE.  Shall be given qualified with time zone information (i.e. as UTC or offset from UTC, not as local time). | C |
| fiveGSTAIList | TAIList | 0..1 | List of tracking areas associated with the target UE for the access type. | C |
| sMSoverNASIndicator | SMSOverNASIndicator | 0..1 | Indicates whether SMS over NAS is supported. Provide, if included in the UE Context. | C |
| oldGUTI | EPS5GGUTI | 0..1 | Latest GUTI or 5G-GUTI received from the target UE if different than the latest GUTI assigned by the AMF and the target UE has not acknowledged the latest GUTI assignment. | C |
| eMM5GRegStatus | EMM5GMMStatus | 0..1 | UE Status, if this parameter can be derived from information available in the UE Context at the AMF. | C |
| sORTransparentContainer | SORTransparentContainer | 0..1 | Provides the list of preferred PLMN/access technology combinations. Included if sent in the NAS N1 message REGISTRATION ACCEPT. Given as a SoR Transparent container encoded per TS 24.501 [13] clause 9.11.3.51 omitting the first three octets. | C |
| uEPolicy | UEPolicy | 0..1 | Content of the N1 NAS message MANAGE UE POLICY COMMAND, as defined in TS 24.501 [13] table D.5.1.1.1. | C |
| unavailabilityPeriodDuration | UnavailabilityPeriodDuration | 0..1 | Period duration the UE is unavailable. Include if sent in the REGISTRATION REQUEST. See TS 24.501 [13] clause 8.2.6.1. Encoded as GPRS Timer 3, see TS 24.008 [95] clause 10.5.7.4a, omitting the first two octets. | C |
| fiveGSUpdateType | FiveGSUpdateType | 0..1 | Shall contain the target 5GS Update Type information octets if sent in the REGISTRATION REQUEST message. Defined in TS 24.501 [13] clause 9.11.3.9A, omitting the first two octets. | C |
| uEAreaIndication | UEAreaIndication | 0..1 | Contains a country, area in a country or international area indication where UE is located, if available. If UE is outside of the area of any known country, i.e. international area, it contains the international area indication without a country. See table 6.2.2-1A for details on this data type. | C |
| NOTE: The values of the parameters in the table above are derived from the UE Context at the AMF, see TS 23.502 clause 5.2.2.2.2. | | | | |

The IRI-POI present in the AMF generating an xIRI containing an AMFStartOfInterceptionWithRegisteredUE record shall set the Payload Direction field in the PDU header to *not applicable* (Direction Value 5, see ETSI TS 103 221-2 [8] clause 5.2.6).

\*\*\* End of fifth change \*\*\*

\*\*\* Start of sixth 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 single-access 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], clauses 6.1.3.3 and 6.4.1).

- 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], clauses 5.2.1, 5.2.2.7, 5.2.3, 6.1.2.4, and 6.1.6.4).

If the Npcf\_SMPolicyControl\_Create response received from the PCF for the target UE in response to Npcf\_SMPolicyControl\_Create request includes PCC rules in which the traffic control policy data contains either a routeToLocs IE or trafficSteeringPolIdDl IE and/or trafficSteeringPolIdUl IE, then the SMF shall include those PCC rules in the xIRI. These PCC rules correspond to policies that influence the target UE’s traffic flows (see TS 29.513 [88] clause 5.5.3).

Table 6.2.3-1: Payload for SMFPDUSessionEstablishment record

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O | |
| sUPI | SUPI | 0..1 | 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 | SUPIUnauthenticatedIndication | 0..1 | 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 | 0..1 | PEI associated with the PDU session if available (see NOTE). | C | |
| gPSI | GPSI | 0..1 | GPSI associated with the PDU session if available (see NOTE). | C | |
| pDUSessionID | PDUSessionID | 1 | PDU Session ID See TS 24.501 [13] clause 9.4. | M | |
| gTPTunnelID | FTEID | 1 | Contains the F-TEID identifying the UPF endpoint of the GTP tunnel used to encapsulate the traffic derived from the UL NG-U UP TNL Information (see TS 38.413 clause 9.3.4.1), as defined in TS 29.244 [15] clause 8.2.3. Non-GTP encapsulation is for further study. | M | |
| pDUSessionType | PDUSessionType | 1 | Identifies selected PDU session type, see TS 24.501 [13] clause 9.11.4.11. | M | |
| sNSSAI | SNSSAI | 0..1 | 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 | SEQUENCE OF UEEndpointAddress | 0..N | UE endpoint address(es) assigned to the PDU Session if available (see TS 29.244 [15] clause 5.21). | C | |
| non3GPPAccessEndpoint | UEEndpointAddress | 0..1 | 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 | 0..1 | Location information provided by the AMF or present in the context at the SMF, if available. | C | |
| dNN | DNN | 1 | Data Network Name requested by the target UE, as defined in TS 23.003[19] clause 9A and described in TS 23.502 [4] clause 4.3.2.2. Shall be given in dotted-label presentation format as described in TS 23.003 [19] clause 9.1. | M | |
| aMFID | AMFID | 0..1 | Identifier of the AMF associated with the target UE, as defined in TS 23.003 [19] clause 2.10.1 if available. | C | |
| hSMFURI | HSMFURI | 0..1 | 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 | FiveGSMRequestType | 1 | Type of request as described in TS 24.501 [13] clause 9.11.3.47 provided within the Nsmf\_PDU\_Session\_CreateSMContext Request (TS 29.502 [16]) message shall be reported.  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.  In the case where the network does not provide a request type value for a non-MA PDU session, a request type of “initial request”, according to TS 24.501 [13] clause 6.4.1.2 shall be reported. | M | |
| accessType | AccessType | 0..1 | 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 | RATType | 0..1 | 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 | SMPDUDNRequest | 0..1 | Contents of the SM PDU DN Request container, if available, as described in TS 24.501 [13] clause 9.11.4.15. | C | |
| uEEPSPDNConnection | UEEPSPDNConnection | 0..1 | This IE shall be present, if available, during an EPS to 5GS Idle mode mobility or handover using the N26 interface. If 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 | EPS5GSComboInfo | 0..1 | Provides detailed information about PDN Connections associated with the reported PDU Session. Shall be included if 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 | |
| selectedDNN | DNN | 0..1 | Shall be present if a DNN other than the UE requested DNN is selected for the PDU Session. Shall be given in dotted-label presentation format as described in TS 23.003 [19] clause 9.1. | C | |
| servingNetwork | SMFServingNetwork | 0..1 | PLMN ID of the serving core network operator, and, for a Non-Public Network (NPN), the NID that together with the PLMN ID identifies the NPN. Shall be present if this IE is in the SMContextCreateData or PDUSessionCreateData message sent to the SMF or the PDU Session Context or SM Context at the SMF (see TS 29.502 [16] clauses 6.1.6.2.2, 6.1.6.2.9 and 6.1.6.2.39). | C | |
| oldPDUSessionID | PDUSessionID | 0..1 | Shall be present if this IE is in the SMContextCreateData or PDUSessionCreateData message sent to the SMF or the PDU Session Context or SM Context at the SMF (see TS 29.502 [16] clauses 6.1.6.2.2, 6.1.6.2.9 and 6.1.6.2.39). | C | |
| handoverState | HandoverState | 0..1 | Indicates whether the PDU Session Establishment being reported was due to a handover. Shall be present if this IE is in the SMContextCreatedData sent by the SMF (see TS 29.502 [16] clause 6.1.6.2.3). | C | |
| gTPTunnelInfo | GTPTunnelInfo | 1 | Contains the information for the User Plane GTP Tunnels for the PDU Session (see TS 29.502 [16] clauses 6.1.6.2.2, 6.1.6.2.9 and 6.1.6.2.39). See Table 6.2.3-1B. | M | |
| pCCRules | PCCRuleSet | 0..1 | Set of PCC rules related to traffic influence. Each PCC rule influences the routing of a given traffic flow. If several flows are concerned, then several PCC rules shall be handled by the SMF. Traffic influence policies are orginated by an AF. PCF translates these rules into PCC rules for traffic influence. The payload of a PCC rule for traffic influence is defined in Table 6.2.3-1E. | C | |
| ePSPDNConnectionEstablishment | EPSPDNConnectionEstablishment | 0..1 | Provides details about PDN Connections when the SMFPDUSessionEstablishment xIRI message is used to report PDN Connection establishment. See Table 6.3.3-1 and clause 6.3.3.2.2. | C | |
| satelliteBackhaulCategory | SBIType | 0..1 | Indicates that a satellite backhaul is used towards 5G AN and the corresponding backhaul category, if available. Encoded according to TS 29.571 [17] clause 5.4.3.39. The SBIReference for this parameter shall be populated with 'TS29571\_CommonData.yaml#/components/schemas/SatelliteBackhaulCategory'. | C | |
| gEOSatelliteID | GEOSatelliteID | 0..1 | Indicates the satellite ID if satellite backhaul category is GEO, if available. Encoded according to TS 29.571 [17] clause 5.4.2. | C | |
| NOTE: At least one of the SUPI, PEI or GPSI fields shall be present. | | | | |

\*\*\* End of sixth change \*\*\*

\*\*\* Start of seventh change \*\*\*

##### 6.2.3.2.3 PDU session modification

The IRI-POI in the SMF shall generate an xIRI containing an SMFPDUSessionModification record when the IRI-POI present in the SMF detects that a single-access PDU session has been modified 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), receives the N1 NAS message (via AMF) PDU SESSION MODIFICATION COMPLETE from the UE and the 5GSM state within the SMF is returned to PDU SESSION ACTIVE (see TS 24.501 [13], clauses 6.1.3.3, 6.3.2 and 6.4.2). This applies to the following two cases:

- UE initiated PDU session modification (see TS 23.502 [4], clause 4.3.3.2).

- Network initiated PDU session modification (see TS 23.502 [4], clause 4.3.3.2).

- 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 5GSM state within the SMF remains in the PDU SESSION ACTIVE (see TS 24.501 [13], clause 6.1.3.3 and 6.4.1). This applies to the following case:

- Handover from one access type to another access type happens ((e.g. 3GPP to non-3GPP); see TS 23.502 [4], clauses 4.9.2.1 and 4.9.2.2).

- For a home-routed roaming scenario, the SMF in the HPLMN (i.e. H-SMF) receives the N16: Nsmf\_PDU\_Session\_Update Response message with n1SmInfoFromUe IE containing the PDU SESSION MODIFICATION COMPLETE (see TS 29.502 [16], clauses 5.2.1, 5.2.2.8, 5.2.3, and 6.1.6.4). This applies to the following three cases:

- UE initiated PDU session modification (see TS 23.502 [4], clause 4.3.3.3).

- Network (VPLMN) initiated PDU session modification (see TS 23.502 [4], clause 4.3.3.3).

- Network (HPLMN) initiated PDU session modification (see TS 23.502 [4], clause 4.3.3.3).

- 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], clauses 5.2.1, 5.2.2.8, 5.2.3, and 6.1.6.4) while it had received a N16 Nsmf\_PDU\_Session\_Create Request message with an existing PDU Session Id with access type being changed. This applies to the following case:

- Handover from one access type to another access type happens ((e.g. 3GPP to non-3GPP); see TS 23.502 [4], clauses 4.9.2.3 and 4.9.2.4) where the V-SMF is used for the PDU session on the new access type only.

- For a home-routed roaming scenario, the SMF in the HPLMN (i.e. H-SMF) sends the N16: Nsmf\_PDU\_Session\_Update Response message with n1SmInfoToUe IE containing the PDU SESSION ESTABLISHMENT ACCEPT (see TS 29.502 [16]) while it had received a N16 Nsmf\_PDU\_Session\_Update Request message with an existing PDU Session Id with access type being changed. This applies to the following case:

- Handover from one access type to another access type happens (e.g. 3GPP to non-3GPP) where the same V-SMF is used for the PDU session on both access types.

- For a non-roaming scenario, SMF sends a Nsmf\_EventExposure\_Notify request to the NEF or AF for the target UE for the event "UP Path Change" related to a corresponding subscription from AF (see TS 29.508 [90] clause 4.2.2).

- For a non-roaming scenario, SMF sends a Nsmf\_EventExposure\_AppRelocationInfo response to the NEF or AF for the target UE in response to Nsmf\_EventExposure\_AppRelocationInfo request sent by NEF or AF to SMF (see TS 29.508 [90] clause 4.2.5).

- For a non-roaming scenario, SMF receives a Nnef\_PFDManagement\_Fetch response from the NEF for the target UE in response to Nnef\_PFDManagement\_Fetch request sent by SMF to NEF (see TS 29.551 [96] clause 4.2.2).

If the Npcf\_SMPolicyControlUpdateNotify response sent to the PCF for the target UE in response to an Npcf\_SMPolicyControlUpdateNotify request includes PCC rules in which the traffic control policy data contains either a routeToLocs IE or trafficSteeringPolIdDl IE and/or trafficSteeringPolIdUl IE, then the SMF shall include those PCC rules in the xIRI. These PCC rules correspond to policies that influence the target UE’s traffic flows (see TS 29.513 [88] clause 5.5.3).

Table 6.2.3-2: Payload for SMFPDUSessionModification record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 0..1 | 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. | C |
| sUPIUnauthenticated | SUPIUnauthenticatedIndication | 0..1 | Shall be present if a SUPI is present in the message and set to “true” if the SUPI was not authenticated, or “false” if it has been authenticated. | C |
| pEI | PEI | 0..1 | PEI associated with the PDU session if available. | C |
| gPSI | GPSI | 0..1 | GPSI associated with the PDU session if available. | C |
| sNSSAI | SNSSAI | 0..1 | Slice identifier 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 |
| non3GPPAccessEndpoint | UEEndpointAddress | 0..1 | 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 | 0..1 | Location information provided by the AMF or present in the context at the SMF, if available. | C |
| requestType | FiveGSMRequestType | 0..1 | Type of request as described in TS 24.501 [13] clause 9.11.3.47 if available. | C |
| accessType | AccessType | 0..1 | 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 | RATType | 0..1 | RAT type associated with the access, if available. Values given as per TS 29.571 [17] clause 5.4.3.2. | C |
| pDUSessionID | PDUSessionID | 0..1 | PDU Session ID See TS 24.501 [13] clause 9.4. This parameter is conditional only for backwards compatibility. | C |
| ePS5GSComboInfo | EPS5GSComboInfo | 0..1 | Provides detailed information about PDN Connections associated with the reported PDU Session. Shall be included when the AMF has selected a SMF+PGW-C to serve the PDU session. This parameter may include the additional IEs in Table 6.2.3-1A, when available. | C |
| uEEndpoint | UEEndpointAddress | 0..1 | UE IP address(es) assigned to the PDU Session if available (See TS 29.244 [15] clause 5.21). | C |
| servingNetwork | SMFServingNetwork | 0..1 | Shall be present if this IE is in the SMContextUpdateData, HsmfUpdateData or message sent to the SMF or the PDU Session Context or SM Context at the SMF (see TS 29.502 [16] clauses 6.1.6.2.3, 6.1.6.2.11 and 6.1.6.2.39). | C |
| handoverState | HandoverState | 0..1 | Indicates whether the PDU Session Modification being reported was due to a handover. Shall be present if this IE is in the SMContextUpdatedData or sent by the SMF (see TS 29.502 [16] clause 6.1.6.2.3). | C |
| gTPTunnelInfo | GTPTunnelInfo | 1 | Contains the information for the User Plane GTP Tunnels for the PDU Session (see TS 29.502 [16] clauses 6.1.6.2.2, 6.1.6.2.9 and 6.1.6.2.39). See Table 6.2.3-1B. | M |
| pCCRules | PCCRuleSet | 0..1 | Set of PCC rules related to traffic influence. Each PCC rule influences the routing of a given traffic flow. If several flows are concerned, then several PCC rules shall be handled by the SMF. Traffic influence policies are orginated by an AF. PCF translates these rules into PCC rules for traffic influence, if available. The payload of a PCC rule for traffic influence is defined in Table 6.2.3-1E. | C |
| ePSPDNConnectionModification | EPSPDNConnectionModification | 0..1 | Provides details about PDN Connections when the SMFPDUSessionModification xIRI message is used to report PDN Connection Modification. See Table 6.3.3-8 and clause 6.3.3.2.3. | C |
| uPPathChange | UPPathChange | 0..1 | Notification of the UPPathChange event. This IE is defined in TS 29.508 [90], if available, Table 5.6.2.5-1. | C |
| pFDDataForApp | PFDDataForApp | 0..1 | Represents the packet flow descriptions (PFDs) for an application identifier (AppId), if available. This IE is defined in TS 29.551 [96], Table 5.6.2.2-1. | C |
| satelliteBackhaulCategory | SBIType | 0..1 | Indicates that a satellite backhaul is used towards 5G AN and the corresponding backhaul category, if available. Encoded according to TS 29.571 [17] clause 5.4.3.39. The SBIReference for this parameter shall be populated with 'TS29571\_CommonData.yaml#/components/schemas/SatelliteBackhaulCategory'. | C |
| gEOSatelliteID | GEOSatelliteID | 0..1 | Indicates the satellite ID if satellite backhaul category is GEO, if available. Encoded according to TS 29.571 [17] clause 5.4.2. | C |

\*\*\* End of seventh change \*\*\*

\*\*\* Start of eighth change \*\*\*

##### 6.2.3.2.5 Start of interception with an established PDU session

The IRI-POI in the SMF shall generate an xIRI containing an SMFStartOfInterceptionWithEstablishedPDUSession record when the IRI-POI present in the SMF detects that a single-access PDU session has already been established for the target UE when interception starts.

In a non-roaming scenario, the IRI-POI in the SMF (or in a roaming scenario, the IRI-POI in the V-SMF in the VPLMN) shall generate the xIRI containing the SMFStartOfInterceptionWithEstablishedPDUSession record when it detects that a new interception for a UE is activated (i.e. provisioned by the LIPF) for the following case:

- The 5GSM state within the SMF for that UE is 5GSM: PDU SESSION ACTIVE or PDU SESSION MODIFICATION PENDING.

NOTE: The above trigger happens when the SMF (V-SMF in VPLMN) had not sent an N1 NAS message PDU SESSION RELEASE COMMAND to the UE for a PDU session and the SMF (V-SMF in the VPLMN) had previously sent an N1 NAS message PDU SESSION ESTABLISHMENT ACCEPT to that UE for the same PDU session.

In a home-routed roaming scenario, the IRI-POI in the H-SMF shall generate the xIRI containing the SMFStartOfInterceptionWithEstablishedPDUSession record when it detects that a new interception for a UE is activated (i.e. provisioned by the LIPF) for the following case:

- The H-SMF had not sent a Nsmf\_PDU\_Session\_Update Request (n1SmInfoToUe: PDU SESSION RELEASE COMMAND) to the V-SMF for a PDU session and H-SMF had previously sent a Nsmf\_PDU\_Session\_Create Response (n1SmInfoToUE: PDU SESSION ESTABLISHMENT ACCEPT) to the V-SMF for that PDU session.

The IRI-POI in the SMF shall generate the xIRI containing the SMFStartOfInterceptionWithEstablishedPDUSession record for each of the PDU sessions (that meets the above criteria) associated with the newly identified target UEs.

Table 6.2.3-4: Payload for SMFStartOfInterceptionWithEstablishedPDUSession record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 0..1 | 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. | C |
| sUPIUnauthenticated | SUPIUnauthenticatedIndication | 0..1 | 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 | 0..1 | PEI associated with the PDU session if available. | C |
| gPSI | GPSI | 0..1 | GPSI associated with the PDU session if available. | C |
| pDUSessionID | PDUSessionID | 1 | PDU Session ID as assigned by the AMF, as defined in TS 24.007 [14] clause 11.2.3.1b. | M |
| gTPTunnelID | FTEID | 1 | Contains the F-TEID identifying the UPF endpoint of the GTP tunnel used to encapsulate the traffic derived from the UL NG-U UP TNL Information (see TS 38.413 clause 9.3.4.1), as defined in TS 29.244 [15] clause 8.2.3. Non-GTP encapsulation is for further study. | M |
| pDUSessionType | PDUSessionType | 1 | Identifies selected PDU session type, see TS 24.501 [13] clause 9.11.4.11. | M |
| sNSSAI | SNSSAI | 0..1 | Slice identifier 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 | SEQUENCE OF UEEndpointAddress | 0..N | UE endpoint address(es) 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). MAC addresses are given as 6 octets with the most significant octet first (see TS 29.244 [15] clause 5.21). | C |
| non3GPPAccessEndpoint | UEEndpointAddress | 0..1 | 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 | 0..1 | Location information provided by the AMF at session establishment or present in the context at the SMF, if available. | C |
| dNN | DNN | 1 | Data Network Name associated with the target traffic, as defined in TS 23.003 [19] clause 9A and described in TS 23.502 [4] clause 4.3.2.2. Shall be given in dotted-label presentation format as described in TS 23.003 [19] clause 9.1. | M |
| aMFID | AMFID | 0..1 | Identifier of the AMF associated with the target UE, as defined in TS 23.003 [19] clause 2.10.1, if available. | C |
| hSMFURI | HSMFURI | 0..1 | 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 | FiveGSMRequestType | 1 | Type of request as initially set within the PDU SESSION ESTABLISHMENT as described in TS 24.501 [13] clause 9.11.3.47. If the initial value is no longer available the request type shall be set to “existing PDU session”. | M |
| accessType | AccessType | 0..1 | 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 | RATType | 0..1 | 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 | SMPDUDNRequest | 0..1 | Contents of the SM PDU DN request container, if available, as described in TS 24.501 [13] clause 9.11.4.15. | C |
| timeOfSessionEstablishment | Timestamp | 0..1 | Time at which the session establishment occurred, if available. Shall be given qualified with time zone information (i.e. as UTC or offset from UTC, not as local time). | C |
| ePS5GSComboInfo | EPS5GSComboInfo | 0..1 | Provides detailed information about PDN Connections associated with the reported PDU Session. Shall be included when the AMF has selected a SMF+PGW-C to serve the PDU session. This parameter may include the additional IEs in table 6.2.3-1A, if available. | C |
| uEEPSPDNConnection | UEEPSPDNConnection | 0..1 | This IE shall be present, if available, during an EPS to 5GS Idle mode mobility or handover using the N26 interface. If 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 |
| servingNetwork | SMFServingNetwork | 0..1 | Indicates the serving core network operator PLMN, and for an SNPN, the NID. Shall be present if present in the PDU Session Context or SM Context at the SMF (see TS 29.502 [16] clause 6.1.6.2.39). | C |
| gTPTunnelInfo | GTPTunnelInfo | 1 | Contains the information for the User Plane GTP Tunnels for the PDU Session (see TS 29.502 [16] clauses 6.1.6.2.2, 6.1.6.2.9 and 6.1.6.2.39). See Table 6.2.3-1B. | M |
| pCCRules | PCCRuleSet | 0..1 | Set of PCC rules related to traffic influence. Each PCC rule influences the routing of a given traffic flow. If several flows are concerned, then several PCC rules shall be handled by the SMF. Traffic influence policies are orginated by an AF. PCF translates these rules into PCC rules for traffic influence. The payload of a PCC rule for traffic influence is defined in Table 6.2.3-1E. | C |
| ePSStartOfInterceptionWithEstablishedPDNConnection | EPSStartOfInterceptionWithEstablishedPDNConnection | 0..1 | Provides details about PDN Connections when the SMFStartOfInterceptionWithEstablishedPDUSession xIRI message is used to report the start of interception on a target who already has existing PDN Connections. See Table 6.3.3-14 and clause 6.3.3.2.5. | C |
| pFDDataForApps | PFDDataForApps | 0..1 | Represents a set of associations between application identifier and packet flow descriptions (PFDs), if available. | C |
| satelliteBackhaulCategory | SBIType | 0..1 | Indicates that a satellite backhaul is used towards 5G AN and the corresponding backhaul category, if available. Encoded according to TS 29.571 [17] clause 5.4.3.39. The SBIReference for this parameter shall be populated with 'TS29571\_CommonData.yaml#/components/schemas/SatelliteBackhaulCategory'. | C |
| gEOSatelliteID | GEOSatelliteID | 0..1 | Indicates the satellite ID if satellite backhaul category is GEO, if available. Encoded according to TS 29.571 [17] clause 5.4.2. | C |

The IRI-POI present in the SMF generating an xIRI containing a SMFStartOfInterceptionWithEstablishedPDUSession record shall set the Payload Direction field in the PDU header to *not applicable* (Direction Value 5, see ETSI TS 103 221-2 [8] clause 5.2.6).

\*\*\* End of eighth change \*\*\*

\*\*\* Start of nineth change \*\*\*

6.2.3.2.7.2 MA PDU session establishment

The IRI-POI in the SMF shall generate an xIRI containing an SMFMAPDUSessionEstablishment record when the IRI-POI present in the SMF detects that a PDU session has been established for the target UE that is an MA PDU session (Request Type set to MA PDU session or upgraded at establishment), or where the upgrade allowed parameter is set to upgrade allowed and session is established as an ordinary PDU session (not upgraded at establishment, but may occur later on). The IRI-POI present in the SMF shall generate the xIRI for the following events:

- For a non-roaming scenario , the SMF sends the N1 NAS message (via AMF) PDU SESSION ESTABLISHMENT ACCEPT to the UE for a new PDU session and the 5G Session Management (5GSM) state within the SMF is changed to PDU SESSION ACTIVE (see TS 24.501 [13], clause 6.1.3.3 and 6.4.1) in response to a PDU SESSION ESTABLISHMENT REQUEST received along with:

- PDU Session ID which does not identify an existing PDU session, and

- Request Type = MA PDU request, or

- Request Type = initial request and MA PDU session information set to "MA PDU session network upgrade is allowed", with either upgrade occuring at establishment or upgrade does not occur at establishment but may occur later.

- 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], clauses 5.2.1, 5.2.2.7, 5.2.3, and 6.1.6) for a new PDU session in response to a PDU SESSION ESTABLISHMENT REQUEST received along with:

- PDU Session ID which does not identify an existing PDU session, and

- Request Type = MA PDU request, or

- Request Type = initial request and MA PDU session information set to "MA PDU session network upgrade is allowed", with either upgrade occuring at establishment or upgrade does not occur at establishment but may occur later.

If the Npcf\_SMPolicyControl\_Create response received from the PCF for the target UE in response to Npcf\_SMPolicyControl\_Create request includes PCC rules in which the traffic control policy data contains either a routeToLocs IE or trafficSteeringPolIdDl IE and/or trafficSteeringPolIdUl IE, then the SMF shall include those PCC rules in the xIRI. These PCC rules correspond to policies that influence the target UE’s traffic flows (see TS 29.513 [88] clause 5.5.3).

Table 6.2.3-5A: Payload for SMFMAPDUSessionEstablishment 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 clause 9.4 of TS 24.501 [13]. Identifies a new PDU session. | M |
| pDUSessionType | Identifies selected PDU session type, see TS 24.501 [13] clause 9.11.4.11. | M |
| accessInfo | Identifies the access(es) associated with the PDU session including the information for each specific access (see table 6.2.3-5B) | 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) assigned to the PDU Session if available (see TS 29.244 [15] clause 5.21). | C |
| Location | Location information provided by the AMF or present in the context at the SMF, if available. | C |
| dNN | Data Network Name requested by the target UE, as defined in TS 23.003 [19] clause 9A and described in TS 23.502 [4] clause 4.3.2.2. Shall be given in dotted-label presentation format as described in TS 23.003 [19] clause 9.1. | 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 provided within the Nsmf\_PDU\_Session\_CreateSMContext Request (TS 29.502 [16]) message shall be reported.  In the case where the network does not provide a request type value for a MA PDU session and the network does support MA PDU sessions, the request type shall be set to “MA PDU request” according to TS 24.501 [13] clause 6.4.1.2. | M |
| sMPDUDNRequest | Contents of the SM PDU DN Request container, if available, as described in TS 24.501 [13] clause 9.11.4.15. | C |
| servingNetwork | PLMN ID of the serving core network operator, and, for a Non-Public Network (NPN), the NID that together with the PLMN ID identifies the NPN. | M |
| oldPDUSessionID | The old PDU Session ID received from the UE. See TS 23.502 [4] clauses 4.3.2.2.1 and 4.3.5.2 and TS 24.501 [13] clause 6.4.1.2. Shall be present if this IE is in the SMContextCreateData or PDUSessionCreateData message sent to the SMF or the PDU Session Context or SM Context at the SMF (see TS 29.502 [16] clauses 6.1.6.2.2, 6.1.6.2.9 and 6.1.6.2.39). | C |
| mAUpgradeIndication | Indicates whether the PDU session is allowed to be upgraded to MA-Confirmed MA PDU session (see TS 23.502 [4] clause 4.22.3). Include if known. | C |
| ePSPDNCnxInfo | Indicates if the PDU session may be moved to EPS during its lifetime (see TS 29.502 [16] clause 6.1.6.2.31). Include if known. | C |
| mAAcceptedIndication | Indicates that a request to establish an MA PDU session was accepted or if a single access PDU session request was upgraded into a MA PDU session (see TS 23.502 [4] clauses 4.22.2 and 4.22.3).  It shall be set as follows:  - true: MA-Confirmed MA PDU session was established  - false: single access MA-Upgrade-Allowed MA PDU session was established that may be upgraded to an MA-Confirmed MA PDU session. | M |
| aTSSSContainer | Identifies the steering, switching, and splitting features for the MA-Confirmed MA PDU session. Also indicates whether MPTCP or ATSSS-LL is to be used for ATSSS. See TS 24.501[13] clause 9.11.4.22. | C |
| uEEPSPDNConnection | This IE shall be present, if available, during an EPS to 5GS Idle mode mobility or handover using the N26 interface. If 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 and PDU Sessions during EPS to 5GS idle mode mobility or handover using the N26 interface. Shall be included if 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 |
| selectedDNN | Shall be present if a DNN other than the UE requested DNN is selected for the PDU Session. Shall be given in dotted-label presentation format as described in TS 23.003 [19] clause 9.1. | C |
| handoverState | Indicates whether the PDU Session Establishment being reported was due to a handover. Shall be present if this IE is in the SMContextCreatedData sent by the SMF (see TS 29.502 [16] clause 6.1.6.2.3). | C |
| pCCRules | Set of PCC rules related to traffic influence. Each PCC rule influences the routing of a given traffic flow. If several flows are concerned, then several PCC rules shall be handled by the SMF. Traffic influence policies are orginated by an AF. PCF translates these rules into PCC rules for traffic influence. The payload of a PCC rule for traffic influence is defined in Table 6.2.3-1E. | C |
| ePSPDNConnectionEstablishment | Provides details about PDN Connections when the SMFMAPDUSessionEstablishment xIRI message is used to report PDN Connection establishment. See table 6.3.3-1 and clause 6.3.3.2.2. | C |
| NOTE: At least one of the SUPI, PEI or GPSI fields shall be present. | | |

Table 6.2.3-5B: Contents of Access Info parameter

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| accessType | AccessType | 1 | Access type associated with the session (i.e. 3GPP or non-3GPP access) as provided by the AMF (see TS 24.501 [13] clause 9.11.2.1A). | M |
| rATType | RATType | 0..1 | RAT Type associated with the access as 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 |
| gTPTunnelID | FTEID | 1 | 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 |
| non3GPPAccessEndpoint | UEEndpointAddress | 0.1 | 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 |
| establishmentStatus | EstablishmentStatus | 1 | Indicates whether the access type is established or released. | M |
| aNTypeToReactivate | AccessType | 0.1 | Indicates the Access Network Type for which the UP connection is requested to be re-activated, for an MA PDU session. Applicable to session modification reporting. | C |
| gTPTunnelInfo | GTPTunnelInfo | 1 | Contains the information for the User Plane GTP Tunnels for the PDU Session (see TS 29.502 [16] clauses 6.1.6.2.2, 6.1.6.2.9 and 6.1.6.2.39). See Table 6.2.3-1B. | M |
| satelliteBackhaulCategory | SBIType | 0..1 | Indicates that a satellite backhaul is used towards 5G AN and the corresponding backhaul category, if available. Encoded according to TS 29.571 [17] clause 5.4.3.39. The SBIReference for this parameter shall be populated with 'TS29571\_CommonData.yaml#/components/schemas/SatelliteBackhaulCategory'. | C |
| gEOSatelliteID | GEOSatelliteID | 0..1 | Indicates the satellite ID if satellite backhaul category is GEO, if available. Encoded according to TS 29.571 [17] clause 5.4.2. | C |

\*\*\* End of nineth change \*\*\*

\*\*\* Start of attachment change \*\*\*

START OF CHANGE 1

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

@@ -1350,23 +1350,27 @@ AMFRegistration ::= SEQUENCE

1350 1350 equivalentPLMNList [23] PLMNList OPTIONAL,

1351 1351 fiveGMMCapability [24] FiveGMMCapability OPTIONAL,

1352 1352 initialRANUEContextSetup [25] InitialRANUEContextSetup OPTIONAL,

1353 - mUSIMUERequestType [26] MUSIMUERequestType OPTIONAL

1353 + mUSIMUERequestType [26] MUSIMUERequestType OPTIONAL,

1354 + unavailabilityPeriodDuration [27] UnavailabilityPeriodDuration OPTIONAL,

1355 + fiveGSUpdateType [28] FiveGSUpdateType OPTIONAL,

1356 + uEAreaIndication [29] UEAreaIndication OPTIONAL

1354 1357 }

1355 1358

1356 1359 -- See clause 6.2.2.2.3 for details of this structure

1357 1360 AMFDeregistration ::= SEQUENCE

1358 1361 {

1359 - deregistrationDirection [1] AMFDirection,

1360 - accessType [2] AccessType,

1361 - sUPI [3] SUPI OPTIONAL,

1362 - sUCI [4] SUCI OPTIONAL,

1363 - pEI [5] PEI OPTIONAL,

1364 - gPSI [6] GPSI OPTIONAL,

1365 - gUTI [7] FiveGGUTI OPTIONAL,

1366 - cause [8] FiveGMMCause OPTIONAL,

1367 - location [9] Location OPTIONAL,

1368 - switchOffIndicator [10] SwitchOffIndicator OPTIONAL,

1369 - reRegRequiredIndicator [11] ReRegRequiredIndicator OPTIONAL

1362 + deregistrationDirection [1] AMFDirection,

1363 + accessType [2] AccessType,

1364 + sUPI [3] SUPI OPTIONAL,

1365 + sUCI [4] SUCI OPTIONAL,

1366 + pEI [5] PEI OPTIONAL,

1367 + gPSI [6] GPSI OPTIONAL,

1368 + gUTI [7] FiveGGUTI OPTIONAL,

1369 + cause [8] FiveGMMCause OPTIONAL,

1370 + location [9] Location OPTIONAL,

1371 + switchOffIndicator [10] SwitchOffIndicator OPTIONAL,

1372 + reRegRequiredIndicator [11] ReRegRequiredIndicator OPTIONAL,

1373 + unavailabilityPeriodDuration [12] UnavailabilityPeriodDuration OPTIONAL

1370 1374 }

1371 1375

1372 1376 -- See clause 6.2.2.2.4 for details of this structure

@@ -1379,29 +1383,33 @@ AMFLocationUpdate ::= SEQUENCE

1379 1383 gUTI [5] FiveGGUTI OPTIONAL,

1380 1384 location [6] Location,

1381 1385 sMSOverNASIndicator [7] SMSOverNASIndicator OPTIONAL,

1382 - oldGUTI [8] EPS5GGUTI OPTIONAL

1386 + oldGUTI [8] EPS5GGUTI OPTIONAL,

1387 + uEAreaIndication [9] UEAreaIndication OPTIONAL

1383 1388 }

1384 1389

1385 1390 -- See clause 6.2.2.2.5 for details of this structure

1386 1391 AMFStartOfInterceptionWithRegisteredUE ::= SEQUENCE

1387 1392 {

1388 - registrationResult [1] AMFRegistrationResult,

1389 - registrationType [2] AMFRegistrationType OPTIONAL,

1390 - slice [3] Slice OPTIONAL,

1391 - sUPI [4] SUPI,

1392 - sUCI [5] SUCI OPTIONAL,

1393 - pEI [6] PEI OPTIONAL,

1394 - gPSI [7] GPSI OPTIONAL,

1395 - gUTI [8] FiveGGUTI,

1396 - location [9] Location OPTIONAL,

1397 - non3GPPAccessEndpoint [10] UEEndpointAddress OPTIONAL,

1398 - timeOfRegistration [11] Timestamp OPTIONAL,

1399 - fiveGSTAIList [12] TAIList OPTIONAL,

1400 - sMSOverNASIndicator [13] SMSOverNASIndicator OPTIONAL,

1401 - oldGUTI [14] EPS5GGUTI OPTIONAL,

1402 - eMM5GRegStatus [15] EMM5GMMStatus OPTIONAL,

1403 - sORTransparentContainer [16] SORTransparentContainer OPTIONAL,

1404 - uEPolicy [17] UEPolicy OPTIONAL

1393 + registrationResult [1] AMFRegistrationResult,

1394 + registrationType [2] AMFRegistrationType OPTIONAL,

1395 + slice [3] Slice OPTIONAL,

1396 + sUPI [4] SUPI,

1397 + sUCI [5] SUCI OPTIONAL,

1398 + pEI [6] PEI OPTIONAL,

1399 + gPSI [7] GPSI OPTIONAL,

1400 + gUTI [8] FiveGGUTI,

1401 + location [9] Location OPTIONAL,

1402 + non3GPPAccessEndpoint [10] UEEndpointAddress OPTIONAL,

1403 + timeOfRegistration [11] Timestamp OPTIONAL,

1404 + fiveGSTAIList [12] TAIList OPTIONAL,

1405 + sMSOverNASIndicator [13] SMSOverNASIndicator OPTIONAL,

1406 + oldGUTI [14] EPS5GGUTI OPTIONAL,

1407 + eMM5GRegStatus [15] EMM5GMMStatus OPTIONAL,

1408 + sORTransparentContainer [16] SORTransparentContainer OPTIONAL,

1409 + uEPolicy [17] UEPolicy OPTIONAL,

1410 + unavailabilityPeriodDuration [18] UnavailabilityPeriodDuration OPTIONAL,

1411 + fiveGSUpdateType [19] FiveGSUpdateType OPTIONAL,

1412 + uEAreaIndication [20] UEAreaIndication OPTIONAL

1405 1413 }

1406 1414

1407 1415 -- See clause 6.2.2.2.6 for details of this structure

@@ -1820,6 +1828,17 @@ RATFrequencySelectionPriority ::= INTEGER (1..256)

1820 1828

1821 1829 FiveGMMCapability ::= OCTET STRING (SIZE(1..13))

1822 1830

1831 + -- TS 29.171 [54], clause 7.4.48 and TS 29.572 [24], clause 6.1.6.2.42

1832 + UEAreaIndication ::= SEQUENCE

1833 + {

1834 + country [1] UTF8String (SIZE(2)) OPTIONAL,

1835 + internationalAreaIndication [2] BOOLEAN OPTIONAL

1836 + }

1837 +

1838 + FiveGSUpdateType ::= OCTET STRING (SIZE(1))

1839 +

1840 + UnavailabilityPeriodDuration ::= OCTET STRING (SIZE(1))

1841 +

1823 1842 -- ==================

1824 1843 -- 5G SMF definitions

1825 1844 -- ==================

@@ -1853,7 +1872,9 @@ SMFPDUSessionEstablishment ::= SEQUENCE

1853 1872 handoverState [24] HandoverState OPTIONAL,

1854 1873 gTPTunnelInfo [25] GTPTunnelInfo OPTIONAL,

1855 1874 pCCRules [26] PCCRuleSet OPTIONAL,

1856 - ePSPDNConnectionEstablishment [27] EPSPDNConnectionEstablishment OPTIONAL

1875 + ePSPDNConnectionEstablishment [27] EPSPDNConnectionEstablishment OPTIONAL,

1876 + satelliteBackhaulCategory [28] SBIType OPTIONAL,

1877 + gEOSatelliteID [29] GEOSatelliteID OPTIONAL

1857 1878 }

1858 1879

1859 1880 -- See clause 6.2.3.2.3 for details of this structure

@@ -1878,7 +1899,9 @@ SMFPDUSessionModification ::= SEQUENCE

1878 1899 pCCRules [17] PCCRuleSet OPTIONAL,

1879 1900 ePSPDNConnectionModification[18] EPSPDNConnectionModification OPTIONAL,

1880 1901 uPPathChange [19] UPPathChange OPTIONAL,

1881 - pFDDataForApp [20] PFDDataForApp OPTIONAL

1902 + pFDDataForApp [20] PFDDataForApp OPTIONAL,

1903 + satelliteBackhaulCategory [21] SBIType OPTIONAL,

1904 + gEOSatelliteID [22] GEOSatelliteID OPTIONAL

1882 1905 }

1883 1906

1884 1907 -- See clause 6.2.3.2.4 for details of this structure

@@ -1929,7 +1952,9 @@ SMFStartOfInterceptionWithEstablishedPDUSession ::= SEQUENCE

1929 1952 gTPTunnelInfo [23] GTPTunnelInfo OPTIONAL,

1930 1953 pCCRules [24] PCCRuleSet OPTIONAL,

1931 1954 ePSStartOfInterceptionWithEstablishedPDNConnection [25] EPSStartOfInterceptionWithEstablishedPDNConnection OPTIONAL,

1932 - pFDDataForApps [26] PFDDataForApps OPTIONAL

1955 + pFDDataForApps [26] PFDDataForApps OPTIONAL,

1956 + satelliteBackhaulCategory [27] SBIType OPTIONAL,

1957 + gEOSatelliteID [28] GEOSatelliteID OPTIONAL

1933 1958 }

1934 1959

1935 1960 -- See clause 6.2.3.2.6 for details of this structure

@@ -2132,13 +2157,15 @@ SMFServingNetwork ::= SEQUENCE

2132 2157

2133 2158 AccessInfo ::= SEQUENCE

2134 2159 {

2135 - accessType [1] AccessType,

2136 - rATType [2] RATType OPTIONAL,

2137 - gTPTunnelID [3] FTEID,

2138 - non3GPPAccessEndpoint [4] UEEndpointAddress OPTIONAL,

2139 - establishmentStatus [5] EstablishmentStatus,

2140 - aNTypeToReactivate [6] AccessType OPTIONAL,

2141 - gTPTunnelInfo [7] GTPTunnelInfo OPTIONAL

2160 + accessType [1] AccessType,

2161 + rATType [2] RATType OPTIONAL,

2162 + gTPTunnelID [3] FTEID,

2163 + non3GPPAccessEndpoint [4] UEEndpointAddress OPTIONAL,

2164 + establishmentStatus [5] EstablishmentStatus,

2165 + aNTypeToReactivate [6] AccessType OPTIONAL,

2166 + gTPTunnelInfo [7] GTPTunnelInfo OPTIONAL,

2167 + satelliteBackhaulCategory [8] SBIType OPTIONAL,

2168 + gEOSatelliteID [9] GEOSatelliteID OPTIONAL

2142 2169 }

2143 2170

2144 2171 -- see Clause 6.1.2 of TS 24.193[44] for the details of the ATSSS container contents.

@@ -2414,6 +2441,9 @@ EASServerAddress ::= SEQUENCE

2414 2441 port [2] PortNumber

2415 2442 }

2416 2443

2444 + -- See table 5.4.2.1 of TS 29.571 [17]

2445 + GEOSatelliteID ::= UTF8String

2446 +

2417 2447 -- ================================

2418 2448 -- PGW-C + SMF PDNConnection Events

2419 2449 -- ================================

END OF CHANGE 1

\*\*\* End of attachment change \*\*\*

\*\*\* End of last change \*\*\*