3GPP TSG-RAN WG3 #129 R3-255794

Bengaluru, India, 25th – 29th Aug, 2025

Agenda Item: 16.2

Source: CATT, Huawei, China Telecom, Nokia, Xiaomi, LG Electronics

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



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



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



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



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



Figure 8.7.5.2-1: Error indication initiated by the AMF



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



Figure 8.7.5.2-x: Error indication initiated by the AIOTF



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 List  9.3.1.17 | 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 List  9.3.1.191 | 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 DRX  9.3.1.90 | 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 Name  9.3.3.21 |  | - |  |
| >>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

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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

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id-PDUSessionResourceSetupListHOReq ProtocolIE-ID ::= 73

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id-PDUSessionResourceSetupListSURes ProtocolIE-ID ::= 75

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id-PDUSessionResourceSwitchedList ProtocolIE-ID ::= 77

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id-PDUSessionResourceToReleaseListRelCmd ProtocolIE-ID ::= 79

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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

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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

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id-UEAggregateMaximumBitRate ProtocolIE-ID ::= 110

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id-UEContextRequest ProtocolIE-ID ::= 112

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

id-UEPagingIdentity ProtocolIE-ID ::= 115

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id-UERadioCapabilityForPaging ProtocolIE-ID ::= 118

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id-WarningAreaList ProtocolIE-ID ::= 122

id-WarningMessageContents ProtocolIE-ID ::= 123

id-WarningSecurityInfo ProtocolIE-ID ::= 124

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id-DataForwardingNotPossible ProtocolIE-ID ::= 127

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

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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

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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

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id-AdditionalDLForwardingUPTNLInformation ProtocolIE-ID ::= 152

id-AdditionalDLUPTNLInformationForHOList ProtocolIE-ID ::= 153

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

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

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id-CNTypeRestrictionsForServing ProtocolIE-ID ::= 161

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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

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

id-SelectedPLMNIdentity ProtocolIE-ID ::= 174

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id-SRVCCOperationPossible ProtocolIE-ID ::= 177

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

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

id-ExtendedRATRestrictionInformation ProtocolIE-ID ::= 180

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

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

id-AdditionalRedundantDLQosFlowPerTNLInformation ProtocolIE-ID ::= 184

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

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

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id-IABNodeIndication ProtocolIE-ID ::= 201

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

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

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

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id-PagingAssisDataforCEcapabUE ProtocolIE-ID ::= 207

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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

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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

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id-CurrentQoSParaSetIndex ProtocolIE-ID ::= 221

id-CEmodeBrestricted ProtocolIE-ID ::= 222

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

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

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id-EndIndication ProtocolIE-ID ::= 226

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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

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

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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

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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

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

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id-ExtendedTAISliceSupportList ProtocolIE-ID ::= 271

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id-ExtendedUEIdentityIndexValue ProtocolIE-ID ::= 280

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id-UEContextReferenceAtSource ProtocolIE-ID ::= 288

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id-IntersystemSONInformationRequest ProtocolIE-ID ::= 290

id-IntersystemSONInformationReply ProtocolIE-ID ::= 291

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id-IntersystemResourceStatusUpdate ProtocolIE-ID ::= 293

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

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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

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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 >>>>>>>>>>>>>>>>>>>>>>>