3GPP TSG-RAN WG3 Meeting #129 R3-255928

Bengaluru, India, 25-29 Aug 2025

**Agenda item: 10.3.1**

**Source: Nokia, Huawei**

**Title: (SON TP to BL CR to TS 38.413) A proposal for the MDT area definition**

**Document for: Agreement**

# 1 Introduction

At RAN3 #128, a discussion on how to define the MDT area in RAN3 signalling took place. We propose a solution here.

# 2 Discussion

At the last RAN3 #128 meeting, RAN3 received an LS from RAN2 where RAN2 confirms that the geographical area defined for MBS NTN can be used as a reference for Area Scope of logged MDT over Uu for NTN, including both reference location/radius and polygon-based area indication. RAN2 also agreed that only geographical area scope is used to indicate applicable logging area to the UE over Uu, i.e., no mapped cell ID(s). Based on this, RAN3 agreed to introduce a geographical area scope for NTN MDT including either reference location/radius or a polygon-based area over NG and Xn interfaces.

Based on the discussion at RAN3 #129, we propose to encode the geographical area as presented in the Text Proposal below.

# 3 Text proposal to TS 38.413

|  |
| --- |
| **First change, ommited text not changed** |

# 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 38.401: "NG-RAN; Architecture description".

[3] 3GPP TS 38.410: "NG-RAN; NG general aspects and principles".

[4] ITU-T Recommendation X.691 (07/2002): "Information technology – ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)".

[5] ITU-T Recommendation X.680 (07/2002): "Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation".

[6] ITU-T Recommendation X.681 (07/2002): "Information technology – Abstract Syntax Notation One (ASN.1): Information object specification".

[7] 3GPP TR 25.921 (version.7.0.0): "Guidelines and principles for protocol description and error handling".

[8] 3GPP TS 38.300: "NR; NR and NG-RAN Overall Description; Stage 2".

[9] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

[10] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[11] 3GPP TS 32.422: "Trace control and configuration management".

[12] 3GPP TS 38.304: "NR; User Equipment (UE) procedures in idle mode and in RRC inactive state".

[13] 3GPP TS 33.501: "Security architecture and procedures for 5G System".

[14] 3GPP TS 38.414: "NG-RAN; NG data transport".

[15] 3GPP TS 29.281: "General Packet Radio System (GPRS); Tunnelling Protocol User Plane (GTPv1-U)".

[16] 3GPP TS 36.413: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); S1 Application Protocol (S1AP)".

[17] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2".

[18] 3GPP TS 38.331: "NG-RAN; Radio Resource Control (RRC) Protocol Specification".

[19] 3GPP TS 38.455: "NG-RAN; NR Positioning Protocol A (NRPPa)".

[20] Void

[21] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA) Radio Resource Control (RRC); Protocol specification".

[22] 3GPP TS 23.041: "Technical realization of Cell Broadcast Service (CBS)".

[23] 3GPP TS 23.003: "Numbering, addressing and identification".

[24] 3GPP TS 38.423: "NG-RAN; Xn Application Protocol (XnAP)".

[25] IETF RFC 5905 (2010-06): "Network Time Protocol Version 4: Protocol and Algorithms Specification".

[26] 3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3".

[27] 3GPP TS 33.401: "3GPP System Architecture Evolution (SAE); Security architecture".

[28] 3GPP TS 25.413: "UTRAN Iu interface RANAP signalling".

[29] 3GPP TS 36.304: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) procedures in idle mode".

[30] 3GPP TS 29.531: "5G System; Network Slice Selection Services; Stage 3".

[31] 3GPP TS 23.216: "Single Radio Voice Call Continuity (SRVCC); Stage 2".

[32] 3GPP TS 37.340: " Evolved Universal Terrestrial Radio Access (E-UTRA) and NR; Multi-connectivity; Stage 2".

[33] 3GPP TS 23.287: "Architecture enhancements for 5G System (5GS) to support Vehicle-to-Everything (V2X) services".

[34] 3GPP TS 23.316: "Wireless and wireline convergence access support for the 5G System (5GS)".

[35] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[36] 3GPP TS 29.510: "5G System; Network Function Repository Services; Stage 3".

[37] CableLabs WR-TR-5WWC-ARCH: "5G Wireless Wireline Converged Core Architecture".

[38] 3GPP TS 36.401: "E-UTRAN Architecture Description".

[39] 3GPP TS 38.104: "NR; Base Station (BS) radio transmission and reception".

[40] 3GPP TS 36.423: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); X2 Application Protocol (X2AP) ".

[41] 3GPP TS 37.320: "Universal Terrestrial Radio Access (UTRA), Evolved Universal Terrestrial Radio Access (E-UTRA) and NR; Radio measurement collection for Minimization of Drive Tests (MDT); Overall description; Stage 2".

[42] 3GPP TS 36.306: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio access capabilities".

[43] 3GPP TS 29.244: "Interface between the Control Plane and the User Plane Nodes; Stage 3".

[44] 3GPP TS 23.247: "Architectural enhancements for 5G multicast-broadcast services; Stage 2".

[45] 3GPP TS 28.405: "Telecommunication management; Quality of Experience (QoE) measurement collection; Control and configuration".

[46] 3GPP TS 26.247: "Transparent end-to-end Packet-switched Streaming Service (PSS); Progressive Download and Dynamic Adaptive Streaming over HTTP (3GP-DASH)".

[47] 3GPP TS 23.304: "Proximity based Services (ProSe) in the 5G System (5GS)".

[48] 3GPP TS 38.314: "NR; Layer 2 Measurements".

[49] 3GPP TS 36.314: "Evolved Universal Terrestrial Radio Access (E-UTRA); Layer 2 - Measurements".

[50] 3GPP TS 23.203: "Policy and charging control architecture".

[51] 3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia Telephony; Media handling and interaction".

[52] 3GPP TS 26.118: "Virtual Reality (VR) profiles for streaming applications".

[53] IETF RFC 4122: "A Universally Unique IDentifier (UUID) URN Namespace".

[54] 3GPP TS 23.256: "Support of Uncrewed Aerial Systems (UAS) connectivity, identification and tracking; Stage 2".

[55] IEEE Std 1588: "IEEE Standard for a Precision Clock Synchronization Protocol for Networked Measurement and Control Systems", Edition 2019.

[56] 3GPP TS 29.585: "5G System (5GS); Session Management Function (SMF) / Centralized User Configuration (CUC) to Access Network Talker Listener (AN-TL) and Core Network Talker Listener (CN-TL) protocol aspects; Stage 3".

[57] 3GPP TS 23.527: "5G System; Restoration procedures".

[58] 3GPP TS 24.007: "Mobile radio interface signalling layer 3; General aspects".

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

|  |
| --- |
| **Next change, ommited text not changed** |

#### 8.3.1.2 Successful Operation



Figure 8.3.1.2-1: Initial context setup: successful operation

In case of the establishment of a PDU session the 5GC shall be prepared to receive user data before the INITIAL CONTEXT SETUP RESPONSE message has been received by the AMF. If no UE-associated logical NG-connection exists, the UE-associated logical NG-connection shall be established at reception of the INITIAL CONTEXT SETUP REQUEST message.

The INITIAL CONTEXT SETUP REQUEST message shall contain the *Index to RAT/Frequency Selection Priority* IE, if available in the AMF.

If the *NAS-PDU* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall pass it transparently towards the UE.

If the *Masked IMEISV* IE is contained in the INITIAL CONTEXT SETUP REQUEST message the target NG-RAN node shall, if supported, use it to determine the characteristics of the UE for subsequent handling.

Upon receipt of the INITIAL CONTEXT SETUP REQUEST message the NG-RAN node shall

- attempt to execute the requested PDU session configuration;

- store the received UE Aggregate Maximum Bit Rate in the UE context, and use the received UE Aggregate Maximum Bit Rate for Non-GBR QoS flows for the concerned UE as specified in TS 23.501 [9];

- store the received Mobility Restriction List in the UE context;

- store the received UE Radio Capability in the UE context;

- store the received Index to RAT/Frequency Selection Priority in the UE context and use it as defined in TS 23.501 [9];

- store the received UE Security Capabilities in the UE context;

- store the received Security Key in the UE context and, if the NG-RAN node is required to activate security for the UE, take this security key into use;

- if supported, store the received SRVCC Operation Possible in the UE context and use it as defined in TS 23.216 [31];

- store the received NR V2X Services Authorization information, if supported, in the UE context;

- store the received LTE V2X Services Authorization information, if supported, in the UE context;

- store the received NR A2X Services Authorization information, if supported, in the UE context;

- store the received LTE A2X Services Authorization information, if supported, in the UE context;

- store the received NR UE Sidelink Aggregate Maximum Bit Rate, if supported, in the UE context, and use it for the concerned UE’s sidelink communication in network scheduled mode for NR V2X services;

- store the received LTE UE Sidelink Aggregate Maximum Bit Rate, if supported, in the UE context, and use it for the concerned UE’s sidelink communication in network scheduled mode for LTE V2X services;

- store the received NR A2X UE PC5 Aggregate Maximum Bit Rate, if supported, in the UE context, and use it for the concerned UE’s sidelink communication in network scheduled mode for NR A2X services;

- store the received LTE A2X UE PC5 Aggregate Maximum Bit Rate, if supported, in the UE context, and use it for the concerned UE’s sidelink communication in network scheduled mode for LTE A2X services;

- store the received PC5 QoS Parameters, if supported, in the UE context and use it as defined in TS 23.287 [33];

- store the received A2X PC5 QoS Parameters, if supported, in the UE context and use it as defined in TS 23.256 [54].

- store the received Management Based MDT PLMN List information, if supported, in the UE context;

- if supported, store the received IAB Authorization information in the UE context, and use it accordingly for the IAB-MT as specified in TS 38.401 [2];

- store the received 5G ProSe Authorization information in the UE context, if supported, and use it for the concerned UE’s sidelink communication in network scheduled mode for 5G ProSe services;

- store the received 5G ProSe UE PC5 Aggregate Maximum Bit Rate in the UE context, if supported, and use it for the concerned UE’s sidelink communication in network scheduled mode for 5G ProSe services;

- store the received 5G ProSe PC5 QoS Parameters, if supported, in the UE context and use it as defined in TS 23.304 [47];

- store the received Ranging and Sidelink Positioning service information, if supported, in the UE context;

- store the received Network Controlled Repeater Authorization, if supported, in the UE context;

- if supported, store the received Mobile IAB Authorization information in the UE context, and use it accordingly for the mobile IAB-MT;

- store the received PDU Set QoS parameters, if supported, in the UE context and use it as specified in TS 23.501 [9].

For the Initial Context Setup an initial value for the Next Hop Chaining Count is stored in the UE context.

If the *PDU Session Resource Setup Request List* IE is contained in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall behave the same as defined in the PDU Session Resource Setup procedure. The NG-RAN node shall report to the AMF in the INITIAL CONTEXT SETUP RESPONSE message the result for each PDU session resource requested to be setup as defined in the PDU Session Resource Setup procedure.

Upon reception of the INITIAL CONTEXT SETUP RESPONSE message the AMF shall, for each PDU session indicated in the *PDU Session ID* IE, transfer transparently the *PDU Session Resource Setup Response Transfer* IE or *PDU Session Resource Setup Unsuccessful Transfer* IE to the SMF associated with the concerned PDU session. In case the splitting PDU session is not used by the NG-RAN node, the SMF should remove the Additional Transport Layer Information, if any.

The NG-RAN node shall use the information in the *Mobility Restriction List* IE if present in the INITIAL CONTEXT SETUP REQUEST message to

- determine a target for subsequent mobility action for which the NG-RAN node provides information about the target of the mobility action towards the UE;

- select a proper SCG during dual connectivity operation;

- assign proper RNA(s) for the UE when moving the UE to RRC\_INACTIVE state.

If the *Mobility Restriction List* IE is not contained in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall consider that no roaming and no access restriction apply to the UE except for the PNI NPN mobility as described in TS 23.501 [9]. The NG-RAN node shall also consider that no roaming and no access restriction apply to the UE when:

- one of the QoS flows includes a particular ARP value (TS 23.501 [9]).

The NG-RAN node shall consider that roaming or access to CAG cells is only allowed if the *Allowed PNI-NPN List* IE is contained in the INITIAL CONTEXT SETUP REQUEST message, as described in TS 23.501 [9].

If the *Trace Activation* IE is included in the INITIAL CONTEXT SETUP REQUEST message the NG-RAN node shall, if supported, initiate the requested trace function as described in TS 32.422 [11]. In particular, the NG-RAN node shall, if supported:

- if the *Trace Activation* IE includes the *MDT Activation* IE set to "Immediate MDT and Trace", initiate the requested trace session and MDT session as described in TS 32.422 [11];

- if the *Trace Activation* IE includes the *MDT Activation* IE set to "Immediate MDT Only", "Logged MDT only", initiate the requested MDT session as described in TS 32.422 [11] and the NG-RAN node shall ignore the *Interfaces To Trace* IE and the *Trace Depth* IE;

- if the *Trace Activation* IE includes the *MDT Location Information* IE within the *MDT Configuration* IE, store this information and take it into account in the requested MDT session;

- if the *Trace Activation* IE includes the *Signalling Based MDT PLMN List* IE within the *MDT Configuration* IE, the NG-RAN node may use it to propagate the MDT Configuration as described in TS 37.320 [41].

- if the *Trace Activation* IE includes the *Bluetooth Measurement Configuration* IE within the *MDT Configuration* IE, take it into account for MDT Configuration as described in TS 37.320 [41].

- if the *Trace Activation* IE includes the *WLAN Measurement Configuration* IE within the *MDT Configuration* IE, take it into account for MDT Configuration as described in TS 37.320 [41].

- if the *Trace Activation* IE includes the *Sensor Measurement Configuration* IE within the *MDT Configuration* IE, take it into account for MDT Configuration as described in TS 37.320 [41].

- if the *Trace Activation* IE includes the *MDT Configuration* IE and if the NG-RAN node is a gNB at least the *MDT Configuration-NR* IE shall be present, while if the NG-RAN node is an ng-eNB at least the *MDT Configuration-EUTRA* IE shall be present.

- if the *Trace Activation* IE includes the *MN Only MDT Collection* IE and the *MN Only MDT Collection* IE is set to "MN only", consider that the *MDT Configuration-NR* IE or the *MDT Configuration-EUTRA* IE is only applicable for the MN if the UE is configured with MR-DC.

If the *UE Security Capabilities* IE included in the INITIAL CONTEXT SETUP REQUEST message only contains the EIA0 or NIA0 algorithm as defined in TS 33.501 [13] and if the EIA0 or NIA0 algorithm is defined in the configured list of allowed integrity protection algorithms in the NG-RAN node (TS 33.501 [13]), the NG-RAN node shall take it into use and ignore the keys received in the *Security Key* IE.

If the *QMC Configuration Information* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, use it for QoE management, as described in TS 38.300 [8]. If the *Assistance Information for QoE Measurement* IE is included in the *UE Application Layer Measurement Configuration Information* IE within the *QMC Configuration Information* IE, the NG-RAN node may take it into account for controlling the reporting of application layer measurement when the NG-RAN node is overloaded, as described in TS 38.300 [8].

If the *Core Network Assistance Information* *for RRC INACTIVE* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, store this information in the UE context and use it for the RRC\_INACTIVE state decision and RNA configuration for the UE and RAN paging if any for a UE in RRC\_INACTIVE state, as specified in TS 38.300 [8]. If the *MICO All PLMN* IE is included in the *Core Network Assistance Information* *for RRC INACTIVE* IE the NG-RAN node shall, if supported, consider that the registration area for the UE is the full PLMN and ignore the *TAI List for RRC Inactive* IE. If the *Paging Cause Indication for Voice Service* IE is included in the *Core Network Assistance Information for RRC INACTIVE* IE, the NG-RAN node shall, if supported, store and use it as specified in TS 38.300 [8]. If the *PEIPS Assistance Information* IE is included in the *Core Network Assistance Information for RRC INACTIVE* IE, the NG-RAN node shall, if supported, store it and use it for paging subgrouping the UE in RRC\_INACTIVE state, as specified in TS 38.300 [8]. If the *CN MT Communication Handling* IE is included in the *Core Network Assistance Information for RRC INACTIVE* IE, the NG-RAN node shall, if supported, store it and may subsequently request, based on implementation, the CN for MT communication handling as described in TS 23.502 [10].

If the *CN Assisted RAN Parameters Tuning* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node may use it as described in TS 23.501 [9].

If the *RRC Inactive Transition Report Request* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, store this information in the UE context.

If the *Emergency Fallback Indicator* IE is included in the INITIAL CONTEXT SETUP REQUEST message, it indicates that the UE context to be set up is subject to emergency service fallback as described in TS 23.501 [9] and the NG-RAN node may, if supported, take the appropriate mobility actions.

If the *Old AMF* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall consider that this UE-associated logical NG-connection was redirected to this AMF from another AMF identified by the *Old AMF* IE. If the *Extended* *Old AMF* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, consider that this UE-associated logical NG-connection was redirected to this AMF from another AMF identified by the *Extended* *Old AMF* IE.

If the *Redirection for Voice EPS Fallback* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, store it and use it in a subsequent decision of EPS fallback for voice as specified in TS 23.502 [10].

If the *Location Reporting Request Type* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node should perform the requested location reporting functionality for the UE as described in subclause 8.12.

If the *Enhanced Coverage Restriction* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, store this information in the UE context and use it as defined in TS 23.501 [9].

If the *Extended Connected Time* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, use it as described in TS 23.501 [9].

If the *UE Differentiation Information* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, store this information in the UE context for further use according to TS 23.501 [9].

If the *CE-mode-B Restricted* IE is included in the INITIAL CONTEXT SETUP REQUEST message and the *Enhanced Coverage Restriction* IE is not set to "restricted"and the Enhanced Coverage Restriction information stored in the UE context is not set to "restricted", the NG-RAN node shall, if supported, store this information in the UE context and use it as defined in TS 23.501 [9].

If the *UE User Plane CIoT Support Indicator* IE is included in the INITIAL CONTEXT SETUP REQUEST message the NG-RAN node shall, if supported, store this information in the UE context and consider that User Plane CIoT 5GS Optimisation as specified in TS 23.501 [9] is supported for the UE.

If the *Management Based MDT PLMN List* IE is contained in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, use it to allow subsequent selection of the UE for management based MDT defined in TS 32.422 [11].

If the INITIAL CONTEXT SETUP REQUEST message contains the *UE Radio Capability ID* IE, the NG-RAN node shall, if supported, use it as specified in TS 23.501 [9] and TS 23.502 [10].

For each PDU session, if the *PDU Session Expected UE Activity Behaviour* IE is included in the INTIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, handle this information as specified in TS 23.501 [9].

If the *Time Synchronisation Assistance Information* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, store the information in the UE context and use it as defined in TS 23.501 [9].

If the *Target NSSAI Information* IE is contained in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node may use this information as specified in TS 23.501 [9].

If the *Partially Allowed NSSAI* IE is contained in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, deduce from it the partially allowed network slices for the UE, store and replace any previously received Partially Allowed NSSAI and use it as specified in TS 23.501 [9].

If the *UE Slice Maximum Bit Rate List* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, store the received UE Slice Maximum Bit Rate List in the UE context, and use it for each S-NSSAI for the concerned UE as specified in TS 23.501 [9].

If the *Aerial UE Subscription Information* IE is included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, store this information in the UE context and use it as defined in TS 38.300 [8].

If the *PNI-NPN Area Scope of MDT* IE is included in the *MDT Configuration-NR* IE included in the INITIAL CONTEXT SETUP REQUEST message, the NG-RAN node shall, if supported, use it to derive the MDT area scope for MDT measurement collection in PNI-NPN areas. Upon reception of the *PNI-NPN Area Scope of MDT* IE, the NG-RAN node shall consider that the area scope for MDT measurement collection in PNI-NPN areas is defined only by the areas included in the *PNI-NPN Area Scope of MDT* IE.

If the *Geographical Area* IE is included in the *MDT Configuration-NR* IE, included in the INITIAL CONTEXT SETUP REQUEST message, and the *Geographical Area* IE contains the *MDT PLMN List* IE, the NG-RAN node shall, if supported, apply the geographical area scope only for UEs served in the listed PLMNs.

**Interactions with Initial UE Message procedure:**

The NG-RAN node shall use the *AMF UE NGAP ID* IE and *RAN UE NGAP ID* IE received in the INITIAL CONTEXT SETUP REQUEST message as identification of the logical connection even if the *RAN UE NGAP ID* IE had been allocated in an INITIAL UE MESSAGE message sent over a different NG interface instance.

**Interactions with RRC Inactive Transition Report procedure:**

If the *RRC Inactive Transition Report Request* IE is included in the INITIAL CONTEXT SETUP REQUEST message and set to "subsequent state transition report", the NG-RAN node shall, if supported, send the RRC INACTIVE TRANSITION REPORT message to the AMF to report the RRC state of the UE when the UE enters or leaves RRC\_INACTIVE state.

|  |
| --- |
| **Next change, ommited text not changed** |

#### 8.4.2.2 Successful Operation



Figure 8.4.2.2-1: Handover resource allocation: successful operation

The AMF initiates the procedure by sending the HANDOVER REQUEST message to the target NG-RAN node.

If the *Masked IMEISV* IE is contained in the HANDOVER REQUEST message the target NG-RAN node shall, if supported, use it to determine the characteristics of the UE for subsequent handling.

Upon receipt of the HANDOVER REQUEST message the target NG-RAN node shall

- attempt to execute the requested PDU session configuration and associated security;

- store the received UE Aggregate Maximum Bit Rate in the UE context, and use the received UE Aggregate Maximum Bit Rate for all Non-GBR QoS flows for the concerned UE as specified in TS 23.501 [9];

- store the received Mobility Restriction List in the UE context;

- store the received UE Security Capabilities in the UE context;

- store the received Security Context in the UE context and take it into use as defined in TS 33.501 [13];

- if supported, store the received UE Slice Maximum Bit Rate List in the UE context and use the received UE Slice Maximum Bit Rate List for each S-NSSAI for the concerned UE as specified in TS 23.501 [9].

- if supported, store the received PDU Set QoS parameters in the UE context and use it as specified in TS 23.501 [9].

Upon reception of the *UE History Information* IE, which is included within the *Source to Target Transparent Container* IE of the HANDOVER REQUEST message, the target NG-RAN node shall collect the information defined as mandatory in the *UE History Information* IE and shall, if supported, collect the information defined as optional in the *UE History Information* IE, for as long as the UE stays in one of its cells, and store the collected information to be used for future handover preparations.

Upon receiving the *PDU Session Resource Setup List* IE contained in the HANDOVER REQUEST message and the HANDOVER REQUEST message does not contain the *No PDU Session Indication* IE, the target NG-RAN node shall behave the same as defined in the PDU Session Resource Setup procedure. The target NG-RAN node shall report to the AMF in the HANDOVER REQUEST ACKNOWLEDGE message the result for each PDU session resource requested to be setup. In particular, for each PDU session resource successfully setup, it shall include the *Handover Request Acknowledge Transfer* IE containing the following information:

- The list of QoS flows which have been successfully established in the *QoS Flow Setup Response List* IE.

- The *Data Forwarding Accepted* IE if the data forwarding for the QoS flow is accepted.

- The list of QoS flows which have failed to be established, if any, in the *QoS Flow Failed to Setup List* IE.

- The UP transport layer information to be used for the PDU session.

- The security result associated to the PDU session.

- The redundant UP transport layer information to be used for the redundant transmission for the PDU session.

- The PDU Set based Handling Indicator if the HANDOVER REQUEST message includes the *PDU Set QoS Parameters* IE.

- The ECN Marking or Congestion Information Reporting Status if the HANDOVER REQUEST message includes the *ECN Marking or Congestion Information Reporting Request* IE.

For each PDU session resource which failed to be setup, the *Handover Resource Allocation Unsuccessful Transfer* IE shall be included in the HANDOVER REQUEST ACKNOWLEDGE message containing a cause value that should be precise enough to enable the SMF to know the reason for the unsuccessful establishment.

For each PDU session included in the HANDOVER REQUEST ACKNOWLEDGE message, if the *Current QoS Parameters Set Index* IE is included for a QoS flow in the *QoS Flow Setup Response List* IE within the *Handover Request Acknowledge Transfer* IE the SMF shall consider it as the currently fulfilled QoS parameters set among the alternative QoS parameters for the involved QoS flow.

Upon reception of the HANDOVER REQUEST ACKNOWLEDGE message the AMF shall, for each PDU session indicated in the *PDU Session ID* IE, transfer transparently the *Handover Request Acknowledge Transfer* IE or *Handover Resource Allocation Unsuccessful Transfer* IE to the SMF associated with the concerned PDU session.

If the HANDOVER REQUEST message contains the *Data Forwarding Not Possible* IE associated with a given PDU session within the *Handover Request Transfer* IE set to "data forwarding not possible", the target NG-RAN node may not include the *DL Forwarding UP TNL Information* IE and for intra-system handover the *Data Forwarding Response DRB List* IE within the *Handover Request Acknowledge Transfer* IE in the HANDOVER REQUEST ACKNOWLEDGE message for that PDU session.

If the HANDOVER REQUEST message contains the *Redundant PDU Session Information* IE associated with a given PDU session within the *Handover Request Transfer* IE, the target NG-RAN node shall, if supported, store the received information in the UE context and use it for redundant PDU session setup as specified in TS38.300 [8] and TS 23.501 [9]. If the *PDU Session Type* IE is set to “ethernet” and the redundancy requirement is fulfilled using a secondary NG-RAN node, the NG-RAN node shall, if supported, include the *Global RAN Node ID of Secondary NG-RAN Node* IE in the *Handover Request Acknowledge Transfer* IE of the HANDOVER REQUEST ACKNOWLEDGE message. If the *PDU Session Pair ID* IE is included in the *Redundant PDU Session Information* IE, the NG-RAN node may use it to identify the paired PDU sessions.

For each PDU session for which the *Global RAN Node ID of Secondary NG-RAN Node* IE is included in the *Handover Request Acknowledge Transfer* IE of the HANDOVER REQUEST ACKNOWLEDGE message, the SMF shall, if supported, handle this information as specified in TS 23.501 [9].

In case of intra-system handover, if the target NG-RAN node accepts the downlink data forwarding for at least one QoS flow for which the *DL Forwarding* IE is set to "DL forwarding proposed", it may include the *DL Forwarding UP TNL Information* IE in the *Handover Request Acknowledge Transfer* IE as forwarding tunnel for the QoS flows listed in the *QoS Flow Setup Response List* IE of the HANDOVER REQUEST ACKNOWLEDGE message.

In case of intra-system handover, if the target NG-RAN node accepts the uplink data forwarding for at least one QoS flow for which the *UL Forwarding* IE is set to "UL forwarding proposed", it may include the *UL Forwarding UP TNL Information* IE in the *Handover Request Acknowledge Transfer* IE for the PDU session within the *PDU Session Resource Admitted List* IE of the HANDOVER REQUEST ACKNOWLEDGE message.

In case of intra-system handover, for each PDU session for which the *Additional DL UP TNL Information for HO List* IE is included in the *Handover Request Acknowledge Transfer* IE of the HANDOVER REQUEST ACKNOWLEDGE message, the SMF shall consider the included *Additional DL NG-U UP TNL Information* IE as the downlink termination point for the associated flows indicated in the *Additional QoS Flow Setup Response List* IE for this PDU session split in different tunnels and shall consider the *Additional DL Forwarding UP TNL Information* IE, if included, as the forwarding tunnel associated to these QoS flows.

In case of intra-system handover, for each PDU session for which the *Additional UL Forwarding UP TNL Information* IE is included in the *Handover Request Acknowledge Transfer* IE of the HANDOVER REQUEST ACKNOWLEDGE message, the SMF shall consider it as the termination points for the uplink forwarding tunnels for this PDU session split in different tunnels.

In case of intra-system handover, if the target NG-RAN node accepts the data forwarding for a successfully configured DRB, the target NG-RAN node may include the *DL Forwarding UP TNL Information* IE for the DRB within the *Data Forwarding Response DRB List* IE within *Handover Request Acknowledge Transfer* IE of the HANDOVER REQUEST ACKNOWLEDGE message.

In case of intra-system handover, if the target NG-RAN node receives the *Direct Forwarding Path Availability* IE set to "direct path available" within the *PDU Session Resource Setup Request Transfer* IE, the target NG-RAN node shall, if supported, assign the UP transport layer information for intra-system direct data forwarding from the appropriate address space, if applicable.

If the HANDOVER REQUEST ACKNOWLEDGE message contains the *UL Forwarding UP TNL Information* IE for a given DRB in the *Data Forwarding Response DRB List* IE within the *Handover Request Acknowledge Transfer* IE, it indicates the target NG-RAN node has requested the forwarding of uplink data for the DRB.

In case of inter-system handover from E-UTRAN, if the *PDU Session Resource Setup Request Transfer* IE contains the *Direct Forwarding Path Availability* IE set to "direct path available", the target NG-RAN node shall, if supported, and if it accepts downlink data forwarding for the QoS flows mapped to an E-RAB of an admitted PDU session, include the *DL Forwarding UP TNL Information* IE in the *Data Forwarding Response E-RAB List* IE in the *Handover Request Acknowledge Transfer* IE in the HANDOVER REQUEST ACKNOWLEDGE message for that mapped E-RAB.

In case of inter-system handover from E-UTRAN, the target NG-RAN node includes the *Data Forwarding Accepted* IE for each QoS flow that the *DL Forwarding* IE is set to "DL forwarding proposed" for the corresponding E-RAB in the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE and that the target NG-RAN node has admitted the proposed forwarding of downlink data for the QoS flow. If indirect data forwarding is applied for inter-system handover, if the target NG-RAN node accepts the downlink data forwarding for at least one QoS flow of an admitted PDU session it shall include the *DL Forwarding UP TNL Information* IE in the *PDU Session Resource Setup Response Transfer* IE for that PDU session within the *PDU Session Resources Admitted List* IE of the HANDOVER REQUEST ACKNOWLEDGE message.

In case of inter-system handover from E-UTRAN with direct forwarding, if the target NG-RAN node receives the *SgNB UE X2AP ID* IE in the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE, it may use it for internal forwarding as described in TS 37.340 [32].

In case of inter-system handover from E-UTRAN, if the target cell is a CAG cell, the target NG-RAN node shall include the *NPN Access Information* IE in the HANDOVER REQUEST ACKNOWLEDGE message, and the AMF shall consider that the included information is associated to the target cell and to the UE’s serving PLMN Identity, and use it as specified in TS 23.501 [9].

The target NG-RAN node shall use the information in the *Mobility Restriction List* IE if present in the HANDOVER REQUEST message to

- determine a target for subsequent mobility action for which the target NG-RAN node provides information about the target of the mobility action towards the UE;

- select a proper SCG during dual connectivity operation;

- assign proper RNA(s) for the UE when moving the UE to RRC\_INACTIVE state.

If the *Mobility Restriction List* IE is not contained in the HANDOVER REQUEST message, the target NG-RAN node shall consider that no roaming and no access restriction apply to the UE except for the PNI NPN mobility as described in TS 23.501 [9]. The target NG-RAN node shall also consider that no roaming and no access restriction apply to the UE when:

- one of the QoS flows includes a particular ARP value (TS 23.501 [9]).

The NG-RAN node shall consider that roaming or access to CAG cells is only allowed if the *Allowed PNI-NPN List* IE is contained in the HANDOVER REQUEST message, as described in TS 23.501 [9].

If the *Trace Activation* IE is included in the HANDOVER REQUEST message the target NG-RAN node shall, if supported, initiate the requested trace function as described in TS 32.422 [11]. In particular, the NG-RAN node shall, if supported:

- if the *Trace Activation* IE includes the *MDT Activation* IE set to "Immediate MDT and Trace", initiate the requested trace session and MDT session as described in TS 32.422 [11];

- if the *Trace Activation* IE includes the *MDT Activation* IE set to "Immediate MDT Only", "Logged MDT only", initiate the requested MDT session as described in TS 32.422 [11] and the target NG-RAN node shall ignore the *Interfaces To Trace* IE and the *Trace Depth* IE;

- if the *Trace Activation* IE includes the *MDT Location Information* IE within the *MDT Configuration* IE, store this information and take it into account in the requested MDT session;

- if the *Trace Activation* IE includes the *Signalling Based MDT PLMN List* IE within the *MDT Configuration* IE, the NG-RAN node may use it to propagate the MDT Configuration as described in TS 37.320 [41].

- if the *Trace Activation* IE includes the *Bluetooth Measurement Configuration* IE within the *MDT Configuration* IE, take it into account for MDT Configuration as described in TS 37.320 [41].

- if the *Trace Activation* IE includes the *WLAN Measurement Configuration* IE within the *MDT Configuration* IE, take it into account for MDT Configuration as described in TS 37.320 [41].

- if the *Trace Activation* IE includes the *Sensor Measurement Configuration* IE within the *MDT Configuration* IE, take it into account for MDT Configuration as described in TS 37.320 [41].

- if the *Trace Activation* IE includes the *MDT Configuration* IE and if the NG-RAN node is a gNB at least the *MDT Configuration-NR* IE shall be present, while if the NG-RAN node is an ng-eNB at least the *MDT Configuration-EUTRA* IE shall be present.

- if the *Trace Activation* IE includes the *MN Only MDT Collection* IE and the *MN Only MDT Collection* IE is set to "MN only", consider that the *MDT Configuration-NR* IE or the *MDT Configuration-EUTRA* IE is only applicable for the MN if the UE is configured with MR-DC.

If the *Location Reporting Request Type* IE is included in the HANDOVER REQUEST message, the target NG-RAN node should perform the requested location reporting functionality for the UE as described in subclause 8.12.

If the *Core Network Assistance Information for RRC INACTIVE* IE is included in the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, store this information in the UE context and use it for the RRC\_INACTIVE state decision and RNA configuration for the UE and RAN paging if any for a UE in RRC\_INACTIVE state, as specified in TS 38.300 [8]. If the *MICO All PLMN* IE is included in the *Core Network Assistance Information* *for RRC INACTIVE* IE the NG-RAN node shall, if supported, consider that the registration area for the UE is the full PLMN and ignore the *TAI List for RRC Inactive* IE. If the *Paging Cause Indication for Voice Service* IE is included in the *Core Network Assistance Information for RRC INACTIVE* IE, the NG-RAN node shall, if supported, store and use it as specified in TS 38.300 [8]. If the *PEIPS Assistance Information* IE is included in the *Core Network Assistance Information for RRC INACTIVE* IE, the NG-RAN node shall, if supported, store it and use it for paging subgrouping the UE in RRC\_INACTIVE state, as specified in TS 38.300 [8]. If the *CN MT Communication Handling* IE is included in the *Core Network Assistance Information for RRC INACTIVE* IE, the NG-RAN node shall, if supported, store it and may subsequently request, based on implementation, the CN for MT communication handling as described in TS 23.502 [10].

If the *CN Assisted RAN Parameters Tuning* IE is included in the HANDOVER REQUEST message, the NG-RAN node may use it as described in TS 23.501 [9].

If the *New Security Context Indicator* IE is included in the HANDOVER REQUEST message, the target NG-RAN node shall use the information as specified in TS 33.501 [13].

If the *NASC* IE is included in the HANDOVER REQUEST message, the target NG-RAN node shall use it towards the UE as specified in TS 33.501 [13].

If the *RRC Inactive Transition Report Request* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, store this information in the UE context.

If the *Redirection for Voice EPS Fallback* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, store it and use it in a subsequent decision of EPS fallback for voice as specified in TS 23.502 [10].

If the *SRVCC Operation Possible* IE is included in the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, store the content of the received *SRVCC Operation Possible* IE in the UE context and use it as defined in TS 23.216 [31].

If the *IAB Authorized* IE is contained in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, consider that the handover is for an IAB node and use it as specified in TS 38.401 [2].

If the *Mobile IAB Authorized* IE is contained in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, consider that the handover is for a mobile IAB-node. In addition, if the *No PDU Session Indication* IE is contained in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, consider the mobile IAB-MT does not have any PDU sessions, ignore the *PDU Session Resource Setup List* IE, and it shall not take any action with respect to PDU session setup. Subsequently, the AMF shall, if supported, ignore the *PDU Session Resources Admitted List* IE in the HANDOVER REQUEST ACKNOWLEDGE message.

If the *Enhanced Coverage Restriction* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, store this information in the UE context and use it as defined in TS 23.501 [9].

If the *UE Differentiation Information* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, store this information in the UE context for further use according to TS 23.501 [9].

If the *UE User Plane CIoT Support Indicator* IE is included in the HANDOVER REQUEST message the NG-RAN node shall, if supported, store this information in the UE context and consider that User Plane CIoT 5GS Optimisation as specified in TS 23.501 [9] is supported for the UE.

Upon reception of the *UE History Information from UE* IE, which is included within the *Source to Target Transparent Container* IE of the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, store the collected information and use it for future handover preparations.

After all necessary resources for the admitted PDU session resources have been allocated, the target NG-RAN node shall generate the HANDOVER REQUEST ACKNOWLEDGE message.

If the *RedCap Indication* IE or the *eRedCap Indication* IE is included in the HANDOVER REQUEST ACKNOWLEDGE message, the AMF shall, if supported, consider the UE respectively as a RedCap UE or an eRedCap UE that was previously served by a E-UTRA cell, and use the IE according to TS 23.501 [9].

For each QoS flow which has been established in the target NG-RAN node, if the *QoS Monitoring Request* IE was included in the *QoS Flow Level QoS Parameters* IE contained in the HANDOVER REQUEST message, the target NG-RAN node shall store this information, and, if supported, perform delay measurement and QoS monitoring, as specified in TS 23.501 [9]. If the *QoS Monitoring Reporting Frequency* IE was included in the *QoS Flow Level QoS Parameters* IE contained in the HANDOVER REQUEST message, the target NG-RAN node shall store this information and, if supported, use it for RAN part delay reporting.

If the *NR V2X Services Authorized* IE is contained in the HANDOVER REQUEST message and it contains one or more IEs set to "authorized", the NG-RAN node shall, if supported, consider that the UE is authorized for the relevant service(s).

If the *LTE V2X Services Authorized* IE is contained in the HANDOVER REQUEST message and it contains one or more IEs set to "authorized", the NG-RAN node shall, if supported, consider that the UE is authorized for the relevant service(s).

If the *NR A2X Services Authorized* IE is contained in the HANDOVER REQUEST message and it contains one or more IEs set to "authorized", the NG-RAN node shall, if supported, consider that the UE is authorized for the relevant service(s).

If the *LTE A2X Services Authorized* IE is contained in the HANDOVER REQUEST message and it contains one or more IEs set to "authorized", the NG-RAN node shall, if supported, consider that the UE is authorized for the relevant service(s).

If the *NR UE Sidelink Aggregate Maximum Bit Rate* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, use the received value for the concerned UE’s sidelink communication in network scheduled mode for NR V2X services.

If the *LTE UE Sidelink Aggregate Maximum Bit Rate* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, use the received value for the concerned UE’s sidelink communication in network scheduled mode for LTE V2X services.

If the *NR A2X UE PC5Aggregate Maximum Bit Rate* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, use the received value for the concerned UE’s sidelink communication in network scheduled mode for NR A2X services.

If the *LTE A2X UE PC5 Aggregate Maximum Bit Rate* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, use the received value for the concerned UE’s sidelink communication in network scheduled mode for LTE A2X services.

If the *PC5 QoS Parameters* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, use it as defined in TS 23.287 [33].

If the *A2X PC5 QoS Parameters* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, use it as defined in TS 23.256 [54].

If the *CE-mode-B Restricted* IE is included in the HANDOVER REQUEST message and the *Enhanced Coverage Restriction* IE is not set to "restricted"and the Enhanced Coverage Restriction information stored in the UE context is not set to "restricted", the NG-RAN node shall, if supported, store this information in the UE context and use it as defined in TS 23.501 [9].

If the *Management Based MDT PLMN List* IE is contained in the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, store the received information in the UE context, and use this information to allow subsequent selections of the UE for management based MDT defined in TS 32.422 [11].

If the HANDOVER REQUEST message contains the *UE Radio Capability ID* IE, the NG-RAN node shall, if supported, use it as specified in TS 23.501 [9] and TS 23.502 [10].

If the *DAPS Request Information* IE is included for a DRB in the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE within the HANDOVER REQUEST message, the target NG-RAN node shall consider that the request concerns a DAPS Handover for that DRB, as described in TS 38.300 [8]. The target NG-RAN node shall include the *DAPS Response information List* IE in the *Target NG-RAN Node to Source NG-RAN Node Transparent Container* IE within the HANDOVER REQUEST ACKNOWLEDGE message, containing the *DAPS Response Information* IE for each DRB requested to be configured with DAPS Handover.

If the *Extended Connected Time* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, use it as described in TS 23.501 [9].

If the target NG-RAN node receives the *UE Context Reference at Source* IE in the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE within the HANDOVER REQUEST message, it may use it to identify an existing UE.

If the *Source Node ID* IE is included in the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE within the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, use it to decide whether direct forwarding path is available between the target NG-RAN node and this source RAN node. If the direct forwarding path is available, the target NG-RAN node shall include the *Direct Forwarding Path Availability* IE in the *Target NG-RAN Node to Source NG-RAN Node Transparent Container* IE within the HANDOVER REQUEST ACKNOWLEDGE message.

In case there are MBS sessions the UE has joined, for all the MBS sessions the UE has joined, the SMF shall, if supported, include the *MBS Session Setup Request List* IE within the *PDU Session Resource Setup Request Transfer* IE in the HANDOVER REQUEST message.

If the HANDOVER REQUEST message contains the *MBS Session Setup Request List* IE in a *PDU Session Resource Setup Request Transfer* IE the NG-RAN node shall, if supported, use it as specified in TS 23.247 [44] and TS 38.300 [8].

If the *MBS Active Session Information Source to Target List* IE is contained in the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE within the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, assume the indicated MBS sessions to be active and establish MBS session resources as specified in TS 23.247 [44] and TS 38.300 [8], if applicable. The target NG-RAN node shall, if supported, consider that the MBS sessions the UE has joined which are not included in the *MBS Active Session Information Source to Target List* IE are inactive.

If the *MBS Area Session ID* IE is included in the *MBS Active Session Information Source to Target List* IE in the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE within the HANDOVER REQUEST message, the target NG-RAN shall use this information as indication from which MBS Area Session ID the UE is handed over.

If the *MBS Service Area* IE is included in the *MBS Active Session Information Source to Target List* IE in the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE within the HANDOVER REQUEST message, the target NG-RAN shall use this information to setup respective MBS session resources, if applicable.

If the target NG-RAN node decides to allocate resource for data forwarding for an active MBS session, respective information is provided for that MBS session within the *Data Forwarding Response MRB List* IE in the *MBS Active Session Information Target to Source List* IE in the *Target NG-RAN Node to Source NG-RAN Node Transparent Container* IE.

If the *Time Synchronisation Assistance Information* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, store the information in the UE context and use it as defined in TS 23.501 [9].

If the *5G ProSe Authorized* IE is contained in the HANDOVER REQUEST message and it contains one or more IEs set to "authorized", the NG-RAN node shall, if supported, consider that the UE is authorized for the relevant service(s).

If the *5G ProSe UE PC5 Aggregate Maximum Bit Rate* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, use the received value for the concerned UE’s sidelink communication in network scheduled mode for 5G ProSe services.

If the *5G ProSe PC5 QoS Parameters* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, use it as defined in TS 23.304 [47].

If for a given QoS flow the *Source Transport Layer Address* IE is included within the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE of the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, store this information and use it as part of its ACL functionality configuration actions for direct data forwarding, if such ACL functionality is deployed and if direct forwarding path is available between the target NG-RAN node and this source RAN node.

If for a given QoS flow the *Source Node Transport Layer Address* IE is included within the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE of the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, store this information and use it as part of its ACL functionality configuration actions for direct data forwarding, if such ACL functionality is deployed and if direct forwarding path is available between the target NG-RAN node and this source RAN node.

If for a given E-RAB the *Source Transport Layer Address* IE is included within the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE of the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, store this information and use it as part of its ACL functionality configuration actions for direct data forwarding, if such ACL functionality is deployed and if direct forwarding path is available between the target NG-RAN node and this source RAN node.

If for a given E-RAB the *Source Node Transport Layer Address* IE is included within the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE of the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, store this information and use it as part of its ACL functionality configuration actions for direct data forwarding, if such ACL functionality is deployed and if direct forwarding path is available between the target NG-RAN node and this source RAN node.

If the HANDOVER REQUEST message contains within the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IEthe *NGAP IE Support Information Request List* IE, the target NG-RAN node shall, if supported and the target NG-RAN node accepts the request for handover, for each included NGAP Protocol IE-Id provided within the *Target NG-RAN Node to Source NG-RAN Node Transparent Container* IE in the HANDOVER REQUEST ACKNOWLEDGE message

- set the *NGAP Protocol IE Support Information* IE to "supported" if the target NG-RAN node has information that the functionality associated with the indicated IE is supported

- set the *NGAP Protocol IE Support Information* IE to "not-supported" if the target NG-RAN node has information that the functionality associated with the indicated IE is not supported

on the interface instance via which the HANDOVER REQUEST message has been received, and

- set the *NGAP Protocol IE Presence Information* IE to "present" if the target NG-RAN node has received the respective NGAP Protocol IE-Id in the HANDOVER REQUEST message, and “not-present” otherwise.

If the HANDOVER REQUEST message contains within the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE the *Time Based Handover Information* IE, the target NG-RAN node may use this information to allocate necessary resources for the incoming handover.

If the *Candidate Relay UE* *Information List* IE is included in the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE within the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, use it to configure the path switch to indirect path as specified in TS 38.300 [8].

If the *QMC Configuration Information* IE is included in the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE within the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, take it into account for QoE management handling, as described in TS 38.300 [8].

If the *Source SN to Target SN QMC Information* IE is included in the *Source NG-RAN Node to Target NG-RAN Node Transparent Container* IE within the HANDOVER REQUEST message, the target NG-RAN node shall, if supported, take it into account for QoE management handling, as described in TS 37.340 [32].

If the *Aerial UE Subscription Information* IE is included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, store this information in the UE context and use it as defined in TS 38.300 [8].

If the *PNI-NPN Area Scope of MDT* IE is included in the *MDT Configuration-NR* IE included in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, use it to derive the MDT area scope for MDT measurement collection in PNI-NPN areas. Upon reception of the *PNI-NPN Area Scope of MDT* IE, the NG-RAN node shall consider that the area scope for MDT measurement collection in PNI-NPN areas is defined only by the areas included in the *PNI-NPN Area Scope of MDT* IE.

If the *Geographical Area* IE is included in the *MDT Configuration-NR* IE, included in the HANDOVER REQUEST message, and the *Geographical Area* IE contains the *MDT PLMN List* IE, the NG-RAN node shall, if supported, apply the geographical area scope only for UEs served in the listed PLMNs.

If the *Partially Allowed NSSAI* IE is contained in the HANDOVER REQUEST message, the NG-RAN node shall, if supported, deduce from it the partially allowed network slices for the UE, store and replace any previously received Partially Allowed NSSAI and use it as specified in TS 23.501 [9].

If the *MBS Support Indicator* IE is included in the *Handover Request Acknowledge Transfer* IE in the HANDOVER REQUEST ACKNOWLEDGE message, the SMF shall, if supported, handle this information as specified in TS 23.247 [44].

If the *ECN Marking or Congestion Information Reporting Status* IE is included in the *Handover Request Acknowledge Transfer* IE, the SMF shall, if supported, use it to deduce if ECN marking at NG-RAN or ECN marking at UPF or congestion information reporting is active or not active as described in TS 23.501 [9].

**Interactions with RRC Inactive Transition Report procedure:**

If the *RRC Inactive Transition Report Request* IE is included in the HANDOVER REQUEST message and set to "subsequent state transition report", the NG-RAN node shall, if supported, send the RRC INACTIVE TRANSITION REPORT message to the AMF to report the RRC state of the UE when the UE enters or leaves RRC\_INACTIVE state.

|  |
| --- |
| **Next change, ommited text not changed** |

#### 8.11.1.2 Successful Operation



Figure 8.11.1.2-1: Trace start

The AMF initiates the procedure by sending a TRACE START message. Upon reception of the TRACE START message, the NG-RAN node shall initiate the requested trace session as described in TS 32.422 [11].

If the *Trace Activation* IE is included in the TRACE START message which includes the *MDT Activation* IE set to "Immediate MDT and Trace", the NG-RAN node shall, if supported, initiate the requested trace session and MDT session as described in TS 32.422 [11].

If the *Trace Activation* IE is included in the TRACE START message which includes the *MDT Activation* IE set to "Immediate MDT Only", "Logged MDT only", the NG-RAN node shall, if supported, initiate the requested MDT session as described in TS 32.422 [11] and the NG-RAN node shall ignore the *Interfaces To Trace* IE and the *Trace Depth* IE.

If the *Trace Activation* IE includes the *MDT Location Information* IE within the *MDT Configuration* IE, the NG-RAN node shall, if supported, store this information and take it into account in the requested MDT session.

If the *Trace Activation* IE is included in the TRACE START message which includes the *MDT Activation* IE set to "Immediate MDT Only", "Logged MDT only" and if the *Signalling Based MDT PLMN List* IE is included in the *MDT Configuration* IE, the NG-RAN node may use it to propagate the MDT Configuration as described in TS 37.320 [41].

If the *Trace Activation* IE includes the *Bluetooth Measurement Configuration* IE within the *MDT Configuration* IE, the NG-RAN node shall, if supported, take it into account for MDT Configuration as described in TS 37.320 [41].

If the *Trace Activation* IE includes the *WLAN Measurement Configuration* IE within the *MDT Configuration* IE, the NG-RAN node shall, if supported, take it into account for MDT Configuration as described in TS 37.320 [41].

If the *Trace Activation* IE includes the *Sensor Measurement Configuration* IE within the *MDT Configuration* IE, the NG-RAN node shall, if supported, take it into account for MDT Configuration as described in TS 37.320 [41].

If the *Trace Activation* IE includes the *MDT Configuration* IE and if the NG-RAN node is a gNB at least the *MDT Configuration-NR* IE shall be present, while if the NG-RAN node is an ng-eNB at least the *MDT Configuration-EUTRA* IE shall be present.

If the *PNI-NPN Area Scope of MDT* IE is included in the MDT Configuration-NR IE included in the TRACE START message, the NG-RAN node shall, if supported, use it to derive the MDT area scope for MDT measurement collection in PNI-NPN areas. Upon reception of the *PNI-NPN Area Scope of MDT* IE, the NG-RAN node shall consider that the area scope for MDT measurement collection in PNI-NPN areas is defined only by the areas included in the *PNI-NPN Area Scope of MDT* IE.

If the *Geographical Area* IE is included in the *MDT Configuration-NR* IE, included in the TRACE START message, and the *Geographical Area* IE contains the *MDT PLMN List* IE, the NG-RAN node shall, if supported, apply the geographical area scope only for UEs served in the listed PLMNs.

If the *Trace Activation* IE includes the *MN Only MDT Collection* IE and the *MN Only MDT Collection* IE is set to "MN only", the NG-RAN node shall, if supported, consider that the *MDT Configuration-NR* IE or the *MDT Configuration-EUTRA* IE is only applicable for the MN if the UE is configured with MR-DC.

**Interactions with other procedures:**

If the NG-RAN node is not able to initiate the trace session due to ongoing handover of the UE to another NG-RAN node, the NG-RAN node shall initiate a Trace Failure Indication procedure with the appropriate cause value.

|  |
| --- |
| **Next change, ommited text not changed** |

#### 9.3.1.169 MDT Configuration-NR

This IE defines the MDT configuration parameters of NR.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| MDT Activation | M |  | ENUMERATED (Immediate MDT only, Logged MDT only, Immediate MDT and Trace, …) |  | - |  |
| CHOICE *Area Scope of MDT* | M |  |  |  | - |  |
| *>Cell based* |  |  |  | If *PNI-NPN Area Scope of MDT* IE is present, this IE covers non-CAG cells only, where non-CAG cells refer to cells that only provide public access. |  |  |
| **>>Cell ID List for MDT** |  | *1..<maxnoofCellIDforMDT>* |  |  | - |  |
| >>>NR CGI | M |  | 9.3.1.7 |  | - |  |
| *>TA based* |  |  |  | If *PNI-NPN Area Scope of MDT* IE is present, this IE covers non-CAG cells only, where non-CAG cells refer to cells that only provide public access. |  |  |
| **>>TA List for MDT** |  | *1..<maxnoofTAforMDT>* |  |  | - |  |
| >>>TAC | M |  | 9.3.3.10 | The TAI is derived using the current serving PLMN. | - |  |
| *>PLMN wide* |  |  | NULL |  |  |  |
| *>TAI based* |  |  |  | If *PNI-NPN Area Scope of MDT* IE is present, this IE covers non-CAG cells only, where non-CAG cells refer to cells that only provide public access. |  |  |
| **>>TAI List for MDT** |  | *1..<maxnoofTAforMDT>* |  |  | - |  |
| >>>TAI | M |  | 9.3.3.11 |  | - |  |
| *>PNI-NPN Based MDT* |  |  |  |  | YES | ignore |
| >>CAG List for MDT |  |  | 9.3.3.65 |  | - |  |
| *>SNPN Cell Based MDT* |  |  |  |  | YES | ignore |
| **>>SNPN Cell ID List for MDT** |  | *1..<maxnoofCellIDforMDT>* |  |  | - |  |
| >>>NR CGI | M |  | 9.3.1.7 |  | - |  |
| >>>NID | M |  | 9.3.3.42 | Identifies an SNPN together with the PLMNIdentity in the *NR CGI* IE. | - |  |
| *>SNPN TAI Based MDT* |  |  |  |  | YES | ignore |
| **>>SNPN TAI List for MDT** |  | *1..<maxnoofTAforMDT>* |  |  | - |  |
| >>>TAI | M |  | 9.3.3.11 |  | - |  |
| >>>NID | M |  | 9.3.3.42 | Identifies an SNPN together with the PLMNIdentity in the *TAI* IE. | - |  |
| *>SNPN Based MDT* |  |  |  |  | YES | ignore |
| **>>SNPN List for MDT** |  | *1..<maxnoofMDTSNPNs>* |  |  | - |  |
| >>>PLMN Identity | M |  | 9.3.3.5 |  | - |  |
| >>>NID | M |  | 9.3.3.42 | Identifies an SNPN together with the *PLMN Identity* IE. | - |  |
| *>Geography Based* |  |  |  | The geographical area can be used with NTN deployment. | YES | ignore |
| >>Geographical Area |  |  | 9.3.3.B |  | - | - |
| CHOICE *MDT Mode* | M |  |  |  | - |  |
| *>Immediate MDT* |  |  |  |  |  |  |
| >>Measurements to Activate  | M |  | BITSTRING(SIZE(8)) | Each position in the bitmap indicates a MDT measurement, as defined in TS 37.320 [41]. First Bit = M1,Second Bit= M2,Third Bit = M4,Fourth Bit = M5,Fifth Bit = M6,Sixth Bit = M7,Seventh Bit = logging of M1 from event triggered measurement reports according to existing RRM configuration, other bits reserved for future use.Value “1” indicates “activate” and value “0” indicates “do not activate”. | - |  |
| >>M1 Configuration | C-ifM1 |  | 9.3.1.171 |  | - |  |
| >>M4 Configuration | C-ifM4 |  | 9.3.1.172 |  | - |  |
| >>M5 Configuration | C-ifM5 |  | 9.3.1.173 |  | - |  |
| >>M6 Configuration | C-ifM6 |  | 9.3.1.174 |  | - |  |
| >>M7 Configuration | C-ifM7 |  | 9.3.1.175 |  | - |  |
| >>Bluetooth Measurement Configuration | O |  | 9.3.1.177 |  | - |  |
| >>WLAN Measurement Configuration | O |  | 9.3.1.178 |  | - |  |
| >>MDT Location Information | O |  | 9.3.1.176 |  | - |  |
| >>Sensor Measurement Configuration | O |  | 9.3.1.179 |  | - |  |
| *>Logged MDT* |  |  |  |  |  |  |
| >>Logging Interval | M |  | ENUMERATED (320ms, 640ms, 1280ms, 2560ms, 5120ms, 10240ms, 20480ms, 30720ms, 40960ms, 61440ms, infinity, …) | Corresponds to the *LoggingInterval* IE as defined in TS 38.331 [18].  | - |  |
| >>Logging Duration | M |  | ENUMERATED (10, 20, 40, 60, 90,120, …) | Corresponds to the *LoggingDuration* IE as defined in TS 38.331 [18]. Unit: [minute]. | - |  |
| >>CHOICE *Report Type* | M |  |  |  | - |  |
| *>>>Periodical* |  |  | NULL |  |  |  |
| *>>>Event Triggered* |  |  |  |  |  |  |
| >>>>Event Trigger Logged MDT Configuration | M |  | 9.3.1.180 |  | - |  |
| >>Bluetooth Measurement Configuration | O |  | 9.3.1.177 |  | - |  |
| >>WLAN Measurement Configuration | O |  | 9.3.1.178 |  | - |  |
| >>Sensor Measurement Configuration | O |  | 9.3.1.179 |  | - |  |
| >>Area Scope of Neighbour Cells | O |  | 9.3.1.182 |  | - |  |
| >>Early Measurement | O |  | ENUMERATED(true, ...) | This IE indicates whether the UE is allowed to log measurements on early measurement related frequencies in logged MDT as specified in TS 38.331 [18]. | YES | ignore |
| Signalling Based MDT PLMN List | O |  | MDT PLMN List9.3.1.168 |  | - |  |
| **PNI-NPN Area Scope of MDT** |  | *0..1* |  | This IE is ignored if the *Area Scope of MDT* IE is set to "PLMN Wide" | YES | ignore |
| >CAG List for MDT | M |  | 9.3.3.65 |  | - |  |
| Network Slice Area Scope of MDT | O |  | 9.3.3.A |  | YES | ignore |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofCellIDforMDT | Maximum no. of Cell ID subject for MDT scope. Value is 32. |
| maxnoofTAforMDT | Maximum no. of TA subject for MDT scope. Value is 8. |
| maxnoofMDTSNPNs | Maximum no. of SNPNs in the MDT SNPN list. Value is 16. |

|  |  |
| --- | --- |
| Condition | Explanation |
| C-ifM1 | This IE shall be present if the *Measurements to Activate* IE has the first bit set to “1”. |
| C-ifM4 | This IE shall be present if the *Measurements to Activate* IE has the third bit set to “1”. |
| C-ifM5 | This IE shall be present if the *Measurements to Activate* IE has the fourth bit set to “1”. |
| C-ifM6 | This IE shall be present if the Measurements to Activate IE has the fitth bit set to “1”. |
| C-ifM7 | This IE shall be present if the Measurements to Activate IE has the sixth bit set to “1”. |

|  |
| --- |
| **Next change, ommited text not changed** |

#### 9.3.3.B Geographical Area

This IE is used to indicate the area scope for NTN MDT.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| **NTN geographical area** |  | *1..<maxnoofAreaNTN>* |  |  |
| >CHOICE *Area Type* |  |  |  |  |
| >>*Circle* |  |  |  |  |
| *>>>Reference Location* | M |  | OCTET STRING | ReferenceLocation-r17 as defined in TS 38.331[18] |
| *>>>Distance Radius* | M |  | INTEGER(1..65535) | Each step represents 50m distance. |
| >>*Polygon* |  |  |  |  |
| *>>>* Polygon |  |  | OCTET STRING | Defined in TS 37.355 [AA]. The first/leftmost bit of the first octet contains the most significant bit. |
| MDT PLMN List | O |  | 9.3.1.168 |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofAreaNTN | Maximum no. the geographical area configurations. Value is 8. |

|  |
| --- |
| **Next change, ommited text not changed** |

### 9.4.5 Information Element Definitions

-- ASN1START

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Information Element Definitions

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

NGAP-IEs {

itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)

ngran-Access (22) modules (3) ngap (1) version1 (1) ngap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

 id-AdditionalDLForwardingUPTNLInformation,

 id-AdditionalULForwardingUPTNLInformation,

 id-AdditionalDLQosFlowPerTNLInformation,

 id-AdditionalDLUPTNLInformationForHOList,

 id-AdditionalNGU-UP-TNLInformation,

 id-AdditionalRedundantDL-NGU-UP-TNLInformation,

 id-AdditionalRedundantDLQosFlowPerTNLInformation,

 id-AdditionalRedundantNGU-UP-TNLInformation,

 id-AdditionalRedundantUL-NGU-UP-TNLInformation,

 id-AdditionalUL-NGU-UP-TNLInformation,

 id-AlternativeQoSParaSetList,

 id-AssistanceInformationQoE-Meas,

 id-AdditionalCancelledlocationReportingReferenceIDList,

 id-BurstArrivalTimeDownlink,

 id-Cause,

 id-CNPacketDelayBudgetDL,

 id-CNPacketDelayBudgetUL,

 id-CNTypeRestrictionsForEquivalent,

 id-CNTypeRestrictionsForServing,

 id-CommonNetworkInstance,

 id-ConfiguredTACIndication,

 id-CN-MT-CommunicationHandling,

 id-CurrentQoSParaSetIndex,

 id-DAPSRequestInfo,

 id-DAPSResponseInfoList,

 id-DataForwardingNotPossible,

 id-DataForwardingResponseERABList,

 id-DirectForwardingPathAvailability,

 id-DL-NGU-UP-TNLInformation,

 id-DownlinkTLContainer,

 id-EndpointIPAddressAndPort,

 id-EnergySavingIndication,

 id-ExtendedMobilityInformation,

 id-ExtendedPacketDelayBudget,

 id-ExtendedRATRestrictionInformation,

 id-ExtendedReportIntervalMDT,

 id-ExtendedSliceSupportList,

 id-ExtendedTAISliceSupportList,

 id-ExtendedUEIdentityIndexValue,

 id-EUTRA-PagingeDRXInformation,

 id-EquivalentSNPNsList,

 id-GeographicalAreaofMDT,

 id-GlobalCable-ID,

 id-GlobalRANNodeID,

 id-GlobalTNGF-ID,

 id-GlobalTWIF-ID,

 id-GlobalW-AGF-ID,

 id-GUAMIType,

 id-HashedUEIdentityIndexValue,

 id-IncludeBeamMeasurementsIndication,

 id-IntersystemSONInformationRequest,

 id-IntersystemSONInformationReply,

 id-IntersystemResourceStatusUpdate,

 id-IntersystemMobilityFailureforVoiceFallback,

 id-LastEUTRAN-PLMNIdentity,

 id-LastVisitedPSCellList,

 id-LocationReportingAdditionalInfo,

 id-M4ReportAmount,

 id-M5ReportAmount,

 id-M6ReportAmount,

 id-ExcessPacketDelayThresholdConfiguration,

 id-M7ReportAmount,

 id-MaximumIntegrityProtectedDataRate-DL,

 id-MBS-AreaSessionID,

 id-MBS-QoSFlowsToBeSetupList,

 id-MBS-QoSFlowsToBeSetupModList,

 id-MBS-QoSFlowToReleaseList,

 id-MBS-ServiceArea,

 id-MBS-SessionFSAIDList,

 id-MBS-SessionID,

 id-MBS-ActiveSessionInformation-SourcetoTargetList,

 id-MBS-ActiveSessionInformation-TargettoSourceList,

 id-MBS-AssistanceInformation,

 id-MBS-SessionTNLInfo5GC,

 id-MBS-SupportIndicator,

 id-MBSSessionFailedtoSetupList,

 id-MBSSessionFailedtoSetuporModifyList,

 id-MBSSessionSetupResponseList,

 id-MBSSessionSetuporModifyResponseList,

 id-MBSSessionToReleaseList,

 id-MBSSessionSetupRequestList,

 id-MBSSessionSetuporModifyRequestList,

 id-MDTConfiguration,

 id-MicoAllPLMN,

 id-NetworkInstance,

 id-NGAPIESupportInformationRequestList,

 id-NGAPIESupportInformationResponseList,

 id-NID,

 id-NR-CGI,

 id-NRNTNTAIInformation,

 id-NPN-MobilityInformation,

 id-NPN-PagingAssistanceInformation,

 id-NPN-Support,

 id-NR-PagingeDRXInformation,

 id-OldAssociatedQosFlowList-ULendmarkerexpected,

 id-OnboardingSupport,

 id-PagingAssisDataforCEcapabUE,

 id-PagingCauseIndicationForVoiceService,

 id-PDUSessionAggregateMaximumBitRate,

 id-PduSessionExpectedUEActivityBehaviour,

 id-PDUSessionPairID,

 id-PDUSessionResourceFailedToSetupListCxtFail,

 id-PDUSessionResourceReleaseResponseTransfer,

 id-PDUSessionType,

 id-PEIPSassistanceInformation,

 id-PSCellInformation,

 id-PNI-NPNBasedMDT,

 id-PNI-NPN-AreaScopeofMDT,

 id-QMCConfigInfo,

 id-QosFlowAdditionalInfoList,

 id-QosFlowAddOrModifyRequestList,

 id-QosFlowFailedToSetupList,

 id-QosFlowFeedbackList,

 id-QosFlowParametersList,

 id-QosFlowSetupRequestList,

 id-QosFlowToReleaseList,

 id-QosMonitoringRequest,

 id-QosMonitoringReportingFrequency,

 id-SNPN-CellBasedMDT,

 id-SNPN-TAIBasedMDT,

 id-SNPN-BasedMDT,

 id-SuccessfulHandoverReportList,

 id-SupportedUETypeList,

 id-UEContextReferenceAtSource,

 id-RAT-Information,

 id-RedundantCommonNetworkInstance,

 id-RedundantDL-NGU-TNLInformationReused,

 id-RedundantDL-NGU-UP-TNLInformation,

 id-RedundantDLQosFlowPerTNLInformation,

 id-RedundantPDUSessionInformation,

 id-RedundantQosFlowIndicator,

 id-RedundantUL-NGU-UP-TNLInformation,

 id-SCTP-TLAs,

 id-SecondaryRATUsageInformation,

 id-SecurityIndication,

 id-SecurityResult,

 id-SgNB-UE-X2AP-ID,

 id-S-NSSAI,

 id-SONInformationReport,

 id-SourceNodeID,

 id-SourceNodeTNLAddrInfo,

 id-SourceSN-to-TargetSN-QMCInfo,

 id-SourceTNLAddrInfo,

 id-SurvivalTime,

 id-Selected-Target-SNPN-Identity,

 id-TNLAssociationTransportLayerAddressNGRAN,

 id-TAIMBSSupportList,

 id-TAINSAGSupportList,

 id-TargetHomeENB-ID,

 id-TargetRNC-ID,

 id-TimeBasedHandoverInformation,

 id-TraceCollectionEntityURI,

 id-TSCTrafficCharacteristics,

 id-UEHistoryInformationFromTheUE,

 id-UERadioCapabilityForPaging,

 id-UERadioCapabilityForPagingOfNB-IoT,

 id-UL-NGU-UP-TNLInformation,

 id-UL-NGU-UP-TNLModifyList,

 id-ULForwarding,

 id-ULForwardingUP-TNLInformation,

 id-UplinkTLContainer,

 id-UsedRSNInformation,

 id-UserLocationInformationTNGF,

 id-UserLocationInformationTWIF,

 id-UserLocationInformationW-AGF,

 id-UserPlaneErrorIndicator,

 id-EarlyMeasurement,

 id-BeamMeasurementsReportConfiguration,

 id-DLDiscarding,

 id-TAI,

 id-HFCNode-ID-new,

 id-GlobalCable-ID-new,

 id-FiveGProSeLayer2Multipath,

 id-CandidateRelayUEInformationList,

 id-FiveGProSeLayer2UEtoUERelay,

 id-FiveGProSeLayer2UEtoUERemote,

 id-SuccessfulPSCellChangeReportList,

 id-TargetCellCRNTI,

 id-TimeSinceFailure,

 id-ClockQualityReportingControlInfo,

 id-RANfeedbacktype,

 id-QoSFlowTSCList,

 id-TSCTrafficCharacteristicsFeedback,

 id-ANPacketDelayBudgetUL,

 id-MBSCommServiceType,

 id-MobileIAB-MTUserLocationInformation,

 id-PDUsetQoSParameters,

 id-PDUSetbasedHandlingIndicator,

 id-N6JitterInformation,

 id-ECNMarkingorCongestionInformationReportingRequest,

 id-ECNMarkingorCongestionInformationReportingStatus,

 id-MN-only-MDT-collection,

 id-XrDeviceWith2Rx,

 id-MaximumDataBurstVolume,

 id-MBS-NGUFailureIndication,

 id-UserPlaneFailureIndication,

 id-UserPlaneFailureIndicationReport,

 id-QoERVQoEReportingPaths,

 id-UserLocationInformationN3IWF-without-PortNumber,

 id-ExtendedBackupAMFName,

 maxnoofAllowedAreas,

 maxnoofAllowedCAGsperPLMN,

 maxnoofAllowedS-NSSAIs,

 maxnoofAreaNTN,

 maxnoofAoIMinusOne,

 maxnoofBluetoothName,

 maxnoofBPLMNs,

 maxnoofCAGforMDT,

 maxnoofCAGSperCell,

 maxnoofCandidateCells,

 maxnoofCellIDforMDT,

 maxnoofCellIDforQMC,

 maxnoofCellIDforWarning,

 maxnoofCellinAoI,

 maxnoofCellinEAI,

 maxnoofCellsforMBS,

 maxnoofCellsingNB,

 maxnoofCellsinngeNB,

 maxnoofCellsinNGRANNode,

 maxnoofCellinTAI,

 maxnoofCellsinUEHistoryInfo,

 maxnoofCellsUEMovingTrajectory,

 maxnoofDRBs,

 maxnoofEmergencyAreaID,

 maxnoofEAIforRestart,

 maxnoofEPLMNs,

 maxnoofEPLMNsPlusOne,

 maxnoofE-RABs,

 maxnoofErrors,

 maxnoofExtSliceItems,

 maxnoofESNPNs,

 maxnoofForbTACs,

 maxnoofFreqforMDT,

 maxnoofMBSFSAs,

 maxnoofMBSQoSFlows,

 maxnoofMBSServiceAreaInformation,

 maxnoofMBSAreaSessionIDs,

 maxnoofMBSSessions,

 maxnoofMBSSessionsofUE,

 maxnoofMDTPLMNs,

 maxnoofMRBs,

 maxnoofMultiConnectivity,

 maxnoofMultiConnectivityMinusOne,

 maxnoofNeighPCIforMDT,

 maxnoofNGAPIESupportInfo,

 maxnoofNGConnectionsToReset,

 maxNRARFCN,

 maxnoofNRCellBands,

 maxnoofNSAGs,

 maxnoofPagingAreas,

 maxnoofPC5QoSFlows,

 maxnoofPDUSessions,

 maxnoofPLMNs,

 maxnoofPLMNforQMC,

 maxnoofQosFlows,

 maxnoofQosParaSets,

 maxnoofRANNodeinAoI,

 maxnoofRecommendedCells,

 maxnoofRecommendedRANNodes,

 maxnoofAoI,

 maxnoofPSCellsPerPrimaryCellinUEHistoryInfo,

 maxnoofReportedCells,

 maxnoofSensorName,

 maxnoofServedGUAMIs,

 maxnoofSliceItems,

 maxnoofMDTSNPNs,

 maxnoofSNSSAIforQMC,

 maxnoofSuccessfulHOReports,

 maxnoofTACs,

 maxnoofTACsinNTN,

 maxnoofTAforMDT,

 maxnoofTAforQMC,

 maxnoofTAIforInactive,

 maxnoofSupportedTAIforMBS,

 maxnoofTAIforMBS,

 maxnoofTAIforPaging,

 maxnoofTAIforRestart,

 maxnoofTAIforWarning,

 maxnoofTAIinAoI,

 maxnoofTargetS-NSSAIs,

 maxnoofTimePeriods,

 maxnoofTNLAssociations,

 maxnoofUEAppLayerMeas,

 maxnoofUEsforPaging,

 maxnoofUETypes,

 maxnoofWLANName,

 maxnoofXnExtTLAs,

 maxnoofXnGTP-TLAs,

 maxnoofXnTLAs,

 maxnoofThresholdsForExcessPacketDelay,

 maxnoofCandidateRelayUEs,

 maxnoofSuccessfulPSCellChangeReports,

 maxnoofCellsTSS,

 maxnoofPeriodicities,

 maxnoofPartiallyAllowedS-NSSAIs,

 maxnoofRSPPQoSFlows

|  |
| --- |
| **Next change, ommited text not changed** |

MDT-Configuration-NR ::= SEQUENCE {

 mdt-Activation MDT-Activation,

 areaScopeOfMDT AreaScopeOfMDT-NR,

 mDTModeNr MDTModeNr,

 signallingBasedMDTPLMNList MDTPLMNList OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { MDT-Configuration-NR-ExtIEs} } OPTIONAL,

 ...

}

MDT-Configuration-NR-ExtIEs NGAP-PROTOCOL-EXTENSION ::= {

 { ID id-PNI-NPN-AreaScopeofMDT CRITICALITY ignore EXTENSION PNI-NPN-AreaScopeofMDT PRESENCE optional }|

 { ID id-GeographicalAreaofMDT CRITICALITY ignore EXTENSION GeographicalAreaofMDT PRESENCE optional },

 ...

}

|  |
| --- |
| **Next change, ommited text not changed** |

-- G

GBR-QosInformation ::= SEQUENCE {

 maximumFlowBitRateDL BitRate,

 maximumFlowBitRateUL BitRate,

 guaranteedFlowBitRateDL BitRate,

 guaranteedFlowBitRateUL BitRate,

 notificationControl NotificationControl OPTIONAL,

 maximumPacketLossRateDL PacketLossRate OPTIONAL,

 maximumPacketLossRateUL PacketLossRate OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { {GBR-QosInformation-ExtIEs} } OPTIONAL,

 ...

}

GBR-QosInformation-ExtIEs NGAP-PROTOCOL-EXTENSION ::= {

 { ID id-AlternativeQoSParaSetList CRITICALITY ignore EXTENSION AlternativeQoSParaSetList PRESENCE optional },

 ...

}

GeographicalAreaofMDT ::= SEQUENCE {

 nTN-Geographical-Area NTN-Geographical-Area-List,

 nTN-PLMN-List MDTPLMNList OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { {GeographicalAreaofMDT-ExtIEs} } OPTIONAL,

 ...

}

GeographicalAreaofMDT-ExtIEs NGAP-PROTOCOL-EXTENSION ::= {

 ...

}

|  |
| --- |
| **Next change, ommited text not changed** |

MDT-circle ::= SEQUENCE {

 reference-location OCTET STRING,

 distance-radius INTEGER(1..65535),

 iE-Extensions ProtocolExtensionContainer { {MDT-circle-ExtIEs} } OPTIONAL,

 ...

}

MDT-circle-ExtIEs NGAP-PROTOCOL-EXTENSION ::= {

 ...

}

MDT-Location-Info ::= SEQUENCE {

 mDT-Location-Information MDT-Location-Information,

 iE-Extensions ProtocolExtensionContainer { { MDT-Location-Info-ExtIEs} } OPTIONAL,

 ...

}

MDT-Location-Info-ExtIEs NGAP-PROTOCOL-EXTENSION ::= {

 ...

}

MDT-Location-Information::= BIT STRING (SIZE (8))

MDT-polygon ::= OCTET STRING

|  |
| --- |
| **Next change, ommited text not changed** |

NR-A2X-ServicesAuthorized ::= SEQUENCE {

 aerialUE ENUMERATED {authorized, not-authorized, ...} OPTIONAL,

 aerialControllerUE ENUMERATED {authorized, not-authorized, ...} OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { {NR-A2X-ServicesAuthorized-ExtIEs} } OPTIONAL,

 ...

}

NR-A2X-ServicesAuthorized-ExtIEs NGAP-PROTOCOL-EXTENSION ::= {

 ...

}

NTN-Geographical-Area-List ::= SEQUENCE (SIZE(1..maxnoofAreaNTN)) OF NTN-Geographical-Area-Item

NTN-Geographical-Area-Item ::= CHOICE {

 circle MDT-circle,

 polygon MDT-polygon,

 choice-Extensions ProtocolIE-SingleContainer { {NTN-Geographicla-Area-Item-ExtIEs} }

}

NTN-Geographicla-Area-Item-ExtIEs NGAP-PROTOCOL-IES ::= {

 ...

}

|  |
| --- |
| **Next change, ommited text not changed** |

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- Lists

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

 maxnoofAllowedAreas INTEGER ::= 16

 maxnoofAllowedCAGsperPLMN INTEGER ::= 256

 maxnoofAllowedS-NSSAIs INTEGER ::= 8

 maxnoofBluetoothName INTEGER ::= 4

 maxnoofBPLMNs INTEGER ::= 12

 maxnoofCAGSperCell INTEGER ::= 64

 maxnoofCellIDforMDT INTEGER ::= 32

 maxnoofCellIDforWarning INTEGER ::= 65535

 maxnoofCellinAoI INTEGER ::= 256

 maxnoofCellinEAI INTEGER ::= 65535

 maxnoofCellinTAI INTEGER ::= 65535

 maxnoofCellsforMBS INTEGER ::= 8192

 maxnoofCellsingNB INTEGER ::= 16384

 maxnoofCellsinngeNB INTEGER ::= 256

 maxnoofCellsinNGRANNode INTEGER ::= 16384

 maxnoofCellsinUEHistoryInfo INTEGER ::= 16

 maxnoofCellsUEMovingTrajectory INTEGER ::= 16

 maxnoofDRBs INTEGER ::= 32

 maxnoofEmergencyAreaID INTEGER ::= 65535

 maxnoofEAIforRestart INTEGER ::= 256

 maxnoofEPLMNs INTEGER ::= 15

 maxnoofEPLMNsPlusOne INTEGER ::= 16

 maxnoofE-RABs INTEGER ::= 256

 maxnoofErrors INTEGER ::= 256

 maxnoofExtSliceItems INTEGER ::= 65535

 maxnoofForbTACs INTEGER ::= 4096

 maxnoofFreqforMDT INTEGER ::= 8

 maxnoofMBSAreaSessionIDs INTEGER ::= 256

 maxnoofMBSFSAs INTEGER ::= 64

 maxnoofMBSQoSFlows INTEGER ::= 64

 maxnoofMBSSessions INTEGER ::= 32

 maxnoofMBSSessionsofUE INTEGER ::= 256

 maxnoofMBSServiceAreaInformation INTEGER ::= 256

 maxnoofMDTPLMNs INTEGER ::= 16

 maxnoofMRBs INTEGER ::= 32

 maxnoofMultiConnectivity INTEGER ::= 4

 maxnoofMultiConnectivityMinusOne INTEGER ::= 3

 maxnoofNeighPCIforMDT INTEGER ::= 32

 maxnoofNGAPIESupportInfo INTEGER ::= 32

 maxnoofNGConnectionsToReset INTEGER ::= 65536

 maxnoofNRCellBands INTEGER ::= 32

 maxnoofNSAGs INTEGER ::= 256

 maxnoofPagingAreas INTEGER ::= 64

 maxnoofPC5QoSFlows INTEGER ::= 2048

 maxnoofPDUSessions INTEGER ::= 256

 maxnoofPLMNs INTEGER ::= 12

 maxnoofPSCellsPerPrimaryCellinUEHistoryInfo INTEGER ::= 8

 maxnoofQosFlows INTEGER ::= 64

 maxnoofQosParaSets INTEGER ::= 8

 maxnoofRANNodeinAoI INTEGER ::= 64

 maxnoofRecommendedCells INTEGER ::= 16

 maxnoofRecommendedRANNodes INTEGER ::= 16

 maxnoofAoI INTEGER ::= 64

 maxnoofAoIMinusOne INTEGER ::= 63

 maxnoofReportedCells INTEGER ::= 256

 maxnoofSensorName INTEGER ::= 3

 maxnoofServedGUAMIs INTEGER ::= 256

 maxnoofSliceItems INTEGER ::= 1024

 maxnoofSuccessfulHOReports INTEGER ::= 64

 maxnoofTACs INTEGER ::= 256

 maxnoofTACsinNTN INTEGER ::= 12

 maxnoofTAforMDT INTEGER ::= 8

 maxnoofTAIforInactive INTEGER ::= 16

 maxnoofSupportedTAIforMBS INTEGER ::= 256

 maxnoofTAIforMBS INTEGER ::= 1024

 maxnoofTAIforPaging INTEGER ::= 16

 maxnoofTAIforRestart INTEGER ::= 2048

 maxnoofTAIforWarning INTEGER ::= 65535

 maxnoofTAIinAoI INTEGER ::= 16

 maxnoofTimePeriods INTEGER ::= 2

 maxnoofTNLAssociations INTEGER ::= 32

 maxnoofUEsforPaging INTEGER ::= 4096

 maxnoofUETypes INTEGER ::= 8

 maxnoofWLANName INTEGER ::= 4

 maxnoofXnExtTLAs INTEGER ::= 16

 maxnoofXnGTP-TLAs INTEGER ::= 16

 maxnoofXnTLAs INTEGER ::= 2

 maxnoofCandidateCells INTEGER ::= 32

 maxnoofTargetS-NSSAIs INTEGER ::= 8

 maxNRARFCN INTEGER ::= 3279165

 maxnoofCellIDforQMC INTEGER ::= 32

 maxnoofPLMNforQMC INTEGER ::= 16

 maxnoofUEAppLayerMeas INTEGER ::= 16

 maxnoofSNSSAIforQMC INTEGER ::= 16

 maxnoofTAforQMC INTEGER ::= 8

 maxnoofThresholdsForExcessPacketDelay INTEGER ::= 255

 maxnoofESNPNs INTEGER ::= 15

 maxnoofCandidateRelayUEs INTEGER ::= 32

 maxnoofSuccessfulPSCellChangeReports INTEGER ::= 64

 maxnoofCellsTSS INTEGER ::= 16384

 maxnoofPeriodicities INTEGER ::= 8

 maxnoofCAGforMDT INTEGER ::= 256

 maxnoofMDTSNPNs INTEGER ::= 16

 maxnoofPartiallyAllowedS-NSSAIs INTEGER ::= 8

 maxnoofRSPPQoSFlows INTEGER ::= 2048

 maxnoofAreaNTN INTEGER ::= 8

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

--

-- IEs

--

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

 id-AllowedNSSAI ProtocolIE-ID ::= 0

 id-AMFName ProtocolIE-ID ::= 1

 id-AMFOverloadResponse ProtocolIE-ID ::= 2

 id-AMFSetID ProtocolIE-ID ::= 3

 id-AMF-TNLAssociationFailedToSetupList ProtocolIE-ID ::= 4

 id-AMF-TNLAssociationSetupList ProtocolIE-ID ::= 5

 id-AMF-TNLAssociationToAddList ProtocolIE-ID ::= 6

 id-AMF-TNLAssociationToRemoveList ProtocolIE-ID ::= 7

 id-AMF-TNLAssociationToUpdateList ProtocolIE-ID ::= 8

 id-AMFTrafficLoadReductionIndication ProtocolIE-ID ::= 9

 id-AMF-UE-NGAP-ID ProtocolIE-ID ::= 10

 id-AssistanceDataForPaging ProtocolIE-ID ::= 11

 id-BroadcastCancelledAreaList ProtocolIE-ID ::= 12

 id-BroadcastCompletedAreaList ProtocolIE-ID ::= 13

 id-CancelAllWarningMessages ProtocolIE-ID ::= 14

 id-Cause ProtocolIE-ID ::= 15

 id-CellIDListForRestart ProtocolIE-ID ::= 16

 id-ConcurrentWarningMessageInd ProtocolIE-ID ::= 17

 id-CoreNetworkAssistanceInformationForInactive ProtocolIE-ID ::= 18

 id-CriticalityDiagnostics ProtocolIE-ID ::= 19

 id-DataCodingScheme ProtocolIE-ID ::= 20

 id-DefaultPagingDRX ProtocolIE-ID ::= 21

 id-DirectForwardingPathAvailability ProtocolIE-ID ::= 22

 id-EmergencyAreaIDListForRestart ProtocolIE-ID ::= 23

 id-EmergencyFallbackIndicator ProtocolIE-ID ::= 24

 id-EUTRA-CGI ProtocolIE-ID ::= 25

 id-FiveG-S-TMSI ProtocolIE-ID ::= 26

 id-GlobalRANNodeID ProtocolIE-ID ::= 27

 id-GUAMI ProtocolIE-ID ::= 28

 id-HandoverType ProtocolIE-ID ::= 29

 id-IMSVoiceSupportIndicator ProtocolIE-ID ::= 30

 id-IndexToRFSP ProtocolIE-ID ::= 31

 id-InfoOnRecommendedCellsAndRANNodesForPaging ProtocolIE-ID ::= 32

 id-LocationReportingRequestType ProtocolIE-ID ::= 33

 id-MaskedIMEISV ProtocolIE-ID ::= 34

 id-MessageIdentifier ProtocolIE-ID ::= 35

 id-MobilityRestrictionList ProtocolIE-ID ::= 36

 id-NASC ProtocolIE-ID ::= 37

 id-NAS-PDU ProtocolIE-ID ::= 38

 id-NASSecurityParametersFromNGRAN ProtocolIE-ID ::= 39

 id-NewAMF-UE-NGAP-ID ProtocolIE-ID ::= 40

 id-NewSecurityContextInd ProtocolIE-ID ::= 41

 id-NGAP-Message ProtocolIE-ID ::= 42

 id-NGRAN-CGI ProtocolIE-ID ::= 43

 id-NGRANTraceID ProtocolIE-ID ::= 44

 id-NR-CGI ProtocolIE-ID ::= 45

 id-NRPPa-PDU ProtocolIE-ID ::= 46

 id-NumberOfBroadcastsRequested ProtocolIE-ID ::= 47

 id-OldAMF ProtocolIE-ID ::= 48

 id-OverloadStartNSSAIList ProtocolIE-ID ::= 49

 id-PagingDRX ProtocolIE-ID ::= 50

 id-PagingOrigin ProtocolIE-ID ::= 51

 id-PagingPriority ProtocolIE-ID ::= 52

 id-PDUSessionResourceAdmittedList ProtocolIE-ID ::= 53

 id-PDUSessionResourceFailedToModifyListModRes ProtocolIE-ID ::= 54

 id-PDUSessionResourceFailedToSetupListCxtRes ProtocolIE-ID ::= 55

 id-PDUSessionResourceFailedToSetupListHOAck ProtocolIE-ID ::= 56

 id-PDUSessionResourceFailedToSetupListPSReq ProtocolIE-ID ::= 57

 id-PDUSessionResourceFailedToSetupListSURes ProtocolIE-ID ::= 58

 id-PDUSessionResourceHandoverList ProtocolIE-ID ::= 59

 id-PDUSessionResourceListCxtRelCpl ProtocolIE-ID ::= 60

 id-PDUSessionResourceListHORqd ProtocolIE-ID ::= 61

 id-PDUSessionResourceModifyListModCfm ProtocolIE-ID ::= 62

 id-PDUSessionResourceModifyListModInd ProtocolIE-ID ::= 63

 id-PDUSessionResourceModifyListModReq ProtocolIE-ID ::= 64

 id-PDUSessionResourceModifyListModRes ProtocolIE-ID ::= 65

 id-PDUSessionResourceNotifyList ProtocolIE-ID ::= 66

 id-PDUSessionResourceReleasedListNot ProtocolIE-ID ::= 67

 id-PDUSessionResourceReleasedListPSAck ProtocolIE-ID ::= 68

 id-PDUSessionResourceReleasedListPSFail ProtocolIE-ID ::= 69

 id-PDUSessionResourceReleasedListRelRes ProtocolIE-ID ::= 70

 id-PDUSessionResourceSetupListCxtReq ProtocolIE-ID ::= 71

 id-PDUSessionResourceSetupListCxtRes ProtocolIE-ID ::= 72

 id-PDUSessionResourceSetupListHOReq ProtocolIE-ID ::= 73

 id-PDUSessionResourceSetupListSUReq ProtocolIE-ID ::= 74

 id-PDUSessionResourceSetupListSURes ProtocolIE-ID ::= 75

 id-PDUSessionResourceToBeSwitchedDLList ProtocolIE-ID ::= 76

 id-PDUSessionResourceSwitchedList ProtocolIE-ID ::= 77

 id-PDUSessionResourceToReleaseListHOCmd ProtocolIE-ID ::= 78

 id-PDUSessionResourceToReleaseListRelCmd ProtocolIE-ID ::= 79

 id-PLMNSupportList ProtocolIE-ID ::= 80

 id-PWSFailedCellIDList ProtocolIE-ID ::= 81

 id-RANNodeName ProtocolIE-ID ::= 82

 id-RANPagingPriority ProtocolIE-ID ::= 83

 id-RANStatusTransfer-TransparentContainer ProtocolIE-ID ::= 84

 id-RAN-UE-NGAP-ID ProtocolIE-ID ::= 85

 id-RelativeAMFCapacity ProtocolIE-ID ::= 86

 id-RepetitionPeriod ProtocolIE-ID ::= 87

 id-ResetType ProtocolIE-ID ::= 88

 id-RoutingID ProtocolIE-ID ::= 89

 id-RRCEstablishmentCause ProtocolIE-ID ::= 90

 id-RRCInactiveTransitionReportRequest ProtocolIE-ID ::= 91

 id-RRCState ProtocolIE-ID ::= 92

 id-SecurityContext ProtocolIE-ID ::= 93

 id-SecurityKey ProtocolIE-ID ::= 94

 id-SerialNumber ProtocolIE-ID ::= 95

 id-ServedGUAMIList ProtocolIE-ID ::= 96

 id-SliceSupportList ProtocolIE-ID ::= 97

 id-SONConfigurationTransferDL ProtocolIE-ID ::= 98

 id-SONConfigurationTransferUL ProtocolIE-ID ::= 99

 id-SourceAMF-UE-NGAP-ID ProtocolIE-ID ::= 100

 id-SourceToTarget-TransparentContainer ProtocolIE-ID ::= 101

 id-SupportedTAList ProtocolIE-ID ::= 102

 id-TAIListForPaging ProtocolIE-ID ::= 103

 id-TAIListForRestart ProtocolIE-ID ::= 104

 id-TargetID ProtocolIE-ID ::= 105

 id-TargetToSource-TransparentContainer ProtocolIE-ID ::= 106

 id-TimeToWait ProtocolIE-ID ::= 107

 id-TraceActivation ProtocolIE-ID ::= 108

 id-TraceCollectionEntityIPAddress ProtocolIE-ID ::= 109

 id-UEAggregateMaximumBitRate ProtocolIE-ID ::= 110

 id-UE-associatedLogicalNG-connectionList ProtocolIE-ID ::= 111

 id-UEContextRequest ProtocolIE-ID ::= 112

 id-UE-NGAP-IDs ProtocolIE-ID ::= 114

 id-UEPagingIdentity ProtocolIE-ID ::= 115

 id-UEPresenceInAreaOfInterestList ProtocolIE-ID ::= 116

 id-UERadioCapability ProtocolIE-ID ::= 117

 id-UERadioCapabilityForPaging ProtocolIE-ID ::= 118

 id-UESecurityCapabilities ProtocolIE-ID ::= 119

 id-UnavailableGUAMIList ProtocolIE-ID ::= 120

 id-UserLocationInformation ProtocolIE-ID ::= 121

 id-WarningAreaList ProtocolIE-ID ::= 122

 id-WarningMessageContents ProtocolIE-ID ::= 123

 id-WarningSecurityInfo ProtocolIE-ID ::= 124

 id-WarningType ProtocolIE-ID ::= 125

 id-AdditionalUL-NGU-UP-TNLInformation ProtocolIE-ID ::= 126

 id-DataForwardingNotPossible ProtocolIE-ID ::= 127

 id-DL-NGU-UP-TNLInformation ProtocolIE-ID ::= 128

 id-NetworkInstance ProtocolIE-ID ::= 129

 id-PDUSessionAggregateMaximumBitRate ProtocolIE-ID ::= 130

 id-PDUSessionResourceFailedToModifyListModCfm ProtocolIE-ID ::= 131

 id-PDUSessionResourceFailedToSetupListCxtFail ProtocolIE-ID ::= 132

 id-PDUSessionResourceListCxtRelReq ProtocolIE-ID ::= 133

 id-PDUSessionType ProtocolIE-ID ::= 134

 id-QosFlowAddOrModifyRequestList ProtocolIE-ID ::= 135

 id-QosFlowSetupRequestList ProtocolIE-ID ::= 136

 id-QosFlowToReleaseList ProtocolIE-ID ::= 137

 id-SecurityIndication ProtocolIE-ID ::= 138

 id-UL-NGU-UP-TNLInformation ProtocolIE-ID ::= 139

 id-UL-NGU-UP-TNLModifyList ProtocolIE-ID ::= 140

 id-WarningAreaCoordinates ProtocolIE-ID ::= 141

 id-PDUSessionResourceSecondaryRATUsageList ProtocolIE-ID ::= 142

 id-HandoverFlag ProtocolIE-ID ::= 143

 id-SecondaryRATUsageInformation ProtocolIE-ID ::= 144

 id-PDUSessionResourceReleaseResponseTransfer ProtocolIE-ID ::= 145

 id-RedirectionVoiceFallback ProtocolIE-ID ::= 146

 id-UERetentionInformation ProtocolIE-ID ::= 147

 id-S-NSSAI ProtocolIE-ID ::= 148

 id-PSCellInformation ProtocolIE-ID ::= 149

 id-LastEUTRAN-PLMNIdentity ProtocolIE-ID ::= 150

 id-MaximumIntegrityProtectedDataRate-DL ProtocolIE-ID ::= 151

 id-AdditionalDLForwardingUPTNLInformation ProtocolIE-ID ::= 152

 id-AdditionalDLUPTNLInformationForHOList ProtocolIE-ID ::= 153

 id-AdditionalNGU-UP-TNLInformation ProtocolIE-ID ::= 154

 id-AdditionalDLQosFlowPerTNLInformation ProtocolIE-ID ::= 155

 id-SecurityResult ProtocolIE-ID ::= 156

 id-ENDC-SONConfigurationTransferDL ProtocolIE-ID ::= 157

 id-ENDC-SONConfigurationTransferUL ProtocolIE-ID ::= 158

 id-OldAssociatedQosFlowList-ULendmarkerexpected ProtocolIE-ID ::= 159

 id-CNTypeRestrictionsForEquivalent ProtocolIE-ID ::= 160

 id-CNTypeRestrictionsForServing ProtocolIE-ID ::= 161

 id-NewGUAMI ProtocolIE-ID ::= 162

 id-ULForwarding ProtocolIE-ID ::= 163

 id-ULForwardingUP-TNLInformation ProtocolIE-ID ::= 164

 id-CNAssistedRANTuning ProtocolIE-ID ::= 165

 id-CommonNetworkInstance ProtocolIE-ID ::= 166

 id-NGRAN-TNLAssociationToRemoveList ProtocolIE-ID ::= 167

 id-TNLAssociationTransportLayerAddressNGRAN ProtocolIE-ID ::= 168

 id-EndpointIPAddressAndPort ProtocolIE-ID ::= 169

 id-LocationReportingAdditionalInfo ProtocolIE-ID ::= 170

 id-SourceToTarget-AMFInformationReroute ProtocolIE-ID ::= 171

 id-AdditionalULForwardingUPTNLInformation ProtocolIE-ID ::= 172

 id-SCTP-TLAs ProtocolIE-ID ::= 173

 id-SelectedPLMNIdentity ProtocolIE-ID ::= 174

 id-RIMInformationTransfer ProtocolIE-ID ::= 175

 id-GUAMIType ProtocolIE-ID ::= 176

 id-SRVCCOperationPossible ProtocolIE-ID ::= 177

 id-TargetRNC-ID ProtocolIE-ID ::= 178

 id-RAT-Information ProtocolIE-ID ::= 179

 id-ExtendedRATRestrictionInformation ProtocolIE-ID ::= 180

 id-QosMonitoringRequest ProtocolIE-ID ::= 181

 id-SgNB-UE-X2AP-ID ProtocolIE-ID ::= 182

 id-AdditionalRedundantDL-NGU-UP-TNLInformation ProtocolIE-ID ::= 183

 id-AdditionalRedundantDLQosFlowPerTNLInformation ProtocolIE-ID ::= 184

 id-AdditionalRedundantNGU-UP-TNLInformation ProtocolIE-ID ::= 185

 id-AdditionalRedundantUL-NGU-UP-TNLInformation ProtocolIE-ID ::= 186

 id-CNPacketDelayBudgetDL ProtocolIE-ID ::= 187

 id-CNPacketDelayBudgetUL ProtocolIE-ID ::= 188

 id-ExtendedPacketDelayBudget ProtocolIE-ID ::= 189

 id-RedundantCommonNetworkInstance ProtocolIE-ID ::= 190

 id-RedundantDL-NGU-TNLInformationReused ProtocolIE-ID ::= 191

 id-RedundantDL-NGU-UP-TNLInformation ProtocolIE-ID ::= 192

 id-RedundantDLQosFlowPerTNLInformation ProtocolIE-ID ::= 193

 id-RedundantQosFlowIndicator ProtocolIE-ID ::= 194

 id-RedundantUL-NGU-UP-TNLInformation ProtocolIE-ID ::= 195

 id-TSCTrafficCharacteristics ProtocolIE-ID ::= 196

 id-RedundantPDUSessionInformation ProtocolIE-ID ::= 197

 id-UsedRSNInformation ProtocolIE-ID ::= 198

 id-IAB-Authorized ProtocolIE-ID ::= 199

 id-IAB-Supported ProtocolIE-ID ::= 200

 id-IABNodeIndication ProtocolIE-ID ::= 201

 id-NB-IoT-PagingDRX ProtocolIE-ID ::= 202

 id-NB-IoT-Paging-eDRXInfo ProtocolIE-ID ::= 203

 id-NB-IoT-DefaultPagingDRX ProtocolIE-ID ::= 204

 id-Enhanced-CoverageRestriction ProtocolIE-ID ::= 205

 id-Extended-ConnectedTime ProtocolIE-ID ::= 206

 id-PagingAssisDataforCEcapabUE ProtocolIE-ID ::= 207

 id-WUS-Assistance-Information ProtocolIE-ID ::= 208

 id-UE-DifferentiationInfo ProtocolIE-ID ::= 209

 id-NB-IoT-UEPriority ProtocolIE-ID ::= 210

 id-UL-CP-SecurityInformation ProtocolIE-ID ::= 211

 id-DL-CP-SecurityInformation ProtocolIE-ID ::= 212

 id-TAI ProtocolIE-ID ::= 213

 id-UERadioCapabilityForPagingOfNB-IoT ProtocolIE-ID ::= 214

 id-LTEV2XServicesAuthorized ProtocolIE-ID ::= 215

 id-NRV2XServicesAuthorized ProtocolIE-ID ::= 216

 id-LTEUESidelinkAggregateMaximumBitrate ProtocolIE-ID ::= 217

 id-NRUESidelinkAggregateMaximumBitrate ProtocolIE-ID ::= 218

 id-PC5QoSParameters ProtocolIE-ID ::= 219

 id-AlternativeQoSParaSetList ProtocolIE-ID ::= 220

 id-CurrentQoSParaSetIndex ProtocolIE-ID ::= 221

 id-CEmodeBrestricted ProtocolIE-ID ::= 222

 id-EUTRA-PagingeDRXInformation ProtocolIE-ID ::= 223

 id-CEmodeBSupport-Indicator ProtocolIE-ID ::= 224

 id-LTEM-Indication ProtocolIE-ID ::= 225

 id-EndIndication ProtocolIE-ID ::= 226

 id-EDT-Session ProtocolIE-ID ::= 227

 id-UECapabilityInfoRequest ProtocolIE-ID ::= 228

 id-PDUSessionResourceFailedToResumeListRESReq ProtocolIE-ID ::= 229

 id-PDUSessionResourceFailedToResumeListRESRes ProtocolIE-ID ::= 230

 id-PDUSessionResourceSuspendListSUSReq ProtocolIE-ID ::= 231

 id-PDUSessionResourceResumeListRESReq ProtocolIE-ID ::= 232

 id-PDUSessionResourceResumeListRESRes ProtocolIE-ID ::= 233

 id-UE-UP-CIoT-Support ProtocolIE-ID ::= 234

 id-Suspend-Request-Indication ProtocolIE-ID ::= 235

 id-Suspend-Response-Indication ProtocolIE-ID ::= 236

 id-RRC-Resume-Cause ProtocolIE-ID ::= 237

 id-RGLevelWirelineAccessCharacteristics ProtocolIE-ID ::= 238

 id-W-AGFIdentityInformation ProtocolIE-ID ::= 239

 id-GlobalTNGF-ID ProtocolIE-ID ::= 240

 id-GlobalTWIF-ID ProtocolIE-ID ::= 241

 id-GlobalW-AGF-ID ProtocolIE-ID ::= 242

 id-UserLocationInformationW-AGF ProtocolIE-ID ::= 243

 id-UserLocationInformationTNGF ProtocolIE-ID ::= 244

 id-AuthenticatedIndication ProtocolIE-ID ::= 245

 id-TNGFIdentityInformation ProtocolIE-ID ::= 246

 id-TWIFIdentityInformation ProtocolIE-ID ::= 247

 id-UserLocationInformationTWIF ProtocolIE-ID ::= 248

 id-DataForwardingResponseERABList ProtocolIE-ID ::= 249

 id-IntersystemSONConfigurationTransferDL ProtocolIE-ID ::= 250

 id-IntersystemSONConfigurationTransferUL ProtocolIE-ID ::= 251

 id-SONInformationReport ProtocolIE-ID ::= 252

 id-UEHistoryInformationFromTheUE ProtocolIE-ID ::= 253

 id-ManagementBasedMDTPLMNList ProtocolIE-ID ::= 254

 id-MDTConfiguration ProtocolIE-ID ::= 255

 id-PrivacyIndicator ProtocolIE-ID ::= 256

 id-TraceCollectionEntityURI ProtocolIE-ID ::= 257

 id-NPN-Support ProtocolIE-ID ::= 258

 id-NPN-AccessInformation ProtocolIE-ID ::= 259

 id-NPN-PagingAssistanceInformation ProtocolIE-ID ::= 260

 id-NPN-MobilityInformation ProtocolIE-ID ::= 261

 id-TargettoSource-Failure-TransparentContainer ProtocolIE-ID ::= 262

 id-NID ProtocolIE-ID ::= 263

 id-UERadioCapabilityID ProtocolIE-ID ::= 264

 id-UERadioCapability-EUTRA-Format ProtocolIE-ID ::= 265

 id-DAPSRequestInfo ProtocolIE-ID ::= 266

 id-DAPSResponseInfoList ProtocolIE-ID ::= 267

 id-EarlyStatusTransfer-TransparentContainer ProtocolIE-ID ::= 268

 id-NotifySourceNGRANNode ProtocolIE-ID ::= 269

 id-ExtendedSliceSupportList ProtocolIE-ID ::= 270

 id-ExtendedTAISliceSupportList ProtocolIE-ID ::= 271

 id-ConfiguredTACIndication ProtocolIE-ID ::= 272

 id-Extended-RANNodeName ProtocolIE-ID ::= 273

 id-Extended-AMFName ProtocolIE-ID ::= 274

 id-GlobalCable-ID ProtocolIE-ID ::= 275

 id-QosMonitoringReportingFrequency ProtocolIE-ID ::= 276

 id-QosFlowParametersList ProtocolIE-ID ::= 277

 id-QosFlowFeedbackList ProtocolIE-ID ::= 278

 id-BurstArrivalTimeDownlink ProtocolIE-ID ::= 279

 id-ExtendedUEIdentityIndexValue ProtocolIE-ID ::= 280

 id-PduSessionExpectedUEActivityBehaviour ProtocolIE-ID ::= 281

 id-MicoAllPLMN ProtocolIE-ID ::= 282

 id-QosFlowFailedToSetupList ProtocolIE-ID ::= 283

 id-SourceTNLAddrInfo ProtocolIE-ID ::= 284

 id-ExtendedReportIntervalMDT ProtocolIE-ID ::= 285

 id-SourceNodeID ProtocolIE-ID ::= 286

 id-NRNTNTAIInformation ProtocolIE-ID ::= 287

 id-UEContextReferenceAtSource ProtocolIE-ID ::= 288

 id-LastVisitedPSCellList ProtocolIE-ID ::= 289

 id-IntersystemSONInformationRequest ProtocolIE-ID ::= 290

 id-IntersystemSONInformationReply ProtocolIE-ID ::= 291

 id-EnergySavingIndication ProtocolIE-ID ::= 292

 id-IntersystemResourceStatusUpdate ProtocolIE-ID ::= 293

 id-SuccessfulHandoverReportList ProtocolIE-ID ::= 294

 id-MBS-AreaSessionID ProtocolIE-ID ::= 295

 id-MBS-QoSFlowsToBeSetupList ProtocolIE-ID ::= 296

 id-MBS-QoSFlowsToBeSetupModList ProtocolIE-ID ::= 297

 id-MBS-ServiceArea ProtocolIE-ID ::= 298

 id-MBS-SessionID ProtocolIE-ID ::= 299

 id-MBS-DistributionReleaseRequestTransfer ProtocolIE-ID ::= 300

 id-MBS-DistributionSetupRequestTransfer ProtocolIE-ID ::= 301

 id-MBS-DistributionSetupResponseTransfer ProtocolIE-ID ::= 302

 id-MBS-DistributionSetupUnsuccessfulTransfer ProtocolIE-ID ::= 303

 id-MulticastSessionActivationRequestTransfer ProtocolIE-ID ::= 304

 id-MulticastSessionDeactivationRequestTransfer ProtocolIE-ID ::= 305

 id-MulticastSessionUpdateRequestTransfer ProtocolIE-ID ::= 306

 id-MulticastGroupPagingAreaList ProtocolIE-ID ::= 307

 id-MBS-SupportIndicator ProtocolIE-ID ::= 309

 id-MBSSessionFailedtoSetupList ProtocolIE-ID ::= 310

 id-MBSSessionFailedtoSetuporModifyList ProtocolIE-ID ::= 311

 id-MBSSessionSetupResponseList ProtocolIE-ID ::= 312

 id-MBSSessionSetuporModifyResponseList ProtocolIE-ID ::= 313

 id-MBSSessionSetupFailureTransfer ProtocolIE-ID ::= 314

 id-MBSSessionSetupRequestTransfer ProtocolIE-ID ::= 315

 id-MBSSessionSetupResponseTransfer ProtocolIE-ID ::= 316

 id-MBSSessionToReleaseList ProtocolIE-ID ::= 317

 id-MBSSessionSetupRequestList ProtocolIE-ID ::= 318

 id-MBSSessionSetuporModifyRequestList ProtocolIE-ID ::= 319

 id-MBS-ActiveSessionInformation-SourcetoTargetList ProtocolIE-ID ::= 323

 id-MBS-ActiveSessionInformation-TargettoSourceList ProtocolIE-ID ::= 324

 id-OnboardingSupport ProtocolIE-ID ::= 325

 id-TimeSyncAssistanceInfo ProtocolIE-ID ::= 326

 id-SurvivalTime ProtocolIE-ID ::= 327

 id-QMCConfigInfo ProtocolIE-ID ::= 328

 id-QMCDeactivation ProtocolIE-ID ::= 329

 id-PDUSessionPairID ProtocolIE-ID ::= 331

 id-NR-PagingeDRXInformation ProtocolIE-ID ::= 332

 id-RedCapIndication ProtocolIE-ID ::= 333

 id-TargetNSSAIInformation ProtocolIE-ID ::= 334

 id-UESliceMaximumBitRateList ProtocolIE-ID ::= 335

 id-M4ReportAmount ProtocolIE-ID ::= 336

 id-M5ReportAmount ProtocolIE-ID ::= 337

 id-M6ReportAmount ProtocolIE-ID ::= 338

 id-M7ReportAmount ProtocolIE-ID ::= 339

 id-IncludeBeamMeasurementsIndication ProtocolIE-ID ::= 340

 id-ExcessPacketDelayThresholdConfiguration ProtocolIE-ID ::= 341

 id-PagingCause ProtocolIE-ID ::= 342

 id-PagingCauseIndicationForVoiceService ProtocolIE-ID ::= 343

 id-PEIPSassistanceInformation ProtocolIE-ID ::= 344

 id-FiveG-ProSeAuthorized ProtocolIE-ID ::= 345

 id-FiveG-ProSeUEPC5AggregateMaximumBitRate ProtocolIE-ID ::= 346

 id-FiveG-ProSePC5QoSParameters ProtocolIE-ID ::= 347

 id-MBSSessionModificationFailureTransfer ProtocolIE-ID ::= 348

 id-MBSSessionModificationRequestTransfer ProtocolIE-ID ::= 349

 id-MBSSessionModificationResponseTransfer ProtocolIE-ID ::= 350

 id-MBS-QoSFlowToReleaseList ProtocolIE-ID ::= 351

 id-MBS-SessionTNLInfo5GC ProtocolIE-ID ::= 352

 id-TAINSAGSupportList ProtocolIE-ID ::= 353

 id-SourceNodeTNLAddrInfo ProtocolIE-ID ::= 354

 id-NGAPIESupportInformationRequestList ProtocolIE-ID ::= 355

 id-NGAPIESupportInformationResponseList ProtocolIE-ID ::= 356

 id-MBS-SessionFSAIDList ProtocolIE-ID ::= 357

 id-MBSSessionReleaseResponseTransfer ProtocolIE-ID ::= 358

 id-ManagementBasedMDTPLMNModificationList ProtocolIE-ID ::= 359

 id-EarlyMeasurement ProtocolIE-ID ::= 360

 id-BeamMeasurementsReportConfiguration ProtocolIE-ID ::= 361

 id-HFCNode-ID-new ProtocolIE-ID ::= 362

 id-GlobalCable-ID-new ProtocolIE-ID ::= 363

 id-TargetHomeENB-ID ProtocolIE-ID ::= 364

 id-HashedUEIdentityIndexValue ProtocolIE-ID ::= 365

 id-ExtendedMobilityInformation ProtocolIE-ID ::= 366

 id-NetworkControlledRepeaterAuthorized ProtocolIE-ID ::= 367

 id-AdditionalCancelledlocationReportingReferenceIDList ProtocolIE-ID ::= 368

 id-Selected-Target-SNPN-Identity ProtocolIE-ID ::= 369

 id-EquivalentSNPNsList ProtocolIE-ID ::= 370

 id-SelectedNID ProtocolIE-ID ::= 371

 id-SupportedUETypeList ProtocolIE-ID ::= 372

 id-AerialUEsubscriptionInformation ProtocolIE-ID ::= 373

 id-NR-A2X-ServicesAuthorized ProtocolIE-ID ::= 374

 id-LTE-A2X-ServicesAuthorized ProtocolIE-ID ::= 375

 id-NR-A2X-UE-PC5-AggregateMaximumBitRate ProtocolIE-ID ::= 376

 id-LTE-A2X-UE-PC5-AggregateMaximumBitRate ProtocolIE-ID ::= 377

 id-A2X-PC5-QoS-Parameters ProtocolIE-ID ::= 378

 id-FiveGProSeLayer2Multipath ProtocolIE-ID ::= 379

 id-FiveGProSeLayer2UEtoUERelay ProtocolIE-ID ::= 380

 id-FiveGProSeLayer2UEtoUERemote ProtocolIE-ID ::= 381

 id-CandidateRelayUEInformationList ProtocolIE-ID ::= 382

 id-SuccessfulPSCellChangeReportList ProtocolIE-ID ::= 383

 id-IntersystemMobilityFailureforVoiceFallback ProtocolIE-ID ::= 384

 id-TargetCellCRNTI ProtocolIE-ID ::= 385

 id-TimeSinceFailure ProtocolIE-ID ::= 386

 id-RANTimingSynchronisationStatusInfo ProtocolIE-ID ::= 387

 id-RAN-TSSRequestType ProtocolIE-ID ::= 388

 id-RAN-TSSScope ProtocolIE-ID ::= 389

 id-ClockQualityReportingControlInfo ProtocolIE-ID ::= 390

 id-RANfeedbacktype ProtocolIE-ID ::= 391

 id-QoSFlowTSCList ProtocolIE-ID ::= 392

 id-TSCTrafficCharacteristicsFeedback ProtocolIE-ID ::= 393

 id-DownlinkTLContainer ProtocolIE-ID ::= 394

 id-UplinkTLContainer ProtocolIE-ID ::= 395

 id-ANPacketDelayBudgetUL ProtocolIE-ID ::= 396

 id-QosFlowAdditionalInfoList ProtocolIE-ID ::= 397

 id-AssistanceInformationQoE-Meas ProtocolIE-ID ::= 398

 id-MBSCommServiceType ProtocolIE-ID ::= 399

 id-MobileIAB-Authorized ProtocolIE-ID ::= 400

 id-MobileIAB-MTUserLocationInformation ProtocolIE-ID ::= 401

 id-MobileIABNodeIndication ProtocolIE-ID ::= 402

 id-NoPDUSessionIndication ProtocolIE-ID ::= 403

 id-MobileIAB-Supported ProtocolIE-ID ::= 404

 id-CN-MT-CommunicationHandling ProtocolIE-ID ::= 405

 id-FiveGCAction ProtocolIE-ID ::= 406

 id-PagingPolicyDifferentiation ProtocolIE-ID ::= 407

 id-DL-Signalling ProtocolIE-ID ::= 408

 id-PNI-NPN-AreaScopeofMDT ProtocolIE-ID ::= 409

 id-PNI-NPNBasedMDT ProtocolIE-ID ::= 410

 id-SNPN-CellBasedMDT ProtocolIE-ID ::= 411

 id-SNPN-TAIBasedMDT ProtocolIE-ID ::= 412

 id-SNPN-BasedMDT ProtocolIE-ID ::= 413

 id-Partially-Allowed-NSSAI ProtocolIE-ID ::= 414

 id-AssociatedSessionID ProtocolIE-ID ::= 415

 id-MBS-AssistanceInformation ProtocolIE-ID ::= 416

 id-BroadcastTransportFailureTransfer ProtocolIE-ID ::= 417

 id-BroadcastTransportRequestTransfer ProtocolIE-ID ::= 418

 id-BroadcastTransportResponseTransfer ProtocolIE-ID ::= 419

 id-TimeBasedHandoverInformation ProtocolIE-ID ::= 420

 id-DLDiscarding ProtocolIE-ID ::= 421

 id-PDUsetQoSParameters ProtocolIE-ID ::= 422

 id-PDUSetbasedHandlingIndicator ProtocolIE-ID ::= 423

 id-N6JitterInformation ProtocolIE-ID ::= 424

 id-ECNMarkingorCongestionInformationReportingRequest ProtocolIE-ID ::= 425

 id-ECNMarkingorCongestionInformationReportingStatus ProtocolIE-ID ::= 426

 id-ERedCapIndication ProtocolIE-ID ::= 427

 id-XrDeviceWith2Rx ProtocolIE-ID ::= 428

 id-UserPlaneErrorIndicator ProtocolIE-ID ::= 429

 id-SLPositioningRangingServiceInfo ProtocolIE-ID ::= 430

 id-PDUSessionListMTCommHReq ProtocolIE-ID ::= 431

 id-MaximumDataBurstVolume ProtocolIE-ID ::= 432

 id-MN-only-MDT-collection ProtocolIE-ID ::= 433

 id-MBS-NGUFailureIndication ProtocolIE-ID ::= 434

 id-UserPlaneFailureIndication ProtocolIE-ID ::= 435

 id-UserPlaneFailureIndicationReport ProtocolIE-ID ::= 436

 id-SourceSN-to-TargetSN-QMCInfo ProtocolIE-ID ::= 437

 id-QoERVQoEReportingPaths ProtocolIE-ID ::= 438

 id-UserLocationInformationN3IWF-without-PortNumber ProtocolIE-ID ::= 439

 id-AUN3DeviceAccessInfo ProtocolIE-ID ::= 440

 id-TAIMBSSupportList ProtocolIE-ID ::= 441

 id-ExtendedBackupAMFName ProtocolIE-ID ::= 442

 id-ExtendedOldAMF ProtocolIE-ID ::= 443

 id-GeographicalAreaofMDT ProtocolIE-ID ::= XXX

|  |
| --- |
| **Remaining text not changed** |