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Title: (TP to TS 38.413 BL CR) Interface Management

Document for: Decision

# Introduction

This contribution provides a TP to BL CR for TS38.413, focus on the interface management part.

# TP to BL CR for TS38.413

***----------------- Begin of the Changes-----------------***

### 8.7.1 NG Setup

#### 8.7.1.1 General

The purpose of the NG Setup procedure is to exchange application level data needed for the NG-RAN node and the AMF to correctly interoperate on the NG-C interface. This procedure shall be the first NGAP procedure triggered after the TNL association has become operational. The procedure uses non-UE associated signalling.

This procedure erases any existing application level configuration data in the two nodes, replaces it by the one received and clears AMF overload state information at the NG-RAN node. If the NG-RAN node and AMF do not agree on retaining the UE contexts this procedure also re-initialises the NGAP UE-related contexts (if any) and erases all related signalling connections in the two nodes like an NG Reset procedure would do.

If the NG-RAN node supports A-IoT and is communicating directly with the AIOTF, as specified in TS 23.369 [z], the NG Setup procedure, as depicted in Figures 8.7.1.2-x and 8.7.1.3-x and specified in the respective sections, is executed between the NG-RAN node and the AIOTF.

#### 8.7.1.2 Successful Operation



Figure 8.7.1.2-1: NG setup: successful operation with the AMF



Figure 8.7.1.2-x: NG setup: successful operation with the AIOTF

If the NG Setup procedure is executed between the NG-RAN node and the AMF:

- The NG-RAN node initiates the procedure by sending an NG SETUP REQUEST message including the appropriate data to the AMF. The AMF responds with an NG SETUP RESPONSE message including the appropriate data.

- If the Configured TAC Indication IE set to "true” is included for a Tracking Area contained in the Supported TA List IE in the NG SETUP REQUEST message, the AMF may take it into account to optimise NG-C signalling towards this NG-RAN node.

- If the UE Retention Information IE set to “ues-retained“ is included in the NG SETUP REQUEST message, the AMF may accept the proposal to retain the existing UE related contexts and signalling connections by including the UE Retention Information IE set to “ues-retained“ in the NG SETUP RESPONSE message.

- If the AMF supports IAB, the AMF shall include the IAB Supported IE in the NG SETUP RESPONSE message. If the IAB Supported IE is included in the NG SETUP RESPONSE message, the NG-RAN node shall, if supported, store this information and use it for further AMF selection for the IAB-MT.

- The AMF shall include the Backup AMF Name IE, if available, in the Served GUAMI List IE in the NG SETUP RESPONSE message. The NG-RAN node shall, if supported, consider the AMF as indicated by the *Backup AMF Name* IE when performing AMF reselection, as specified in TS 23.501 [9].

- If the *GUAMI Type* IE is included in the NG SETUP RESPONSE message, the NG-RAN node shall store the received value and use it for further AMF selection as defined in TS 23.501 [9].

- If the *RAN Node Name* IE is included in the NG SETUP REQUEST message, the AMF may use this IE as a human readable name of the NG-RAN node. If the *Extended RAN Node Name* IE is included in the NG SETUP REQUEST message, the AMF may use this IE as a human readable name of the NG-RAN node and shall ignore the *RAN Node Name* IE if also included.

- If the *Extended AMF Name* IE is included in the NG SETUP RESPONSE message, the NG-RAN node may use this IE as a human readable name of the AMF and shall ignore the *AMF Name* IE.

- If the *NB-IoT Default Paging DRX* IE is included in the NG SETUP REQUEST message, the AMF shall take it into account for paging.

- If the *RAT Information* IE is included in the NG SETUP REQUEST message, the AMF shall handle this information as specified in TS 23.502 [10].

- If the *NID* IE within the *NPN Support* IE is included within a *Broadcast PLMN Item* IE in the NG SETUP REQUEST message, the AMF shall consider that the NG-RAN node supports the indicated S-NSSAI(s) for the corresponding tracking area code for the SNPN identified by the *PLMN Identity* IE and the *NID* IE.

- If the *NID* IE within the *NPN Support* IE is included within a *PLMN Support Item* IE in the NG SETUP RESPONSE message, the NG-RAN node shall consider that the AMF supports the SNPN identified by the *PLMN Identity* IE and the *NID* IE.

- If the *Onboarding Support* IE is also included within the same *PLMN Support Item* IE, the NG-RAN node shall, if supported, consider that the AMF supports UE onboarding for the identified SNPN, as specified in TS 23.501 [9].

- If the *TAI NSAG Support List* IE is included in the *Broadcast PLMN Item* IE in the NG SETUP REQUEST message, the AMF shall, if supported, use this information as specified in TS 23.501 [9].

- If the AMF supports mobile IAB, the AMF shall include the *Mobile IAB Supported* IE in the NG SETUP RESPONSE message. If the *Mobile IAB Supported* IE is included in the NG SETUP RESPONSE message, the NG-RAN node shall, if supported, store this information and further use it for AMF selection for the mobile IAB-MT.

If the NG Setup procedure is executed between the NG-RAN node and the AIOTF:

- The NG-RAN node initiates the procedure by sending an NG SETUP REQUEST message including the appropriate data to the AIOTF. The AIOTF responds with an NG SETUP RESPONSE message including the *AIOTF Name* IE and the *AIOTF Identifier* IE. The NG-RAN node shall ignore the not applicable IEs in the NG SETUP RESPONSE message as specified in clause 9.2.6.2.

If the NG Setup procedure is triggered by an NG-RAN node supporting A-IoT:

- If the *A-IoT Support* IE is included in the NG SETUP REQUEST message and set to “A-IoT only”, the receiving node shall, if supported, consider that the NG-RAN node only supports A-IoT radio, and ignores the not applicable IEs as specified in clause 9.2.6.1.

- If the *A-IoT Support* IE is included in the NG SETUP REQUEST message and set to “A-IoT and NR Uu”, the receiving node shall, if supported, consider that the NG-RAN node supports both A-IoT radio and NR Uu radio.

#### 8.7.1.3 Unsuccessful Operation



Figure 8.7.1.3-1: NG setup: unsuccessful operation with the AMF



Figure 8.7.1.3-x: NG setup: unsuccessful operation with the AIOTF

If the AMF cannot accept the setup, it should respond with an NG SETUP FAILURE message and appropriate cause value.

If the NG SETUP FAILURE message includes the Time to Wait IE, the NG-RAN node shall wait at least for the indicated time before reinitiating the NG Setup procedure towards the same AMF.

If the NG Setup procedure is executed between the NG-RAN node and the AIOTF, the specification text above concerning the AMF applies for the AIOTF.

#### 8.7.1.4 Abnormal Conditions

If the AMF does not identify any of the PLMNs/SNPNs indicated in the NG SETUP REQUEST message, it shall reject the NG Setup procedure with an appropriate cause value.

If none of the RATs indicated by the NG-RAN node in the NG SETUP REQUEST message is supported by the AMF, then the AMF shall fail the NG Setup procedure with an appropriate cause value.

If the NG Setup procedure is executed between the NG-RAN node and the AIOTF, the specification text above concerning the AMF applies for the AIOTF.

***----------------- Next Change-----------------***

8.7.2 RAN Configuration Update

8.7.2.1 General

The purpose of the RAN Configuration Update procedure is to update application level configuration data needed for the NG-RAN node and the AMF to interoperate correctly on the NG-C interface. This procedure does not affect existing UE-related contexts, if any. The procedure uses non UE-associated signalling.

If the NG-RAN node supports A-IoT and is communicating directly with an AIOTF, as specified in TS 23.369 [z], the RAN Configuration Update procedure, as depicted in Figures 8.7.2.2-x and 8.7.2.3-x and specified in the respective sections, is executed between the NG-RAN node and the AIOTF.

8.7.2.2 Successful Operation

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**Figure 8.7.2.2-1: RAN configuration update: successful operation with the AMF**

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**Figure 8.7.2.2-x: RAN configuration update: successful operation with the AIOTF**

If the RAN Configuration Update procedure is executed between the NG-RAN node and the AMF:

- The NG-RAN node initiates the procedure by sending a RAN CONFIGURATION UPDATE message to the AMF including an appropriate set of updated configuration data that it has just taken into operational use. The AMF responds with a RAN CONFIGURATION UPDATE ACKNOWLEDGE message to acknowledge that it successfully updated the configuration data. If an information element is not included in the RAN CONFIGURATION UPDATE message, the AMF shall interpret that the corresponding configuration data is not changed and shall continue to operate the NG-C interface with the existing related configuration data.

- If the *Supported TA List* IE is included in the RAN CONFIGURATION UPDATE message, the AMF shall overwrite the whole list of supported TAs and the corresponding list of supported slices for each TA, and use them for subsequent registration area management of the UE.

- If the *Configured TAC Indication* IE set to "true” is included for a Tracking Area contained in the *Supported TA List* IE in the RAN CONFIGURATION UPDATE message, the AMF may take it into account to optimise NG-C signalling towards this NG-RAN node.

- If the *Global RAN Node ID* IE is included in the RAN CONFIGURATION UPDATE message, the AMF shall associate the TNLA to the NG-C interface instance using the Global RAN Node ID.

- If the RAN CONFIGURATION UPDATE message includes the *NG-RAN TNL Association to Remove List* IE, the AMF shall, if supported, initiate removal of the TNL association(s) indicated by NG-RAN TNL endpoint(s) and AMF TNL endpoint(s) if the *TNL Association Transport Layer Address at AMF* IE is present, or the TNL association(s) indicated by NG-RAN TNL endpoint(s) if the *TNL Association Transport Layer Address at AMF* IE is absent:

- if the received *TNL Association Transport Layer Address* IE includes the *Port Number* IE, the NG-RAN TNL endpoint is identified by the *Endpoint IP Address* IE and the *Port Number* IE. Otherwise, the NG-RAN TNL endpoints correspond to all NG-RAN TNL endpoints identified by the *Endpoint IP Address* IE and any port number(s).

- if the received *TNL Association Transport Layer Address at AMF* IE includes the *Port Number* IE, the AMF TNL endpoint is identified by the *Endpoint IP Address* IE and the *Port Number* IE. Otherwise, the AMF TNL endpoints correspond to all AMF TNL endpoints identified by the *Endpoint IP Address* IE and any port number(s).

- If the RAN CONFIGURATION UPDATE message includes the *RAN Node Name* IE, the AMF may store it or update this IE value if already stored, and use it as a human readable name of the NG-RAN node. If the RAN CONFIGURATION UPDATE message includes the *Extended RAN Node Name* IE, the AMF may store it or update this IE value if already stored, and use it as a human readable name of the NG-RAN node and shall ignore the *RAN Node Name* IE if also included.

- If the *NB-IoT Default Paging DRX* IE is included in the RAN CONFIGURATION UPDATE message, the AMF shall overwrite any previously stored NB-IoT default paging DRX value for the NG-RAN node.

- If the *RAT Information* IE is included in the RAN CONFIGURATION UPDATE message, the AMF shall handle this information as specified in TS 23.502 [10].

- If the *NID* IE within the *NPN Support* IE is included within a *Broadcast PLMN Item* IE in the RAN CONFIGURATION UPDATE message, the AMF shall consider that the NG-RAN node supports the indicated S-NSSAI(s) for the corresponding tracking area code for the SNPN identified by the *PLMN Identity* IE and the *NID* IE.

- If the *TAI NSAG Support List* IE is included in the *Broadcast PLMN Item* IE in the RAN CONFIGURATION UPDATE message, the AMF shall, if supported, use this information as specified in TS 23.501 [9].

If the RAN Configuration Update procedure is executed between the NG-RAN node and the AIOTF:

- The NG-RAN node initiates the procedure by sending a RAN CONFIGURATION UPDATE message to the AIOTF including an appropriate set of updated configuration data that it has just taken into operational use. The AIOTF responds with a RAN CONFIGURATION UPDATE ACKNOWLEDGE message to acknowledge that it successfully updated the configuration data. If an information element is not included in the RAN CONFIGURATION UPDATE message, the AIOTF shall interpret that the corresponding configuration data is not changed and shall continue to operate the NG-C interface with the existing related configuration data.

8.7.2.3 Unsuccessful Operation

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**Figure 8.7.2.3-1: RAN configuration update: unsuccessful operation with the AMF**

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**Figure 8.7.2.3-x: RAN configuration update: unsuccessful operation with the AIOTF**

If the AMF cannot accept the update, it shall respond with a RAN CONFIGURATION UPDATE FAILURE message and appropriate cause value.

If the *Time to Wait* IE is included in the RAN CONFIGURATION UPDATE FAILURE message, the NG-RAN node shall wait at least for the indicated time before reinitiating the RAN Configuration Update procedure towards the same AMF.

If the RAN Configuration Update procedure is executed between the NG-RAN node and the AIOTF, the specification text above concerning the AMF applies for the AIOTF.

8.7.2.4 Abnormal Conditions

If the NG-RAN node, after initiating the RAN Configuration Update procedure, receives neither a RAN CONFIGURATION UPDATE ACKOWLEDGE nor a RAN CONFIGURATION UPDATE FAILURE message, the NG-RAN node may reinitiate a further RAN Configuration Update procedure towards the same AMF, provided that the content of the new RAN CONFIGURATION UPDATE message is identical to the content of the previously unacknowledged RAN CONFIGURATION UPDATE message.

If the RAN Configuration Update procedure is executed between the NG-RAN node and the AIOTF, the specification text above concerning the AMF applies for the AIOTF.

***----------------- Next Change-----------------***

8.7.4 NG Reset

8.7.4.1 General

The purpose of the NG Reset procedure is to initialise or re-initialise the RAN, or part of RAN NGAP UE-related contexts, in the event of a failure in the 5GC or vice versa. This procedure does not affect the application level configuration data exchanged during, e.g., the NG Setup procedure. The procedure uses non-UE associated signalling.

If the NG-RAN node supports A-IoT and is communicating directly with an AIOTF, as specified in TS 23.369 [z], the NG Reset procedure, as depicted in Figures 8.7.4.2.1-x and 8.7.4.2.2-x and specified in the respective sections, is executed between the NG-RAN node and the AIOTF.

8.7.4.2 Successful Operation

8.7.4.2.1 NG Reset initiated by the AMF

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**Figure 8.7.4.2.1-1: NG reset initiated by the AMF: successful operation**

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**Figure 8.7.4.2.1-x: NG reset initiated by the AIOTF: successful operation**

If the NG Reset procedure is executed between the NG-RAN node and the AMF:

- In the event of a failure at the AMF which has resulted in the loss of some or all transaction reference information, an NG RESET message shall be sent to the NG-RAN node.

If the NG Reset procedure is executed between the NG-RAN node and the AIOTF:

- In the event of a failure at the AIOTF which has resulted in the loss of some or all transaction reference information, an NG RESET message shall be sent to the NG-RAN node.

At reception of the NG RESET message the NG-RAN node shall release all allocated resources on NG and Uu related to the UE association(s) indicated explicitly or implicitly in the NG RESET message and remove the indicated UE contexts including NGAP ID, and if applicable, release all the related allocated A-IoT radio resources.

After the NG-RAN node has released all assigned NG resources and the UE NGAP IDs for all indicated UE associations which can be used for new UE-associated logical NG-connections over the NG interface, the NG-RAN node shall respond with the NG RESET ACKNOWLEDGE message. The NG-RAN node does not need to wait for the release of radio resources to be completed before returning the NG RESET ACKNOWLEDGE message.

If the NG RESET message contains the *UE-associated Logical NG-connection List* IE, then:

- The NG-RAN node shall use the *AMF UE NGAP ID* IE and/or the *RAN UE NGAP ID* IE to explicitly identify the UE association(s) to be reset.

- The NG-RAN node shall include in the NG RESET ACKNOWLEDGE message, for each UE association to be reset, the *UE-associated Logical NG-connection Item* IE in the *UE-associated Logical NG-connection List* IE. The *UE-associated Logical NG-connection Item* IEs shall be in the same order as received in the NG RESET message and shall include also unknown UE-associated logical NG-connections. Empty *UE-associated Logical NG-connection Item* IEs, received in the NG RESET message, may be omitted in the NG RESET ACKNOWLEDGE message.

- If the *AMF UE NGAP ID* IE is included in the *UE-associated Logical NG-connection Item* IE for a UE association, the NG-RAN node shall include the *AMF UE NGAP ID* IE in the corresponding *UE-associated Logical NG-connection Item* IE in the NG RESET ACKNOWLEDGE message.

- If the *RAN UE NGAP ID* IE is included in the *UE-associated Logical NG-connection Item* IE for a UE association, the NG-RAN node shall include the *RAN UE NGAP ID* IE in the corresponding *UE-associated Logical NG-connection Item* IE in the NG RESET ACKNOWLEDGE message.

**Interactions with other procedures:**

If the NG RESET message is received, any other ongoing procedure (except for another NG Reset procedure) on the same NG interface related to a UE association, indicated explicitly or implicitly in the NG RESET message, shall be aborted.

8.7.4.2.2 NG Reset initiated by the NG-RAN node

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**Figure 8.7.4.2.2-1: NG reset initiated by the NG-RAN node: successful operation with the AMF**

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**Figure 8.7.4.2.2-x: NG reset initiated by the NG-RAN node: successful operation with the AIOTF**

If the NG Reset procedure is executed between the NG-RAN node and the AMF:

- In the event of a failure at the NG-RAN node which has resulted in the loss of some or all transaction reference information, an NG RESET message shall be sent to the AMF.

- At reception of the NG RESET message the AMF shall release all allocated resources on NG related to the UE association(s) indicated explicitly or implicitly in the NG RESET message and remove the NGAP ID for the indicated UE associations.

If the NG Reset procedure is executed between the NG-RAN node and the AIOTF:

- At reception of the NG RESET message the AIOTF shall release all allocated NG resources.

After the AMF has released all assigned NG resources and the UE NGAP IDs for all indicated UE associations which can be used for new UE-associated logical NG-connections over the NG interface, the AMF shall respond with the NG RESET ACKNOWLEDGE message.

If the NG RESET message contains the *UE-associated Logical NG-connection List* IE, then:

- The AMF shall use the *AMF UE NGAP ID* IE and/or the *RAN UE NGAP ID* IE to explicitly identify the UE association(s) to be reset.

- The AMF shall include in the NG RESET ACKNOWLEDGE message, for each UE association to be reset, the *UE-associated Logical NG-connection Item* IE in the *UE-associated Logical NG-connection List* IE. The *UE-associated Logical NG-connection Item* IEs shall be in the same order as received in the NG RESET message and shall include also unknown UE-associated logical NG-connections. Empty *UE-associated Logical NG-connection Item* IEs, received in the NG RESET message, may be omitted in the NG RESET ACKNOWLEDGE message.

- If the *AMF UE NGAP ID* IE is included in the *UE-associated Logical NG-connection Item* IE for a UE association, the AMF shall include the *AMF UE NGAP ID* IE in the corresponding *UE-associated Logical NG-connection Item* IE in the NG RESET ACKNOWLEDGE message.

- If the *RAN UE NGAP ID* IE is included in a *UE-associated Logical NG-connection Item* IE for a UE association, the AMF shall include the *RAN UE NGAP ID* IE in the corresponding *UE-associated Logical NG-connection Item* IE in the NG RESET ACKNOWLEDGE message.

**Interactions with other procedures:**

If the NG RESET message is received, any other ongoing procedure (except for another NG Reset procedure) on the same NG interface related to a UE association, indicated explicitly or implicitly in the NG RESET message, shall be aborted.

8.7.4.3 Unsuccessful Operation

Not applicable.

8.7.4.4 Abnormal Conditions

8.7.4.4.1 Abnormal Condition at the 5GC

If the NG RESET message includes the *UE-associated Logical NG-connection List* IE, but neither the *AMF UE NGAP ID* IE nor the *RAN UE NGAP ID* IE is present for a *UE-associated Logical NG-connection Item* IE, then the AMF shall ignore the *UE-associated Logical NG-connection Item* IE. The AMF may return the empty *UE-associated Logical NG-connection Item* IE in the *UE-associated Logical NG-connection List* IE in the NG RESET ACKNOWLEDGE message.

8.7.4.4.2 Abnormal Condition at the NG-RAN

If the NG RESET message includes the *UE-associated Logical NG-connection List* IE, but neither the *AMF UE NGAP ID* IE nor the *RAN UE NGAP ID* IE is present for a *UE-associated Logical NG-connection Item* IE, then the NG-RAN node shall ignore the *UE-associated Logical NG-connection Item* IE. The NG-RAN node may return the empty *UE-associated Logical NG-connection Item* IE in the *UE-associated Logical NG-connection List* IE in the NG RESET ACKNOWLEDGE message.

8.7.4.4.3 Crossing of NG RESET Messages

If an NG Reset procedure is ongoing in the NG-RAN node and the NG-RAN node receives an NG RESET message from the peer entity on the same NG interface related to one or several UE associations previously requested to be reset, indicated explicitly or implicitly in the received NG RESET message, the NG-RAN node shall respond with the NG RESET ACKNOWLEDGE message as described in 8.7.4.2.1.

If an NG Reset procedure is ongoing in the AMF and the AMF receives an NG RESET message from the peer entity on the same NG interface related to one or several UE associations previously requested to be reset, indicated explicitly or implicitly in the received NG RESET message, the AMF shall respond with the NG RESET ACKNOWLEDGE message as described in 8.7.4.2.2.

If the NG-RAN node supports A-IoT and is communicating directly with an AIOTF and if an NG Reset procedure is ongoing in the AIOTF and the AIOTF receives an NG RESET message from the NG-RAN node on the same NG interface, the AIOTF shall respond with the NG RESET ACKNOWLEDGE message as described in 8.7.4.2.2.

***----------------- Next Change-----------------***

8.7.5 Error Indication

8.7.5.1 General

The Error Indication procedure is initiated by a node in order to report detected errors in one incoming message, provided they cannot be reported by an appropriate failure message.

If the error situation arises due to reception of a message utilising UE-associated signalling, then the Error Indication procedure uses UE-associated signalling. Otherwise the procedure uses non-UE associated signalling.

8.7.5.2 Successful Operation

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**Figure 8.7.5.2-1: Error indication initiated by the AMF**

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**Figure 8.7.5.2-2: Error indication initiated by the NG-RAN node to the AMF**

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**Figure 8.7.5.2-x: Error indication initiated by the AIOTF**

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**Figure 8.7.5.2-y: Error indication initiated by the NG-RAN node to the AIOTF**

When the conditions defined in clause 10 are fulfilled, the Error Indication procedure is initiated by an ERROR INDICATION message sent from the receiving node.

The ERROR INDICATION message shall contain at least either the *Cause* IE or the *Criticality Diagnostics* IE. In case the Error Indication procedure is triggered by utilising UE-associated signalling the *AMF UE NGAP ID* IE and the *RAN UE NGAP ID* IE shall be included in the ERROR INDICATION message. If one or both of the *AMF UE NGAP ID* IE and the *RAN UE NGAP ID* IE are not correct, the cause shall be set to an appropriate value, e.g., "Unknown local UE NGAP ID" or "Inconsistent remote UE NGAP ID".

8.7.5.3 Abnormal Conditions

Void.

***----------------- Next Change-----------------***

#### 9.2.6.1 NG SETUP REQUEST

This message is sent by the NG-RAN node to transfer application layer information for an NG-C interface instance.

Direction: NG-RAN node → AMF

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| Global RAN Node ID | M |  | 9.3.1.5 |  | YES | reject |
| RAN Node Name | O |  | PrintableString(SIZE(1..150, …)) |  | YES | ignore |
| **Supported TA List** |  | *1* |  | Supported TAs in the NG-RAN node.This IE is ignored if the *A-IoT Support* IE is present and set to “A-IoT only”. | YES | reject |
| **>Supported TA Item** |  | *1..<maxnoofTACs>* |  |  | - |  |
| >>TAC | M |  | 9.3.3.10 | Broadcast TAC | - |  |
| **>>Broadcast PLMN List** |  | *1* |  |  | - |  |
| **>>>Broadcast PLMN Item** |  | *1..<maxnoofBPLMNs>* |  |  | - |  |
| >>>>PLMN Identity | M |  | 9.3.3.5 | Broadcast PLMN | - |  |
| >>>>TAI Slice Support List | M |  | Slice Support List9.3.1.17 | Supported S-NSSAIs per TAC, per PLMN or per SNPN. | - |  |
| >>>>NPN Support | O |  | 9.3.3.44 | If the *NID* IE is included, it identifies a SNPN together with the *PLMN Identity* IE. | YES | reject |
| >>>>Extended TAI Slice Support List | O |  | Extended Slice Support List9.3.1.191 | Additional Supported S-NSSAIs per TAC, per PLMN or per SNPN. | YES | reject |
| >>>>TAI NSAG Support List | O |  | 9.3.1.238 | NSAG information associated with the slices per TAC, per PLMN or per SNPN. | YES | ignore |
| >>Configured TAC Indication | O |  | 9.3.3.50 |  | YES | ignore |
| >>RAT Information | O |  | 9.3.1.125 | RAT information associated with the TAC of the indicated PLMN(s). | YES | reject |
| Default Paging DRX | M |  | Paging DRX9.3.1.90 | This IE is ignored if the *A-IoT Support* IE is present and set to “A-IoT only”. | YES | ignore |
| UE Retention Information | O |  | 9.3.1.117 |  | YES | ignore |
| NB-IoT Default Paging DRX | O |  | 9.3.1.137 |  | YES | ignore |
| Extended RAN Node Name | O |  | 9.3.1.193 |  | YES | ignore |
| A-IoT Support | O |  | 9.3.1.bb1 |  | YES | reject |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofTACs | Maximum no. of TACs. Value is 256. |
| maxnoofBPLMNs | Maximum no. of Broadcast PLMNs. Value is 12. |

***----------------- Next Change-----------------***

#### 9.2.6.2 NG SETUP RESPONSE

This message is sent by the AMF to transfer application layer information for an NG-C interface instance.

Direction: AMF → NG-RAN node

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| AMF Name | M |  | 9.3.3.21  | This IE is ignored if the *Extended AMF Name* IE is present. This IE is ignored if the NG Setup procedure is executed between the NG-RAN node and the AIOTF.This IE is ignored if the NG-RAN node only supports A-IoT. | YES | reject |
| **Served GUAMI List** |  | *1* |  | This IE is ignored if the NG Setup procedure is executed between the NG-RAN node and the AIOTF.This IE is ignored if the NG-RAN node only supports A-IoT. | YES | reject |
| **>Served GUAMI Item** |  | *1..<maxnoofServedGUAMIs>* |  |  | - |  |
| >>GUAMI | M |  | 9.3.3.3 |  | - |  |
| >>Backup AMF Name | O |  | AMF Name9.3.3.21 |  | - |  |
| >>GUAMI Type | O |  | ENUMERATED (native, mapped, …) |  | YES | ignore |
| Relative AMF Capacity | M |  | 9.3.1.32 | This IE is ignored if the NG Setup procedure is executed between the NG-RAN node and the AIOTF.This IE is ignored if the NG-RAN node only supports A-IoT. | YES | ignore |
| **PLMN Support List** |  | *1* |  | This IE is ignored if the NG Setup procedure is executed between the NG-RAN node and the AIOTF.This IE is ignored if the NG-RAN node only supports A-IoT. | YES | reject |
| **>PLMN Support Item** |  | *1..<maxnoofPLMNs>* |  |  | - |  |
| >>PLMN Identity | M |  | 9.3.3.5 |  | - |  |
| >>Slice Support List | M |  | 9.3.1.17 | Supported S-NSSAIs per PLMN or per SNPN. | - |  |
| >>NPN Support | O |  | 9.3.3.44 | If *NID* IE is included, it identifies a SNPN together with the *PLMN Identity* IE. | YES | reject |
| >>Extended Slice Support List | O |  | 9.3.1.191 | Additional Supported S-NSSAIs per PLMN or per SNPN. | YES | reject |
| >>Onboarding Support | O |  | ENUMERATED (true, ...) | Indication of onboarding support. | YES | ignore |
| Criticality Diagnostics | O |  | 9.3.1.3 |  | YES | ignore |
| UE Retention Information | O |  | 9.3.1.117 |  | YES | ignore |
| IAB Supported | O |  | ENUMERATED (true, ...) | Indication of support for IAB. | YES | ignore |
| Extended AMF Name | O |  | 9.3.3.51 |  | YES | ignore |
| Mobile IAB Supported | O |  | ENUMERATED (true, ...) | Indication of support for mobile IAB. | YES | ignore |
| AIOTF Identifier | O |  | 9.3.3.xx2 |  | YES | reject |
| AIOTF Name | O |  | 9.3.3.zz1 |  | YES | reject |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofServedGUAMIs | Maximum no. of GUAMIs served by an AMF. Value is 256. |
| maxnoofPLMNs | Maximum no. of PLMNs per message. Value is 12. |

***----------------- Next Change-----------------***

#### 9.3.3.zz1 AIOTF Name

This IE is used to uniquely identify the AIOTF. It may also be used as a human readable name of the AIOTF.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|  |  |  |  |  |
| AIOTF Name Visible | O |  | VisibleString (SIZE(1..150, …)) |  |
| AIOTF Name UTF8 | O |  | UTF8String (SIZE(1..150, …)) |  |

***----------------- Next Change-----------------***

### 9.4.4 PDU Definitions

-- ASN1START

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

--

-- PDU definitions for NGAP.

--

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

NGAP-PDU-Contents {

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

ngran-Access (22) modules (3) ngap (1) version1 (1) ngap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

--

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

IMPORTS

 A2X-PC5-QoS-Parameters,

 AerialUEsubscriptionInformation,

 AIoT-CorrelationIdentifier,

 AIOTFIdentifier,

 AIOTFName,

 AIOTSessionReleaseCommandTransfer,

 AIOTSessionReleaseCompleteTransfer,

 AIOTSessionReleaseRequestTransfer,

 AIoT-Support,

 AllowedNSSAI,

 AMFName,

 AMFSetID,

 AMF-TNLAssociationSetupList,

 AMF-TNLAssociationToAddList,

 AMF-TNLAssociationToRemoveList,

 AMF-TNLAssociationToUpdateList,

 AMF-UE-NGAP-ID,

 AssistanceDataForPaging,

 AssociatedSessionID,

 AUN3DeviceAccessInfo,

 AuthenticatedIndication,

 BroadcastCancelledAreaList,

 BroadcastCompletedAreaList,

 BroadcastTransportFailureTransfer,

 BroadcastTransportRequestTransfer,

 BroadcastTransportResponseTransfer,

 CancelAllWarningMessages,

 Cause,

 CellIDListForRestart,

 CEmodeBrestricted,

 CEmodeBSupport-Indicator,

 CNAssistedRANTuning,

 CommandRequestTransfer,

 CommandResponseTransfer,

 CommandFailureTransfer, ConcurrentWarningMessageInd,

 CoreNetworkAssistanceInformationForInactive,

 CPTransportLayerInformation,

 CriticalityDiagnostics,

 DataCodingScheme,

 DirectForwardingPathAvailability,

 DL-CP-SecurityInformation,

 DL-Signalling,

 EarlyStatusTransfer-TransparentContainer,

 EDT-Session,

 EmergencyAreaIDListForRestart,

 EmergencyFallbackIndicator,

 EN-DCSONConfigurationTransfer,

 EndIndication,

 Enhanced-CoverageRestriction,

 ERedCapIndication,

 EUTRA-CGI,

 EUTRA-PagingeDRXInformation,

 Extended-AMFName,

 Extended-ConnectedTime,

 Extended-RANNodeName,

 FiveGCAction,

 FiveG-ProSeAuthorized,

 FiveG-ProSePC5QoSParameters,

 FiveG-S-TMSI,

 GlobalRANNodeID,

 GUAMI,

 HandoverFlag,

 HandoverType,

 IAB-Authorized,

 IABNodeIndication,

 IAB-Supported,

 IMSVoiceSupportIndicator,

 IndexToRFSP,

 InfoOnRecommendedCellsAndRANNodesForPaging,

 IntersystemSONConfigurationTransfer,

 InventoryRequestTransfer,

 InventoryResponseTransfer,

 InventoryFailureTransfer,

 InventoryReportTransfer,

 LAI,

 LocationReportingRequestType,

 LTE-A2X-ServicesAuthorized,

 LTEM-Indication,

 LTEUESidelinkAggregateMaximumBitrate,

 LTEV2XServicesAuthorized,

 MaskedIMEISV,

 MBS-AreaSessionID,

 MBS-DistributionReleaseRequestTransfer,

 MBS-DistributionSetupRequestTransfer,

 MBS-DistributionSetupResponseTransfer,

 MBS-DistributionSetupUnsuccessfulTransfer,

 MBS-ServiceArea,

 MBS-SessionID,

 MBSSessionReleaseResponseTransfer,

 MBSSessionSetupOrModFailureTransfer,

 MBSSessionSetupOrModRequestTransfer,

 MBSSessionSetupOrModResponseTransfer,

 MDTPLMNList,

 MDTPLMNModificationList,

 MessageIdentifier,

 MobileIAB-Authorized,

 MobileIABNodeIndication,

 MobileIAB-Supported,

 MobilityRestrictionList,

 MulticastGroupPagingAreaList,

 MulticastSessionActivationRequestTransfer,

 MulticastSessionDeactivationRequestTransfer,

 MulticastSessionUpdateRequestTransfer,

 NAS-PDU,

 NASSecurityParametersFromNGRAN,

 NB-IoT-DefaultPagingDRX,

 NB-IoT-PagingDRX,

 NB-IoT-Paging-eDRXInfo,

 NB-IoT-UEPriority,

 NetworkControlledRepeaterAuthorized,

 NewSecurityContextInd,

 NGRAN-CGI,

 NGRAN-TNLAssociationToRemoveList,

 NGRANTraceID,

 NID,

 NoPDUSessionIndication,

 NotifySourceNGRANNode,

 NPN-AccessInformation,

 NR-A2X-ServicesAuthorized,

 NR-CGI,

 NR-PagingeDRXInformation,

 NRPPa-PDU,

 NRUESidelinkAggregateMaximumBitrate,

 NRV2XServicesAuthorized,

 NumberOfBroadcastsRequested,

 OverloadResponse,

 OverloadStartNSSAIList,

 PagingAssisDataforCEcapabUE,

 PagingCause,

 PagingDRX,

 PagingOrigin,

 PagingPolicyDifferentiation,

 PagingPriority,

 Partially-Allowed-NSSAI,

 PC5QoSParameters,

 PDUSessionAggregateMaximumBitRate,

 PDUSessionListMTCommHReq,

 PDUSessionResourceAdmittedList,

 PDUSessionResourceFailedToModifyListModCfm,

 PDUSessionResourceFailedToModifyListModRes,

 PDUSessionResourceFailedToResumeListRESReq,

 PDUSessionResourceFailedToResumeListRESRes,

 PDUSessionResourceFailedToSetupListCxtFail,

 PDUSessionResourceFailedToSetupListCxtRes,

 PDUSessionResourceFailedToSetupListHOAck,

 PDUSessionResourceFailedToSetupListPSReq,

 PDUSessionResourceFailedToSetupListSURes,

 PDUSessionResourceHandoverList,

 PDUSessionResourceListCxtRelCpl,

 PDUSessionResourceListCxtRelReq,

 PDUSessionResourceListHORqd,

 PDUSessionResourceModifyListModCfm,

 PDUSessionResourceModifyListModInd,

 PDUSessionResourceModifyListModReq,

 PDUSessionResourceModifyListModRes,

 PDUSessionResourceNotifyList,

 PDUSessionResourceReleasedListNot,

 PDUSessionResourceReleasedListPSAck,

 PDUSessionResourceReleasedListPSFail,

 PDUSessionResourceReleasedListRelRes,

 PDUSessionResourceResumeListRESReq,

 PDUSessionResourceResumeListRESRes,

 PDUSessionResourceSecondaryRATUsageList,

 PDUSessionResourceSetupListCxtReq,

 PDUSessionResourceSetupListCxtRes,

 PDUSessionResourceSetupListHOReq,

 PDUSessionResourceSetupListSUReq,

 PDUSessionResourceSetupListSURes,

 PDUSessionResourceSuspendListSUSReq,

 PDUSessionResourceSwitchedList,

 PDUSessionResourceToBeSwitchedDLList,

 PDUSessionResourceToReleaseListHOCmd,

 PDUSessionResourceToReleaseListRelCmd,

 PEIPSassistanceInformation,

 PLMNIdentity,

 PLMNSupportList,

 PrivacyIndicator,

 PWSFailedCellIDList,

 QMCConfigInfo,

 QMCDeactivation,

 RAN-AIOT-Device-NGAP-ID,

 RANNodeName,

 RANPagingPriority,

 RANStatusTransfer-TransparentContainer,

 RANTimingSynchronisationStatusInfo,

 RAN-TSSRequestType,

 RAN-TSSScope,

 RAN-UE-NGAP-ID,

 RedCapIndication,

 RedirectionVoiceFallback,

 RelativeAMFCapacity,

 RepetitionPeriod,

 ResetType,

 RGLevelWirelineAccessCharacteristics,

 RIMInformationTransfer,

 RoutingID,

 RRCEstablishmentCause,

 RRCInactiveTransitionReportRequest,

 RRCState,

 SecurityContext,

 SecurityKey,

 SerialNumber,

 ServedGUAMIList,

 SliceSupportList,

 SLPositioningRangingServiceInfo,

 S-NSSAI,

 SONConfigurationTransfer,

 SourceToTarget-AMFInformationReroute,

 SourceToTarget-TransparentContainer,

 SRVCCOperationPossible,

 SupportedTAList,

 Suspend-Request-Indication,

 Suspend-Response-Indication,

 TAI,

 TAIListForPaging,

 TAIListForRestart,

 TargetID,

 TargetNSSAIInformation,

 TargettoSource-Failure-TransparentContainer,

 TargetToSource-TransparentContainer,

 TimeSyncAssistanceInfo,

 TimeToWait,

 TNLAssociationList,

 TraceActivation,

 TrafficLoadReductionIndication,

 TransportLayerAddress,

 UEAggregateMaximumBitRate,

 UE-associatedLogicalNG-connectionList,

 UECapabilityInfoRequest,

 UEContextRequest,

 UE-DifferentiationInfo,

 UE-NGAP-IDs,

 UEPagingIdentity,

 UEPresenceInAreaOfInterestList,

 UERadioCapability,

 UERadioCapabilityForPaging,

 UERadioCapabilityID,

 UERetentionInformation,

 UESecurityCapabilities,

 UESliceMaximumBitRateList,

 UE-UP-CIoT-Support,

 UL-CP-SecurityInformation,

 UnavailableGUAMIList,

 URI-address,

 UserLocationInformation,

 WarningAreaCoordinates,

 WarningAreaList,

 WarningMessageContents,

 WarningSecurityInfo,

 WarningType,

 WUS-Assistance-Information,

 XrDeviceWith2Rx

FROM NGAP-IEs

 PrivateIE-Container{},

 ProtocolExtensionContainer{},

 ProtocolIE-Container{},

 ProtocolIE-ContainerList{},

 ProtocolIE-ContainerPair{},

 ProtocolIE-SingleContainer{},

 NGAP-PRIVATE-IES,

 NGAP-PROTOCOL-EXTENSION,

 NGAP-PROTOCOL-IES,

 NGAP-PROTOCOL-IES-PAIR

FROM NGAP-Containers

 id-A2X-PC5-QoS-Parameters,

 id-AerialUEsubscriptionInformation,

 id-AIoT-CorrelationIdentifier,

 id-AIOTFIdentifier,

 id-AIOTFName,

 id-AIOTSessionReleaseCommandTransfer,

 id-AIOTSessionReleaseCompleteTransfer,

 id-AIOTSessionReleaseRequestTransfer,

 id-AIoT-Support,

 id-AllowedNSSAI,

 id-AMFName,

 id-AMFOverloadResponse,

 id-AMFSetID,

 id-AMF-TNLAssociationFailedToSetupList,

 id-AMF-TNLAssociationSetupList,

 id-AMF-TNLAssociationToAddList,

 id-AMF-TNLAssociationToRemoveList,

 id-AMF-TNLAssociationToUpdateList,

 id-AMFTrafficLoadReductionIndication,

 id-AMF-UE-NGAP-ID,

 id-AssistanceDataForPaging,

 id-AssociatedSessionID,

 id-AUN3DeviceAccessInfo,

 id-AuthenticatedIndication,

 id-BroadcastCancelledAreaList,

 id-BroadcastCompletedAreaList,

 id-BroadcastTransportFailureTransfer,

 id-BroadcastTransportRequestTransfer,

 id-BroadcastTransportResponseTransfer,

 id-CancelAllWarningMessages,

 id-Cause,

 id-CellIDListForRestart,

 id-CEmodeBrestricted,

 id-CEmodeBSupport-Indicator,

 id-CNAssistedRANTuning,

 id-CommandRequestTransfer,

 id-CommandResponseTransfer,

 id-CommandFailureTransfer,

 id-ConcurrentWarningMessageInd,

 id-CoreNetworkAssistanceInformationForInactive,

 id-CriticalityDiagnostics,

 id-DataCodingScheme,

 id-DefaultPagingDRX,

 id-DirectForwardingPathAvailability,

 id-DL-CP-SecurityInformation,

 id-DL-Signalling,

 id-EarlyStatusTransfer-TransparentContainer,

 id-EDT-Session,

 id-EmergencyAreaIDListForRestart,

 id-EmergencyFallbackIndicator,

 id-ENDC-SONConfigurationTransferDL,

 id-ENDC-SONConfigurationTransferUL,

 id-EndIndication,

 id-Enhanced-CoverageRestriction,

 id-ERedCapIndication,

 id-EUTRA-CGI,

 id-EUTRA-PagingeDRXInformation,

 id-Extended-AMFName,

 id-Extended-ConnectedTime,

 id-Extended-RANNodeName,

 id-FiveGCAction,

 id-FiveG-ProSeAuthorized,

 id-FiveG-ProSePC5QoSParameters,

 id-FiveG-ProSeUEPC5AggregateMaximumBitRate,

 id-FiveG-S-TMSI,

 id-GlobalRANNodeID,

 id-GUAMI,

 id-HandoverFlag,

 id-HandoverType,

 id-IAB-Authorized,

 id-IABNodeIndication,

 id-IAB-Supported,

 id-IMSVoiceSupportIndicator,

 id-IndexToRFSP,

 id-InfoOnRecommendedCellsAndRANNodesForPaging,

 id-IntersystemSONConfigurationTransferDL,

 id-IntersystemSONConfigurationTransferUL,

 id-InventoryRequestTransfer,

 id-InventoryResponseTransfer,

 id-InventoryFailureTransfer,

 id-InventoryReportTransfer,

 id-LocationReportingRequestType,

 id-LTE-A2X-ServicesAuthorized,

 id-LTE-A2X-UE-PC5-AggregateMaximumBitRate,

 id-LTEM-Indication,

 id-LTEUESidelinkAggregateMaximumBitrate,

 id-LTEV2XServicesAuthorized,

 id-ManagementBasedMDTPLMNList,

 id-ManagementBasedMDTPLMNModificationList,

 id-MaskedIMEISV,

 id-MBS-AreaSessionID,

 id-MBS-DistributionReleaseRequestTransfer,

 id-MBS-DistributionSetupRequestTransfer,

 id-MBS-DistributionSetupResponseTransfer,

 id-MBS-DistributionSetupUnsuccessfulTransfer,

 id-MBS-ServiceArea,

 id-MBS-SessionID,

 id-MBSSessionModificationFailureTransfer,

 id-MBSSessionModificationRequestTransfer,

 id-MBSSessionModificationResponseTransfer,

 id-MBSSessionReleaseResponseTransfer,

 id-MBSSessionSetupFailureTransfer,

 id-MBSSessionSetupRequestTransfer,

 id-MBSSessionSetupResponseTransfer,

 id-MessageIdentifier,

 id-MobileIAB-Authorized,

 id-MobileIABNodeIndication,

 id-MobileIAB-Supported,

 id-MobilityRestrictionList,

 id-MulticastGroupPagingAreaList,

 id-MulticastSessionActivationRequestTransfer,

 id-MulticastSessionDeactivationRequestTransfer,

 id-MulticastSessionUpdateRequestTransfer,

 id-NASC,

 id-NAS-PDU,

 id-NASSecurityParametersFromNGRAN,

 id-NB-IoT-DefaultPagingDRX,

 id-NB-IoT-PagingDRX,

 id-NB-IoT-Paging-eDRXInfo,

 id-NB-IoT-UEPriority,

 id-NetworkControlledRepeaterAuthorized,

 id-NewAMF-UE-NGAP-ID,

 id-NewGUAMI,

 id-NewSecurityContextInd,

 id-NGAP-Message,

 id-NGRAN-CGI,

 id-NGRAN-TNLAssociationToRemoveList,

 id-NGRANTraceID,

 id-NoPDUSessionIndication,

 id-NotifySourceNGRANNode,

 id-NPN-AccessInformation,

 id-NR-A2X-ServicesAuthorized,

 id-NR-A2X-UE-PC5-AggregateMaximumBitRate,

 id-NR-PagingeDRXInformation,

 id-NRPPa-PDU,

 id-NRUESidelinkAggregateMaximumBitrate,

 id-NRV2XServicesAuthorized,

 id-NumberOfBroadcastsRequested,

 id-OldAMF,

 id-OverloadStartNSSAIList,

 id-PagingAssisDataforCEcapabUE,

 id-PagingCause,

 id-PagingDRX,

 id-PagingOrigin,

 id-PagingPolicyDifferentiation,

 id-PagingPriority,

 id-Partially-Allowed-NSSAI,

 id-PC5QoSParameters,

 id-PDUSessionListMTCommHReq,

 id-PDUSessionResourceAdmittedList,

 id-PDUSessionResourceFailedToModifyListModCfm,

 id-PDUSessionResourceFailedToModifyListModRes,

 id-PDUSessionResourceFailedToResumeListRESReq,

 id-PDUSessionResourceFailedToResumeListRESRes,

 id-PDUSessionResourceFailedToSetupListCxtFail,

 id-PDUSessionResourceFailedToSetupListCxtRes,

 id-PDUSessionResourceFailedToSetupListHOAck,

 id-PDUSessionResourceFailedToSetupListPSReq,

 id-PDUSessionResourceFailedToSetupListSURes,

 id-PDUSessionResourceHandoverList,

 id-PDUSessionResourceListCxtRelCpl,

 id-PDUSessionResourceListCxtRelReq,

 id-PDUSessionResourceListHORqd,

 id-PDUSessionResourceModifyListModCfm,

 id-PDUSessionResourceModifyListModInd,

 id-PDUSessionResourceModifyListModReq,

 id-PDUSessionResourceModifyListModRes,

 id-PDUSessionResourceNotifyList,

 id-PDUSessionResourceReleasedListNot,

 id-PDUSessionResourceReleasedListPSAck,

 id-PDUSessionResourceReleasedListPSFail,

 id-PDUSessionResourceReleasedListRelRes,

 id-PDUSessionResourceResumeListRESReq,

 id-PDUSessionResourceResumeListRESRes,

 id-PDUSessionResourceSecondaryRATUsageList,

 id-PDUSessionResourceSetupListCxtReq,

 id-PDUSessionResourceSetupListCxtRes,

 id-PDUSessionResourceSetupListHOReq,

 id-PDUSessionResourceSetupListSUReq,

 id-PDUSessionResourceSetupListSURes,

 id-PDUSessionResourceSuspendListSUSReq,

 id-PDUSessionResourceSwitchedList,

 id-PDUSessionResourceToBeSwitchedDLList,

 id-PDUSessionResourceToReleaseListHOCmd,

 id-PDUSessionResourceToReleaseListRelCmd,

 id-PEIPSassistanceInformation,

 id-PLMNSupportList,

 id-PrivacyIndicator,

 id-PWSFailedCellIDList,

 id-QMCConfigInfo,

 id-QMCDeactivation,

 id-RAN-AIOT-Device-NGAP-ID,

 id-RANNodeName,

 id-RANPagingPriority,

 id-RANStatusTransfer-TransparentContainer,

 id-RANTimingSynchronisationStatusInfo,

 id-RAN-TSSRequestType,

 id-RAN-TSSScope,

 id-RAN-UE-NGAP-ID,

 id-RedCapIndication,

 id-RedirectionVoiceFallback,

 id-RelativeAMFCapacity,

 id-RepetitionPeriod,

 id-ResetType,

 id-RGLevelWirelineAccessCharacteristics,

 id-RIMInformationTransfer,

 id-RoutingID,

 id-RRCEstablishmentCause,

 id-RRCInactiveTransitionReportRequest,

 id-RRC-Resume-Cause,

 id-RRCState,

 id-SecurityContext,

 id-SecurityKey,

 id-SelectedNID,

 id-SelectedPLMNIdentity,

 id-SerialNumber,

 id-ServedGUAMIList,

 id-SliceSupportList,

 id-S-NSSAI,

 id-SONConfigurationTransferDL,

 id-SONConfigurationTransferUL,

 id-SourceAMF-UE-NGAP-ID,

 id-SourceToTarget-AMFInformationReroute,

 id-SourceToTarget-TransparentContainer,

 id-SRVCCOperationPossible,

 id-SupportedTAList,

 id-Suspend-Request-Indication,

 id-Suspend-Response-Indication,

 id-TAI,

 id-TAIListForPaging,

 id-TAIListForRestart,

 id-TargetID,

 id-TargetNSSAIInformation,

 id-TargettoSource-Failure-TransparentContainer,

 id-TargetToSource-TransparentContainer,

 id-TimeSyncAssistanceInfo,

 id-TimeToWait,

 id-TNGFIdentityInformation,

 id-TraceActivation,

 id-TraceCollectionEntityIPAddress,

 id-TraceCollectionEntityURI,

 id-TWIFIdentityInformation,

 id-UEAggregateMaximumBitRate,

 id-UE-associatedLogicalNG-connectionList,

 id-UECapabilityInfoRequest,

 id-UEContextRequest,

 id-UE-DifferentiationInfo,

 id-UE-NGAP-IDs,

 id-UEPagingIdentity,

 id-UEPresenceInAreaOfInterestList,

 id-UERadioCapability,

 id-UERadioCapability-EUTRA-Format,

 id-UERadioCapabilityForPaging,

 id-UERadioCapabilityID,

 id-UERetentionInformation,

 id-UESecurityCapabilities,

 id-UESliceMaximumBitRateList,

 id-UE-UP-CIoT-Support,

 id-UL-CP-SecurityInformation,

 id-UnavailableGUAMIList,

 id-UserLocationInformation,

 id-W-AGFIdentityInformation,

 id-WarningAreaCoordinates,

 id-WarningAreaList,

 id-WarningMessageContents,

 id-WarningSecurityInfo,

 id-WarningType,

 id-WUS-Assistance-Information,

 id-XrDeviceWith2Rx,

 id-SLPositioningRangingServiceInfo

**[skip]**

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

-- Inventory Report procedure

--

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

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

--

-- INVENTORY REPORT

--

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

InventoryReport ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { { InventoryReportIEs} },

 ...

}

InventoryReportIEs NGAP-PROTOCOL-IES ::= {

 { ID id-AIOTFIdentifier CRITICALITY reject TYPE AIOTFIdentifier PRESENCE mandatory }|

 { ID id-AIoT-CorrelationIdentifier CRITICALITY reject TYPE AIoT-CorrelationIdentifier PRESENCE mandatory }|

 { ID id-InventoryReportTransfer CRITICALITY reject TYPE OCTET STRING (CONTAINING InventoryReportTransfer ) PRESENCE mandatory },

 ...

}

**[skip]**

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

--

-- NG SETUP REQUEST

--

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

NGSetupRequest ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { {NGSetupRequestIEs} },

 ...

}

NGSetupRequestIEs NGAP-PROTOCOL-IES ::= {

 { ID id-GlobalRANNodeID CRITICALITY reject TYPE GlobalRANNodeID PRESENCE mandatory }|

 { ID id-RANNodeName CRITICALITY ignore TYPE RANNodeName PRESENCE optional }|

 { ID id-SupportedTAList CRITICALITY reject TYPE SupportedTAList PRESENCE mandatory }|

 { ID id-DefaultPagingDRX CRITICALITY ignore TYPE PagingDRX PRESENCE mandatory }|

 { ID id-UERetentionInformation CRITICALITY ignore TYPE UERetentionInformation PRESENCE optional }|

 { ID id-NB-IoT-DefaultPagingDRX CRITICALITY ignore TYPE NB-IoT-DefaultPagingDRX PRESENCE optional }|

 { ID id-Extended-RANNodeName CRITICALITY ignore TYPE Extended-RANNodeName PRESENCE optional }|

 { ID id-AIoT-Support CRITICALITY reject TYPE AIoT-Support PRESENCE optional },

 ...

}

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

--

-- NG SETUP RESPONSE

--

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

NGSetupResponse ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { {NGSetupResponseIEs} },

 ...

}

NGSetupResponseIEs NGAP-PROTOCOL-IES ::= {

 { ID id-AMFName CRITICALITY reject TYPE AMFName PRESENCE mandatory }|

 { ID id-ServedGUAMIList CRITICALITY reject TYPE ServedGUAMIList PRESENCE mandatory }|

 { ID id-RelativeAMFCapacity CRITICALITY ignore TYPE RelativeAMFCapacity PRESENCE mandatory }|

 { ID id-PLMNSupportList CRITICALITY reject TYPE PLMNSupportList PRESENCE mandatory }|

 { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional }|

 { ID id-UERetentionInformation CRITICALITY ignore TYPE UERetentionInformation PRESENCE optional }|

 { ID id-IAB-Supported CRITICALITY ignore TYPE IAB-Supported PRESENCE optional }|

 { ID id-Extended-AMFName CRITICALITY ignore TYPE Extended-AMFName PRESENCE optional }|

 { ID id-MobileIAB-Supported CRITICALITY ignore TYPE MobileIAB-Supported PRESENCE optional }|

 { ID id-AIOTFIdentifier CRITICALITY reject TYPE AIOTFIdentifier PRESENCE optional }|

 { ID id-AIOTFName CRITICALITY reject TYPE AIOTFName PRESENCE optional },

 ...

}

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

--

-- NG SETUP FAILURE

--

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

NGSetupFailure ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { {NGSetupFailureIEs} },

 ...

}

NGSetupFailureIEs NGAP-PROTOCOL-IES ::= {

 { ID id-Cause CRITICALITY ignore TYPE Cause PRESENCE mandatory }|

 { ID id-TimeToWait CRITICALITY ignore TYPE TimeToWait PRESENCE optional }|

 { ID id-CriticalityDiagnostics CRITICALITY ignore TYPE CriticalityDiagnostics PRESENCE optional },

 ...

}

### 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-AIOTFIdentifier,

 id-AIOTFName,

 id-AIoT-CorrelationIdentifier,

 id-AIoT-DeviceIdentificationRequested,

 id-AIoT-RequestedServiceAreaInformation,

 id-AIoT-InventoryAssistanceInformation,

 id-AIoT-InventoryExpectedD2RMessageSize,

 id-AIoT-FollowonCommandIndication,

 id-RAN-AIOT-Device-NGAP-ID,

 id-AIoT-CommandAssistanceInformation,

 id-AIoT-NASPDU,

 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-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-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,

 maxnoofAIoTAreas,

 maxnoofAllowedAreas,

 maxnoofAllowedCAGsperPLMN,

 maxnoofAllowedS-NSSAIs,

 maxnoofAoIMinusOne,

 maxnoofBluetoothName,

 maxnoofBPLMNs,

 maxnoofCAGforMDT,

 maxnoofCAGSperCell,

 maxnoofCandidateCells,

 maxnoofCellIDforMDT,

 maxnoofCellIDforQMC,

 maxnoofCellIDforWarning,

 maxnoofCellinAoI,

 maxnoofCellinEAI,

 maxnoofCellsforMBS,

 maxnoofCellsingNB,

 maxnoofCellsinngeNB,

 maxnoofCellsinNGRANNode,

 maxnoofCellinTAI,

 maxnoofCellsinUEHistoryInfo,

 maxnoofCellsUEMovingTrajectory,

 maxnoofDevices,

 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,

 maxnoofReaders,

 maxnoofRecommendedCells,

 maxnoofRecommendedRANNodes,

 maxnoofAoI,

 maxnoofPSCellsPerPrimaryCellinUEHistoryInfo,

 maxnoofReportedCells,

 maxnoofSensorName,

 maxnoofServedGUAMIs,

 maxnoofSliceItems,

 maxnoofMDTSNPNs,

 maxnoofSNSSAIforQMC,

 maxnoofSuccessfulHOReports,

 maxnoofTACs,

 maxnoofTACsinNTN,

 maxnoofTAforMDT,

 maxnoofTAforQMC,

 maxnoofTAIforInactive,

 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

FROM NGAP-Constants

 Criticality,

 ProcedureCode,

 ProtocolIE-ID,

 TriggeringMessage

FROM NGAP-CommonDataTypes

 ProtocolExtensionContainer{},

 ProtocolIE-Container{},

 NGAP-PROTOCOL-EXTENSION,

 ProtocolIE-SingleContainer{},

 NGAP-PROTOCOL-IES

FROM NGAP-Containers;

**[skip]**

-- A

AIoT-CorrelationIdentifier ::= OCTET STRING --FFS--

AIoT-DeviceIdentificationRequested ::= CHOICE {

 singleDevice OCTET STRING,

 groupDevices FFS,

 allDevices NULL,

 choice-Extensions ProtocolIE-SingleContainer { { AIoT-DeviceIdentificationRequested-ExtIEs} }

}

AIOTFIdentifier ::= OCTET STRING --FFS

AIOTFName ::= SEQUENCE {

 aIOTFNameVisibleString AIOTFNameVisibleString OPTIONAL,

 aIOTFNameUTF8String AIOTFNameUTF8String OPTIONAL,

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

 ...

}

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

 ...

}

AIOTFNameVisibleString ::= VisibleString (SIZE(1..150, ...))

AIOTFNameUTF8String ::= UTF8String (SIZE(1..150, ...))

AIoT-InventoryAssistanceInformation ::= SEQUENCE {

 approximateNoofTargetDevices INTEGER (1..2048, ...) OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { AIoT-InventoryAssistanceInformation-ExtIEs} } OPTIONAL,

 ...

}

AIoT-InventoryAssistanceInformation-ExtIEs NGAP-PROTOCOL-EXTENSION ::= {

 ...

}

AIoT-InventoryExpectedD2RMessageSize ::= FFS

**[skip]**

-- C

CommandRequestTransfer ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { { CommandRequestTransferIEs} },

 ...

}

CommandRequestTransferIEs NGAP-PROTOCOL-IES ::= {

 { ID id-AIoT-CorrelationIdentifier CRITICALITY reject TYPE AIoT-CorrelationIdentifier PRESENCE mandatory }|

 { ID id-RAN-AIOT-Device-NGAP-ID CRITICALITY reject TYPE RAN-AIOT-Device-NGAP-ID PRESENCE mandatory }|

 { ID id-AIoT-NASPDU CRITICALITY reject TYPE AIoT-NASPDU PRESENCE mandatory }|

 { ID id-AIoT-CommandAssistanceInformation CRITICALITY reject TYPE AIoT-CommandAssistanceInformation PRESENCE optional },

 ...

}

 **[skip]**

### 9.4.7 Constant Definitions

-- ASN1START

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

--

-- Constant definitions

--

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

NGAP-Constants {

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

ngran-Access (22) modules (3) ngap (1) version1 (1) ngap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

--

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

IMPORTS

 ProcedureCode,

 ProtocolIE-ID

FROM NGAP-CommonDataTypes;

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

--

-- Elementary Procedures

--

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

id-AMFConfigurationUpdate ProcedureCode ::= 0

id-AMFStatusIndication ProcedureCode ::= 1

id-CellTrafficTrace ProcedureCode ::= 2

id-DeactivateTrace ProcedureCode ::= 3

id-DownlinkNASTransport ProcedureCode ::= 4

id-DownlinkNonUEAssociatedNRPPaTransport ProcedureCode ::= 5

id-DownlinkRANConfigurationTransfer ProcedureCode ::= 6

id-DownlinkRANStatusTransfer ProcedureCode ::= 7

id-DownlinkUEAssociatedNRPPaTransport ProcedureCode ::= 8

id-ErrorIndication ProcedureCode ::= 9

id-HandoverCancel ProcedureCode ::= 10

id-HandoverNotification ProcedureCode ::= 11

id-HandoverPreparation ProcedureCode ::= 12

id-HandoverResourceAllocation ProcedureCode ::= 13

id-InitialContextSetup ProcedureCode ::= 14

id-InitialUEMessage ProcedureCode ::= 15

id-LocationReportingControl ProcedureCode ::= 16

id-LocationReportingFailureIndication ProcedureCode ::= 17

id-LocationReport ProcedureCode ::= 18

id-NASNonDeliveryIndication ProcedureCode ::= 19

id-NGReset ProcedureCode ::= 20

id-NGSetup ProcedureCode ::= 21

id-OverloadStart ProcedureCode ::= 22

id-OverloadStop ProcedureCode ::= 23

id-Paging ProcedureCode ::= 24

id-PathSwitchRequest ProcedureCode ::= 25

id-PDUSessionResourceModify ProcedureCode ::= 26

id-PDUSessionResourceModifyIndication ProcedureCode ::= 27

id-PDUSessionResourceRelease ProcedureCode ::= 28

id-PDUSessionResourceSetup ProcedureCode ::= 29

id-PDUSessionResourceNotify ProcedureCode ::= 30

id-PrivateMessage ProcedureCode ::= 31

id-PWSCancel ProcedureCode ::= 32

id-PWSFailureIndication ProcedureCode ::= 33

id-PWSRestartIndication ProcedureCode ::= 34

id-RANConfigurationUpdate ProcedureCode ::= 35

id-RerouteNASRequest ProcedureCode ::= 36

id-RRCInactiveTransitionReport ProcedureCode ::= 37

id-TraceFailureIndication ProcedureCode ::= 38

id-TraceStart ProcedureCode ::= 39

id-UEContextModification ProcedureCode ::= 40

id-UEContextRelease ProcedureCode ::= 41

id-UEContextReleaseRequest ProcedureCode ::= 42

id-UERadioCapabilityCheck ProcedureCode ::= 43

id-UERadioCapabilityInfoIndication ProcedureCode ::= 44

id-UETNLABindingRelease ProcedureCode ::= 45

id-UplinkNASTransport ProcedureCode ::= 46

id-UplinkNonUEAssociatedNRPPaTransport ProcedureCode ::= 47

id-UplinkRANConfigurationTransfer ProcedureCode ::= 48

id-UplinkRANStatusTransfer ProcedureCode ::= 49

id-UplinkUEAssociatedNRPPaTransport ProcedureCode ::= 50

id-WriteReplaceWarning ProcedureCode ::= 51

id-SecondaryRATDataUsageReport ProcedureCode ::= 52

id-UplinkRIMInformationTransfer ProcedureCode ::= 53

id-DownlinkRIMInformationTransfer ProcedureCode ::= 54

id-RetrieveUEInformation ProcedureCode ::= 55

id-UEInformationTransfer ProcedureCode ::= 56

id-RANCPRelocationIndication ProcedureCode ::= 57

id-UEContextResume ProcedureCode ::= 58

id-UEContextSuspend ProcedureCode ::= 59

id-UERadioCapabilityIDMapping ProcedureCode ::= 60

id-HandoverSuccess ProcedureCode ::= 61

id-UplinkRANEarlyStatusTransfer ProcedureCode ::= 62

id-DownlinkRANEarlyStatusTransfer ProcedureCode ::= 63

id-AMFCPRelocationIndication ProcedureCode ::= 64

id-ConnectionEstablishmentIndication ProcedureCode ::= 65

id-BroadcastSessionModification ProcedureCode ::= 66

id-BroadcastSessionRelease ProcedureCode ::= 67

id-BroadcastSessionSetup ProcedureCode ::= 68

id-DistributionSetup ProcedureCode ::= 69

id-DistributionRelease ProcedureCode ::= 70

id-MulticastSessionActivation ProcedureCode ::= 71

id-MulticastSessionDeactivation ProcedureCode ::= 72

id-MulticastSessionUpdate ProcedureCode ::= 73

id-MulticastGroupPaging ProcedureCode ::= 74

id-BroadcastSessionReleaseRequired ProcedureCode ::= 75

id-TimingSynchronisationStatus ProcedureCode ::= 76

id-TimingSynchronisationStatusReport ProcedureCode ::= 77

id-MTCommunicationHandling ProcedureCode ::= 78

id-RANPagingRequest ProcedureCode ::= 79

id-BroadcastSessionTransport ProcedureCode ::= 80

id-InventoryRequest ProcedureCode ::= 193 --to be allocated

id-InventoryReport ProcedureCode ::= 196 --to be allocated

id-CommandRequest ProcedureCode ::= 197 --to be allocated

id-AIOTSessionRelease ProcedureCode ::= 198 --to be allocated

id-AIOTSessionReleaseRequest ProcedureCode ::= 199 --to be allocated

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

--

-- Extension constants

--

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

maxPrivateIEs INTEGER ::= 65535

maxProtocolExtensions INTEGER ::= 65535

maxProtocolIEs INTEGER ::= 65535

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

--

-- 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

 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

 maxnoofReaders INTEGER ::= 65535

 maxnoofDevices INTEGER ::= 65535

 maxnoofAIoTAreas INTEGER ::= 256

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

--

-- 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-InventoryRequestTransfer ProtocolIE-ID ::= 993 --to be allocated

 id-InventoryResponseTransfer ProtocolIE-ID ::= 994 --to be allocated

 id-InventoryFailureTransfer ProtocolIE-ID ::= 995 --to be allocated

 id-InventoryReportTransfer ProtocolIE-ID ::= 996 --to be allocated

 id-CommandRequestTransfer ProtocolIE-ID ::= 997 --to be allocated

 id-CommandResponseTransfer ProtocolIE-ID ::= 998 --to be allocated

 id-CommandFailureTransfer ProtocolIE-ID ::= 999 --to be allocated

 id-AIOTSessionReleaseCommandTransfer ProtocolIE-ID ::= 1000 --to be allocated

 id-AIOTSessionReleaseCompleteTransfer ProtocolIE-ID ::= 1001 --to be allocated

 id-AIOTSessionReleaseRequestTransfer ProtocolIE-ID ::= 1002 --to be allocated

 id-AIoT-CorrelationIdentifier ProtocolIE-ID ::= 880 --to be allocated

 id-AIOTFIdentifier ProtocolIE-ID ::= 881 --to be allocated

 id-AIoT-DeviceIdentificationRequested ProtocolIE-ID ::= 882 --to be allocated

 id-AIoT-RequestedServiceAreaInformation ProtocolIE-ID ::= 883 --to be allocated

 id-AIoT-InventoryAssistanceInformation ProtocolIE-ID ::= 884 --to be allocated

 id-AIoT-FollowonCommandIndication ProtocolIE-ID ::= 885 --to be allocated

 id-RAN-AIOT-Device-NGAP-ID ProtocolIE-ID ::= 886 --to be allocated

 id-AIoT-CommandAssistanceInformation ProtocolIE-ID ::= 887 --to be allocated

 id-AIoT-NASPDU ProtocolIE-ID ::= 888 --to be allocated

 id-AIoT-InventoryExpectedD2RMessageSize ProtocolIE-ID ::= 889 --to be allocated

 id-AIoT-Support ProtocolIE-ID ::= 890 --to be allocated

 id-AIOTFName ProtocolIE-ID ::= xxx --to be allocated

<<<<<<<<<<<<<<<<<<End of the changes >>>>>>>>>>>>>>>>>>>>>>>