**3GPP TSG-RAN3 Meeting #108-e *R3-20xxxx***

**E-Meeting, 01 – 11 June, 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.473** | **CR** | **0502** | **rev** | **7** | **Current version:** | **16.1.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Introduction of NPN | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, China Telecom, Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | RAN3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NG\_RAN\_PRN | | | | |  | ***Date:*** | | | 2020-05-21 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | It was agreed to support non-public network (NPN) for RAN in [RP-191563], which includes both the Stand-alone Non-Public Network (SNPN) and Public network integrated NPN.  The NPN should be introduced in the specification for F1AP signaling. | | | | | | | | |
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| ***Summary of change:*** | | * Add the definitions and abbreviations related to NPN * Capture additional agreements made at RAN3 meetings. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | NPN is not supported in case of disaggregated gNB. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 3.1, 3.2, 8.2.3, 8.2.4, 8.2.5, 8.2.9, 8.3.1, 9.2.1.5, 9.2.1.8, 9.2.1.10, 9.2.2.1, 9.3.1.2, 9.3.1.10, 9.3.1.18, 9.3.1.x1, 9.3.1.x2, 9.3.1.y1, 9.3.1.y2, 9.3.1.y3, 9.3.1.y4, 9.3.1.y5, 9.3.1.y6, 9.3.1.y7, 9.4.4, 9.4.5, 9.4.6, 9.4.7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
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| ***This CR's revision history:*** | | Rev0: Submission as R3-197044.  Rev1: R3-197585  Clean-up to include only section 3 changes.  Rev 2: R3-200048  Rebaseline to TS 38.473 v16.0.0  Rev 3: R3-201459  Include agreements from RAN3#107-e meeting (R3-201365)  Rev4: R3-201595  Update based on the latest specification version.  Rev5: R3-202894  Include agreements from RAN3#107bis-e meeting (R3-202641, R3-202861).  Rev6: R3-203065  Resubmit to RAN3#108-e meeting.  Rev6: R3-20xxxx  Add cosigners  Include agreements from RAN3#107bis-e meeting (R3-204188). Note that the chairman notes may be updated since R3-204188 is stage 3 TP (this note will be removed once the chairman notes is updated).  Update the “Available SNPN” to “Available SNPN ID List” in the procedural texts | | | | | | | | |

<<<<<<<<<<<<<<<<<<<< Changes Begin >>>>>>>>>>>>>>>>>>>>

## 3.1 Definitions

**elementary procedure:** F1AP consists of Elementary Procedures (EPs). An Elementary Procedure is a unit of interaction between gNB-CU and gNB-DU. These Elementary Procedures are defined separately and are intended to be used to build up complete sequences in a flexible manner. If the independence between some EPs is restricted, it is described under the relevant EP description. Unless otherwise stated by the restrictions, the EPs may be invoked independently of each other as standalone procedures, which can be active in parallel. The usage of several F1AP EPs together is specified in stage 2 specifications (e.g., TS 38.470 [2]).

An EP consists of an initiating message and possibly a response message. Two kinds of EPs are used:

- **Class 1:** Elementary Procedures with response (success and/or failure).

- **Class 2:** Elementary Procedures without response.

For Class 1 EPs, the types of responses can be as follows:

Successful:

- A signalling message explicitly indicates that the elementary procedure successfully completed with the receipt of the response.

Unsuccessful:

- A signalling message explicitly indicates that the EP failed.

- On time supervision expiry (i.e., absence of expected response).

Successful and Unsuccessful:

- One signalling message reports both successful and unsuccessful outcome for the different included requests. The response message used is the one defined for successful outcome.

Class 2 EPs are considered always successful.

**EN-DC operation:** Used in this specification when the F1AP is applied for gNB-CU and gNB-DU in E-UTRAN.

**gNB:** as defined in TS 38.300 [6].

**gNB-CU:** as defined in TS 38.401 [4].

**gNB-CU UE F1AP ID:** as defined in TS 38.401 [4].

**gNB-DU:** as defined in TS 38.401 [4].

**gNB-DU UE F1AP ID:** as defined in TS 38.401 [4].

**en-gNB:** as defined in TS 37.340 [7].

**Public network integrated NPN:** as defined in TS 23.501 [21].

**Stand-alone Non-Public Network**: as defined in TS 23.501 [21].

**UE-associated signalling:** When F1AP messages associated to one UE uses the UE-associated logical F1-connection for association of the message to the UE in gNB-DU and gNB-CU.

**UE-associated logical F1-connection:** The UE-associated logical F1-connection uses the identities *GNB-CU UE F1AP ID* and *GNB-DU UE F1AP ID* according to the definition in TS 38.401 [4]. For a received UE associated F1AP message thegNB-CU identifies the associated UE based on the *GNB-CU UE F1AP ID* IE and the gNB-DU identifies the associated UE based on the *GNB-DU UE F1AP ID* IE*.* The UE-associated logical F1-connection may exist before the F1 UE context is setup in gNB-DU.

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [1] and the following apply.   
An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [1].

5GC 5G Core Network

5QI 5G QoS Identifier

AMF Access and Mobility Management Function

CAG Closed Access Group

CN Core Network

CG Cell Group

CGI Cell Global Identifier

CP Control Plane

DL Downlink

EN-DC E-UTRA-NR Dual Connectivity

EPC Evolved Packet Core

IMEISV International Mobile station Equipment Identity and Software Version number

NID Network Identifier

NPN Non-Public Network

NSSAI Network Slice Selection Assistance Information

PNI-NPN Public Network Integrated NPN

RANAC RAN Area Code

RRC Radio Resource Control

SNPN Stand-alone Non-Public Network

S-NSSAI Single Network Slice Selection Assistance Information

SUL Supplementary Uplink

TAC Tracking Area Code

TAI Tracking Area Identity

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

### 8.2.3 F1 Setup

#### 8.2.3.1 General

The purpose of the F1 Setup procedure is to exchange application level data needed for the gNB-DU and the gNB-CU to correctly interoperate on the F1 interface. This procedure shall be the first F1AP procedure triggered for the F1-C interface instance after a TNL association has become operational.

NOTE: If F1-C signalling transport is shared among multiple F1-C interface instances, one F1 Setup procedure is issued per F1-C interface instance to be setup, i.e. several F1 Setup procedures may be issued via the same TNL association after that 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 and replaces it by the one received. This procedure also re-initialises the F1AP UE-related contexts (if any) and erases all related signalling connections in the two nodes like a Reset procedure would do.

#### 8.2.3.2 Successful Operation



Figure 8.2.3.2-1: F1 Setup procedure: Successful Operation

The gNB-DU initiates the procedure by sending a F1 SETUP REQUEST message including the appropriate data to the gNB-CU. The gNB-CU responds with a F1 SETUP RESPONSE message including the appropriate data.

The exchanged data shall be stored in respective node and used as long as there is an operational TNL association. When this procedure is finished, the F1 interface is operational and other F1 messages may be exchanged.

If the F1 SETUP REQUEST message contains the *gNB-DU Name* IE, the gNB-CU may use this IE as a human readable name of the gNB-DU.

If the F1 SETUP REQUEST message contains the *gNB-DU Served Cells List* IE, the gNB-CU shall take into account as specified in TS 38.401 [4].

For NG-RAN, the gNB-DU shall include the *gNB-DU System Information* IE and the *TAI Slice Support List* IE in the F1 SETUP REQUEST message.

The gNB-CU may include the *Cells to be Activated List* IE in the F1 SETUP RESPONSE message. The *Cells to be Activated List* IE includes a list of cells that the gNB-CU requests the gNB-DU to activate. The gNB-DU shall activate the cells included in the *Cells to be Activated List* IE and reconfigure the physical cell identity for cells for which the *NR PCI* IE is included.

For NG-RAN, the gNB-CU shall include the *gNB-CU System Information* IE in the F1 SETUP RESPONSE message.

For NG-RAN, the gNB-DU may include the *RAN Area Code* IE in the F1 SETUP REQUEST message. The gNB-CU may use it according to TS 38.300 [6].

For NG-RAN, the gNB-CU may include *Available PLMN List* IE, and optionally also *Extended Available PLMN List* IE in the F1 SETUP RESPONSE message, if the available PLMN(s) are different from what gNB-DU has provided in F1 SETUP REQUEST message, gNB-DU shall take this into account and only broadcast the PLMN(s) included in the received Available PLMN list(s).

For NG-RAN, the gNB-CU may include *Available SNPN ID List* IE in the F1 SETUP RESPONSE message. If the available SNPN(s) are different from what gNB-DU has provided in F1 SETUP REQUEST message, gNB-DU shall take this into account and only broadcast the SNPN(s) included in the received Available SNPN ID list.

The *Latest* *RRC Version Enhanced* IE shall be included in the F1 SETUP REQUEST message and in the F1 SETUP RESPONSE message.

If in F1 SETUP REQUEST message, the *Cell Direction* IE is present, the gNB-CU should use it to understand whether the cell is for UL or DL only. If in F1 SETUP REQUEST message, the *Cell Direction* IE is omitted in the *Served Cell Information* IE it shall be interpreted as that the Cell Direction is Bi-directional.

If the *Intended TDD DL-UL Configuration IE* is present in the F1 SETUP REQUEST message, the receiving gNB-CU shall use the received information for Cross Link Interference management. The gNB-CU may merge the Intended TDD DL-UL Configuration information received from two or more gNB-DUs. The gNB-CU shall consider the received *Neighbour Cell Information List* IE content valid until reception of an update of the IE for the same cell(s).

If the *Aggressor gNB Set* ID IE is included in the *Served Cell Information* IE in the F1 SETUP REQUEST message, the gNB-CU shall, if supported, take it into account.

If the *Victim gNB Set* ID IE is included in the *Served Cell Information* IE in the F1 SETUP REQUEST message, the gNB-CU shall, if supported, take it into account.

If the F1 SETUP REQUEST message contains the *Transport Layer Address Info* IE, the gNB-CU shall, if supported, take into account for IPSec tunnel establishment.

If the F1 SETUP RESPONSE message contains the *Transport Layer Address Info* IE, the gNB-DU shall, if supported, take into account for IPSec tunnel establishment.

#### 8.2.3.3 Unsuccessful Operation



Figure 8.2.3.3-1: F1 Setup procedure: Unsuccessful Operation

If the gNB-CU cannot accept the setup, it should respond with a F1 SETUP FAILURE and appropriate cause value.

If the F1 SETUP FAILURE message includes the *Time To Wait* IE, the gNB-DU shall wait at least for the indicated time before reinitiating the F1 setup towards the same gNB-CU.

#### 8.2.3.4 Abnormal Conditions

Not applicable.

### 8.2.4 gNB-DU Configuration Update

#### 8.2.4.1 General

The purpose of the gNB-DU Configuration Update procedure is to update application level configuration data needed for the gNB-DU and the gNB-CU to interoperate correctly on the F1 interface. This procedure does not affect existing UE-related contexts, if any. The procedure uses non-UE associated signalling.

#### 8.2.4.2 Successful Operation



Figure 8.2.4.2-1: gNB-DU Configuration Update procedure: Successful Operation

The gNB-DU initiates the procedure by sending a GNB-DU CONFIGURATION UPDATE message to the gNB-CU including an appropriate set of updated configuration data that it has just taken into operational use. The gNB-CU responds with GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE message to acknowledge that it successfully updated the configuration data. If an information element is not included in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU shall interpret that the corresponding configuration data is not changed and shall continue to operate the F1-C interface with the existing related configuration data.

The updated configuration data shall be stored in both nodes and used as long as there is an operational TNL association or until any further update is performed.

If g*NB-DU ID* IE is contained in the GNB-DU CONFIGURATION UPDATE message for a newly established SCTP association, the gNB-CU will associate this association with the related gNB-DU.

If *Served Cells To Add Item* IE is contained in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU shall add cell information according to the information in the *Served Cell Information IE*. For NG-RAN, the gNB-DU shall include the *gNB-DU System Information* IE.

If *Served Cells To Modify Item* IE is contained in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU shall modify information of cell indicated by *Old* *NR CGI* IE according to the information in the *Served Cell Informatio*n IE and overwrite the served cell information for the affected served cell. Further, if the *gNB-DU System Information* IE is present the gNB-CU shall store and replace any previous information received.

If *Served Cells To Delete Item* IE is contained in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU shall delete information of cell indicated by *Old* *NR CGI* IE.

If *Cells Status Item* IE is contained in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU shall update the information about the cells, as described in TS 38.401 [4]. If if the *Switching Off Ongoing* IE is present in the *Cells Status Item* IE, contained in the GNB-DU CONFIGURATION UPDATE message, and the corresponding *Service State IE* is set to “Out-of-Service”, the gNB-CU shall ignore the *Switching Off Ongoing* IE.

If *Cells to be Activated List Item* IE is contained in the GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE message, the gNB-DU shall activate the cell indicated by *NR CGI* IE and reconfigure the physical cell identity for cells for which the *NR PCI* IE is included.

If *Cells to be* *Activated List Item* IE is contained in the GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE message and the indicated cells are already activated, the gNB-DU shall update the cell information received in *Cells to be Activated List Item* IE.

If *Cells to be Deactivated List Item* IE is contained in the GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE message, the gNB-DU shall deactivate all the cells with NR CGI listed in the IE.

If *Dedicated SI Delivery Needed UE List* IE is contained in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU should take it into account when informing the UE of the updated system information via the dedicated RRC message.

For NG-RAN, the gNB-CU shall include the *gNB-CU System Information* IE in the GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE message. The *SIB type to Be Updated List* IE shall contain the full list of SIBs to be broadcast*.*

For NG-RAN, the gNB-DU may include the *RAN Area Code* IE in the GNB-DU CONFIGURATION UPDATE message. The gNB-CU shall store and replace any previously provided *RAN Area Code* IE by the received *RAN Area Code* IE.

If *Available PLMN List* IE, and optionally also *Extended Available PLMN List* IE, is contained in GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE message, the gNB-DU shall overwrite the whole available PLMN list and update the corresponding system information.

If *Available SNPN ID List* IE is contained in GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE message, the gNB-DU shall overwrite the whole available SNPN ID list and update the corresponding system information.

If in GNB-DU CONFIGURATION UPDATE message, the *Cell Direction* IE is present, the gNB-CU should use it to understand whether the cell is for UL or DL only. If in GNB-DU CONFIGURATION UPDATE message, the *Cell Direction* IE is omitted in the *Served Cell Information* IE it shall be interpreted as that the Cell Direction is Bi-directional.

If the GNB-DU CONFIGURATION UPDATE message includes *gNB-DU TNL Association To Remove List* IE, and the *Endpoint IP address* IE and the *Port Number* IE for both TNL endpoints of the TNL association(s) are included in the *gNB-DU TNL Association To Remove List* IE, the gNB-CU shall, if supported, consider that the TNL association(s) indicated by both received TNL endpoints will be removed by the gNB-DU. If the *Endpoint IP address* IE, or the *Endpoint IP address* IE and the *Port Number* IE for one or both of the TNL endpoints is included in the *gNB-DU TNL Association To Remove List* IE in GNB-DU CONFIGURATION UPDATE message, the gNB-CU shall, if supported, consider that the TNL association(s) indicated by the received endpoint IP address(es) will be removed by the gNB-DU.

If the *Neighbour Cell Information List* IE is present in the GNB-DU CONFIGURATION UPDATE message, the receiving gNB-CU shall use the received information for Cross Link Interference management. The gNB-CU may merge the Intended TDD DL-UL Configuration information received from two or more gNB-DUs. The gNB-CU shall consider the received *Neighbour Cell Information List* IE content valid until reception of an update of the IE for the same cell(s).

If the *Aggressor gNB Set* ID IE is included in the *Served Cell Information* IE in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU shall, if supported, take it into account.

If the *Victim gNB Set* ID IE is included in the *Served Cell Information* IE in the GNB-DU CONFIGURATION UPDATE message, the gNB-CU shall, if supported, take it into account.

If the GNB-DU CONFIGURATION UPDATE message includes *Transport Layer Address Info* IE, the gNB-CU shall, if supported, take into account for IPSec tunnel establishment.

If the GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE message includes *Transport Layer Address Info* IE, the gNB-DU shall, if supported, take into account for IPSec tunnel establishment.

#### 8.2.4.3 Unsuccessful Operation



Figure 8.2.4.3-1: gNB-DU Configuration Update procedure: Unsuccessful Operation

If the gNB-CU cannot accept the update, it shall respond with a GNB-DU CONFIGURATION UPDATE FAILURE message and appropriate cause value.

If the GNB-DU CONFIGURATION UPDATE FAILURE message includes the *Time To Wait* IE, the gNB-DU shall wait at least for the indicated time before reinitiating the GNB-DU CONFIGURATION UPDATE message towards the same gNB-CU.

#### 8.2.4.4 Abnormal Conditions

Not applicable.

### 8.2.5 gNB-CU Configuration Update

#### 8.2.5.1 General

The purpose of the gNB-CU Configuration Update procedure is to update application level configuration data needed for the gNB-DU and gNB-CU to interoperate correctly on the F1 interface. This procedure does not affect existing UE-related contexts, if any. The procedure uses non-UE associated signalling.

#### 8.2.5.2 Successful Operation



Figure 8.2.5.2-1: gNB-CU Configuration Update procedure: Successful Operation

The gNB-CU initiates the procedure by sending a GNB-CU CONFIGURATION UPDATE message including the appropriate updated configuration data to the gNB-DU. The gNB-DU responds with a GNB-CU CONFIGURATION UPDATE ACKNOWLEDGE message to acknowledge that it successfully updated the configuration data. If an information element is not included in the GNB-CU CONFIGURATION UPDATE message, the gNB-DU shall interpret that the corresponding configuration data is not changed and shall continue to operate the F1-C interface with the existing related configuration data.

The updated configuration data shall be stored in the respective node and used as long as there is an operational TNL association or until any further update is performed.

If *Cells to be Activated List Item* IE is contained in the GNB-CU CONFIGURATION UPDATE message, the gNB-DU shall activate the cell indicated by *NR CGI* IE and reconfigure the physical cell identity for which the *NR PCI* IE is included.

If *Cells to be Deactivated List Item* IE is contained in the GNB-CU CONFIGURATION UPDATE message, the gNB-DU shall deactivate the cell indicated by *NR CGI* IE.

If *Cells to be Activated List Item* IE is contained in the GNB-CU CONFIGURATION UPDATE message and the indicated cells are already activated, the gNB-DU shall update the cell information received in *Cells to be Activated List Item* IE.

If the *gNB-CU System Information* IE is contained in the gNB-CU CONFIGURATION UPDATE message, the gNB-DU shall include the *Dedicated SI Delivery Needed UE List* IE in the GNB-CU CONFIGURATION UPDATE ACKNOWLEDGE message for UEs that are unable to receive system information from broadcast.

If *Dedicated SI Delivery Needed UE List* IE is contained in the GNB-CU CONFIGURATION UPDATE ACKNOWLEDGE message, the gNB-CU should take it into account when informing the UE of the updated system information via the dedicated RRC message.

If the *gNB-CU TNL Association To Add List* IE is contained in the gNB-CU CONFIGURATION UPDATE message, the gNB-DU shall, if supported, use it to establish the TNL association(s) with the gNB-CU. The gNB-DU shall report to the gNB-CU, in the gNB-CU CONFIGURATION UPDATE ACKNOWLEDGE message, the successful establishment of the TNL association(s) with the gNB-CU as follows:

- A list of TNL address(es) with which the gNB-DU successfully established the TNL association shall be included in the gNB-CU *TNL Association Setup List* IE;

- A list of TNL address(es) with which the gNB-DU failed to establish the TNL association shall be included in the *gNB-CU TNL Association Failed To Setup List* IE.

If the GNB-CU CONFIGURATION UPDATE message includes *gNB-CU TNL Association To Remove List* IE, and the *Endpoint IP address* IE and the *Port Number* IE for both TNL endpoints of the TNL association(s) are included in the *gNB-CU TNL Association To Remove List* IE, the gNB-DU shall, if supported, initiate removal of the TNL association(s) indicated by both received TNL endpoints towards the gNB-CU. If the *Endpoint IP address* IE, or the *Endpoint IP address* IE and the *Port Number* IE for one or both of the TNL endpoints is included in the *gNB-CU TNL Association To Remove List* IE, the gNB-DU shall, if supported, initiate removal of the TNL association(s) indicated by the received endpoint IP address(es).

If the *gNB-CU TNL Association To Update List* IE is contained in the gNB-CU CONFIGURATION UPDATE message the gNB-DU shall, if supported, overwrite the previously stored information for the related TNL Association(s).

If in the gNB-CU CONFIGURATION UPDATE message the *TNL* *Association usage* IE is included in the *gNB-CU TNL Association To Add List* IE or the *gNB-CU TNL Association To Update List* IE, the gNB-DU node shall, if supported, use it as described in TS 38.472 [22].

For NG-RAN, the gNB-CU shall include the *gNB-CU System Information* IE in the GNB-CU CONFIGURATION UPDATE message. The *SIB type to Be Updated List* IE shall contain the full list of SIBs to be broadcast*.*

If *Protected E-UTRA Resources List* IE is contained in the GNB-CU CONFIGURATION UPDATE message, the gNB-DU shall protect the corresponding resource of the cells indicated by *E-UTRA Cells* *List* IE for spectrum sharing between E-UTRA and NR.

If the GNB-CU CONFIGURATION UPDATE message contains the *Protected E-UTRA Resource Indication* IE, the receiving gNB-DU should forward it to lower layers and use it for cell-level resource coordination. The gNB-DU shall consider the received *Protected E-UTRA Resource Indication* IE when expressing its desired resource allocation during gNB-DU Resource Coordination procedure. The gNB-DU shall consider the received *Protected E-UTRA Resource Indication* IE content valid until reception of a new update of the IE for the same gNB-DU.

If *Available PLMN List* IE, and optionally also *Extended Available PLMN List* IE, is contained in GNB-CU CONFIGURATION UPDATE message, the gNB-DU shall overwrite the whole available PLMN list and update the corresponding system information.

If *Available SNPN ID List* IE is contained in GNB-CU CONFIGURATION UPDATE message, the gNB-DU shall overwrite the whole available SNPN ID list and update the corresponding system information.

If *Cells Failed to be Activated Item* IE is contained in the GNB-CU CONFIGURATION UPDATE ACKNOWLEDGE message, the gNB-CU shall consider that the indicated cells are out-of-service as defined in TS 38.401 [4].

If the *Neighbour Cell Information List* IE is present in the GNB-CU CONFIGURATION UPDATE message, the receiving gNB-DU shall use the received information for Cross Link Interference management. The gNB-DU shall consider the received *Neighbour Cell Information List* IE content valid until reception of an update of the IE for the same cell(s). If the *Intended TDD DL-UL Configuration NR* IE is absent from the *Neighbour Cell Information List* IE, whereas the corresponding *NR CGI* IE is present, the receiving gNB-DU shall remove the previously stored *Neighbour Cell Information* IE corresponding to the NR CGI.

If the GNB-CU CONFIGURATION UPDATE message includes *Transport Layer Address Info* IE, the gNB-DU shall, if supported, take into account for IPSec tunnel establishment.

If the GNB-CU CONFIGURATION UPDATE ACKNOWLEDGE message includes *Transport Layer Address Info* IE, the gNB-CU shall, if supported, take into account for IPSec tunnel establishment.

#### 8.2.5.3 Unsuccessful Operation



Figure 8.2.5.3-1: gNB-CU Configuration Update: Unsuccessful Operation

If the gNB-DU cannot accept the update, it shall respond with a GNB-CU CONFIGURATION UPDATE FAILURE message and appropriate cause value.

If the GNB-CU CONFIGURATION UPDATE FAILURE message includes the *Time To Wait* IE, the gNB-CU shall wait at least for the indicated time before reinitiating the GNB-CU CONFIGURATION UPDATE message towards the same gNB-DU.

#### 8.2.5.4 Abnormal Conditions

Not applicable.

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

### 8.2.9 Network Access Rate Reduction

#### 8.2.9.1 General

The purpose of the Network Access Rate Reduction procedure is to indicate to the gNB-DU that the rate at which UEs are accessing the network need to be reduced from its current level.

The procedure uses non-UE associated signalling.

#### 8.2.9.2 Successful operation

gNB

-

DU

NETWORK ACCESS RATE REDUCTION

gNB

-

CU

Figure 8.2.9.2-1: Network Access Rate Reduction, Successful operation

The gNB-CU initiates the procedure by sending a NETWORK ACCESS RATE REDUCTION message to the gNB-DU. When receiving the NETWORK ACCESS RATE REDUCTION message the gNB-DU should take into account the information contained in the *UAC assistance information* to set the parameters for Unified Access Barring.

If the *NID* IE is contained in the NETWORK ACCESS RATE REDUCTION message, the gNB-DU should take it into account and combine the *NID* IE with the *PLMN Identity* IE to identify the SNPN.

#### 8.2.9.3 Abnormal Conditions

Not applicable

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

### 8.3.1 UE Context Setup

#### 8.3.1.1 General

The purpose of the UE Context Setup procedure is to establish the UE Context including, among others, SRB, and DRB configuration. The procedure uses UE-associated signalling.

#### 8.3.1.2 Successful Operation



Figure 8.3.1.2-1: UE Context Setup Request procedure: Successful Operation

The gNB-CU initiates the procedure by sending UE CONTEXT SETUP REQUEST message to the gNB-DU. If the gNB-DU succeeds to establish the UE context, it replies to the gNB-CU with UE CONTEXT SETUP RESPONSE. If no UE-associated logical F1-connection exists, the UE-associated logical F1-connection shall be established as part of the procedure.

If the *UE-CapabilityRAT-ContainerList* IE is included in the UE CONTEXT SETUP REQUEST, the gNB-DU shall take this information into account for UE specific configurations.

If the *servingCellMO* IE is included in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall configure servingCellMO for the indicated SpCell accordingly.

If the *SpCell UL Configured* IE is included in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall configure UL for the indicated SpCell accordingly.

If the *SCell To Be Setup List* IE is included in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall consider it as a list of candidate SCells to be set up. If the *SCell UL Configured* IE is included in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall configure UL for the indicated SCell accordingly. If the *servingCellMO* IE is included in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall configure servingCellMO for the indicated SCell accordingly.

If the *DRX Cycle* IE is contained in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall use the provided value from the gNB-CU.

If the *UL Configuration* IE in *DRB to Be Setup Item* IE is contained in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall take it into account for UL scheduling.

If the *SRB To Be Setup List* IE is contained in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall act as specified in TS 38.401 [4]. If *Duplication Indication* IE is contained in the *SRB To Be Setup List* IE, the gNB-DU shall, if supported, setup two RLC entities for the indicated SRB.

If the *DRB To Be Setup List* IE is contained in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall act as specified in TS 38.401 [4]. If the *QoS Flow Mapping Indication* IE is included in the *DRB To Be Setup List* IE for a QoS flow, the gNB-DU may take it into account that only the uplink or downlink QoS flow is mapped to the indicated DRB.

If two *UL UP TNL Information* IEs are included in UE CONTEXT SETUP REQUEST message for a DRB, gNB-DU shall include two *DL UP TNL Information* IEs in UE CONTEXT SETUP RESPONSE message and setup two RLC entities for the indicated DRB. gNB-CU and gNB-DU use the *UL UP TNL Information* IEs and *DL UP TNL Information* IEs to support packet duplication for intra-gNB-DU CA as defined in TS 38.470 [2]. The first *UP TNL Information* IE of the two *UP TNL Information* IEs is for the primary path*.*

If *Duplication Activation IE* is included in the UE CONTEXT SETUP REQUEST message for a DRB, gNB-DU should take it into account when activating/deactivating CA based PDCP duplication for the DRB.

If *DC Based Duplication Configured* IE is included in the UE CONTEXT SETUP REQUEST message for a DRB, gNB-DU shall regard that DC based PDCP duplication is configured for this DRB if the value is set to be "true" and it should take the responsibility of PDCP duplication activation/deactivation. If *DC Based Duplication Activation* IE is included in the UE CONTEXT SETUP REQUEST message for a DRB, gNB-DU should take it into account when activating/deactivating DC based PDCP duplication for this DRB.

If *UL PDCP SN length* IE is included in the UE CONTEXT SETUP REQUEST message for a DRB, gNB-DU shall, if supported, store this information and use it for lower layer configuration.

For EN-DC operation, and if the *Subscriber Profile ID* *for RAT/Frequency priority* IE is received from an MeNB, the UE CONTEXT SETUP REQUEST message shall contain the *Subscriber Profile ID* *for RAT/Frequency priority* IE. If the *Additional RRM Policy Index* IE is received from an MeNB, the UE CONTEXT SETUP REQUEST message shall, if supported, contain the *Additional RRM Policy Index* IE. The gNB-DU shall store the received Subscriber Profile ID for RAT/Frequency priority in the UE context and use it as defined in TS 36.300 [20]. The gNB-DU shall, if supported, store the received Additional RRM Policy Index in the UE context and use it as defined in TS 36.300 [20].

If the *Index to RAT/Frequency Selection Priority* IE is available at the gNB-CU, the *Index to RAT/Frequency Selection Priority* IE shall be included in the UE CONTEXT SETUP REQUEST. The gNB-DU may use it for RRM purposes.

The gNB-DU shall report to the gNB-CU, in the UE CONTEXT SETUP RESPONSE message, the result for all the requested DRBs and SRBs in the following way:

- A list of DRBs which are successfully established shall be included in the *DRB Setup List* IE;

- A list of DRBs which failed to be established shall be included in the *DRB Failed to Setup List* IE;

- A list of SRBs which failed to be established shall be included in the *SRB Failed to Setup List* IE.

- A list of successfully established SRBs with logical channel identities for primary path shall be included in the *SRB Setup List* IE only if CA based PDCP duplication is initiated for the concerned SRBs.

When the gNB-DU reports the unsuccessful establishment of a DRB or SRB, the cause value should be precise enough to enable the gNB-CU to know the reason for the unsuccessful establishment.

For EN-DC operation, the gNB-CU shall include in the UE CONTEXT SETUP REQUEST the *E-UTRAN QoS* IE. The allocation of resources according to the values of the *Allocation and Retention Priority* IE included in the *E-UTRAN QoS* IE shall follow the principles described for the E-RAB Setup procedure in TS 36.413 [15].

For NG-RAN operation, the gNB-CU shall include in the UE CONTEXT SETUP REQUEST the *DRB Information* IE.

For DC operation, the CG-ConfigInfo IE shall be included in the CU to DU RRC Information IE at the gNB acting as secondary node. If the CG-ConfigInfo IE is included in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall regard it as a reconfiguration with sync as defined in TS 38.331 [8].

If the *HandoverPreparationInformation* IE is included in the *CU to DU RRC Information* IE in the UE CONTEXT SETUP REQUEST message, the gNB-DU of the gNB acting as master node shall regard it as a reconfiguration with sync as defined in TS 38.331 [8]. The gNB-CU shall only initiate the UE Context Setup procedure for handover or secondary node addition when at least one DRB is setup for the UE. If the received *CU to DU RRC Information* IE does not include source cell group configuration, the gNB-DU shall generate the cell group configuration using full configuration. Otherwise, delta configuration is allowed.

If the gNB-CU includes the SMTC information of the measured frequency(ies) in the *MeasurementTimingConfiguration* IE of the *CU to DU RRC Information* IE that is included in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall generate the measurement gaps based on the received SMTC information. Then the gNB-DU shall send the measurement gaps information to the gNB-CU in the *MeasGapConfig* IE of the *DU to CU RRC Information* IE that is included in the UE CONTEXT SETUP RESPONSE message.

For EN-DC operation, if the gNB-CU includes the *Resource Coordination Transfer Information* IE in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall, if supported, use it for the purpose of resource coordination. If the *Ignore PRACH Configuration* IE is present and set to "true" the *E-UTRA PRACH Configuration* IE in the UE CONTEXT SETUP REQUEST message shall be ignored. If the gNB-CU received the MeNB Resource Coordination Information as defined in TS 36.423 [9], it shall transparently transfer it to the gNB-DU via the *Resource Coordination Transfer Container* IE in the UE CONTEXT SETUP REQUEST message. The gNB-DU shall use the information received in the *Resource Coordination Transfer Container* IE for reception of MeNB Resource Coordination Information at the gNB acting as secondary node as described in TS 36.423 [9]. If the *Resource Coordination E-UTRA Cell Information* IE is included in the *Resource Coordination Transfer Information* IE, the gNB-DU shall store the information replacing previously received information for the same E-UTRA cell, and use the stored information for the purpose of resource coordination.

For NGEN-DC or NE-DC operation, if the gNB-CU includes the *Resource Coordination Transfer Information* IE in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall, if supported, use it for the purpose of resource coordination. If the gNB-CU received the MR-DC Resource Coordination Information as defined in TS 38.423 [28], it shall transparently transfer it to the gNB-DU via the *Resource Coordination Transfer Container* IE in the UE CONTEXT SETUP REQUEST message. The gNB-DU shall use the information received in the *Resource Coordination Transfer Container* IE for reception of MR-DC Resource Coordination Information at the gNB as described in TS 38.423 [28].

The *UEAssistanceInformation* IE shall be included in *CU to DU RRC Information* IE in the UE CONTEXT SETUP REQUEST message if the gNB-CU received this IE from the UE; if the *UEAssistanceInformation* IE is included in the *CU to DU RRC Information* IE in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall, if supported, take it into account when configuring resources for the UE.

If the *Resource Coordination Transfer Container* IE is included in the UE CONTEXT SETUP RESPONSE, the gNB-CU shall transparently transfer this information for the purpose of resource coordination as described in TS 36.423 [9], TS 38.423 [28].

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

If the *SCell Failed To Setup List* IE is contained in the UE CONTEXT SETUP RESPONSE message, the gNB-CU shall regard the corresponding SCell(s) failed to be set up with an appropriate cause value for each SCell failed to setup.

If the *Inactivity Monitoring Request* IE is contained in the UE CONTEXT SETUP REQUEST message, gNB-DU may consider that the gNB-CU has requested the gNB-DU to perform UE inactivity monitoring. If the *Inactivity Monitoring Response* IE is contained in the UE CONTEXT SETUP RESPONSE message and set to "Not-supported", the gNB-CU shall consider that the gNB-DU does not support UE inactivity monitoring for the UE.

If the *CellGroupConfig* IE is included in the *DU to CU RRC Information* IE contained in the UE CONTEXT SETUP RESPONSE message, the gNB-CU shall perform RRC Reconfiguration or RRC connection resume as described in TS 38.331 [8]. The *CellGroupConfig* IE shall transparently be signaled to the UE as specified in TS 38.331 [8].

If the *Full Configuration* IE is contained in the UE CONTEXT SETUP RESPONSE message, the gNB-CU shall consider that the gNB-DU has generated the *CellGroupConfig* IE using full configuration.

If the *C-RNTI* IE is included in the UE CONTEXT SETUP RESPONSE, the gNB-CU shall consider that the C-RNTI has been allocated by the gNB-DU for this UE context.

The UE Context Setup Procedure is not used to configure SRB0.

If the UE CONTEXT SETUP REQUEST message contains the *RRC-Container* IE, the gNB-DU shall send the corresponding RRC message to the UE via SRB1.

If the *Notification Control* IE is included in the *DRB to Be Setup List* IE contained in the UE CONTEXT SETUP REQUEST message and it is set to active, the gNB-DU shall, if supported, monitor the QoS of the DRB and notify the gNB-CU if the QoS cannot be fulfilled any longer or if the QoS can be fulfilled again. The *Notification Control* IE can only be applied to GBR bearers.

If the *UL PDU Session Aggregate Maximum Bit Rate* IE is included in the *QoS Flow Level QoS Parameters* IE contained in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall store the received UL PDU Session Aggregate Maximum Bit Rate and use it when enforcing uplink traffic policing for non-GBR Bearers for the concerned UE as specified in TS 23.501 [21].

The gNB-DU shall store the received gNB-DU UE Aggregate Maximum Bit Rate Uplink and use it for non-GBR Bearers for the concerned UE.

If the UE CONTEXT SETUP REQUEST message contains the *QoS Flow Mapping Indication* IE, the gNB-DU may take it into account that only the uplink or downlink QoS flow is mapped to the DRB.

If the UE CONTEXT SETUP REQUEST message contains the *New gNB-CU UE F1AP ID* IE, the gNB-DU shall, if supported, replace the value received in the *gNB-CU UE F1AP ID* IE by the value of the *New gNB-CU UE F1AP ID* and use it for further signalling.

If the *RAN UE ID* IE is contained in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall store and replace any previous information received.

If the *Trace Activation* IE is included in the UE CONTEXT SETUP REQUEST message the gNB-DU shall, if supported, initiate the requested trace function as described in TS 32.422 [29].

For each QoS flow whose DRB has been successfully established and the *QoS Monitoring Request* IE was included in the *QoS Flow Level QoS Parameters* IE contained in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall store this information, and, if supported, perform delay measurement and QoS monitoring, as specified in TS 23.501 [21].

If the *Serving NID* IE is contained in the UE CONTEXT SETUP REQUEST message, the gNB-DU shall combine the *Serving NID* IE with the *Serving PLMN* IEto identify the serving NPN, and may take it into account for UE context establishment.

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

#### 9.2.1.5 F1 SETUP RESPONSE

This message is sent by the gNB-CU to transfer information associated to an F1-C interface instance.

Direction: gNB-CU → gNB-DU

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| Transaction ID | M |  | 9.3.1.23 |  | YES | reject |
| gNB-CU Name | O |  | PrintableString(SIZE(1..150,...)) | Human readable name of the gNB-CU. | YES | ignore |
| **Cells to be Activated List** |  | *0.. 1* |  |  | YES | reject |
| **>Cells to be Activated List Item** |  | *1.. <maxCellingNBDU>* |  | List of cells to be activated | EACH | reject |
| >> NR CGI | M |  | 9.3.1.12 |  | - |  |
| >> NR PCI | O |  | INTEGER (0..1007) | Physical Cell ID | - |  |
| >>gNB-CU System Information | O |  | 9.3.1.42 | RRC container with system information owned by gNB-CU | YES | reject |
| >>Available PLMN List | O |  | 9.3.1.65 |  | YES | ignore |
| >>Extended Available PLMN List | O |  | 9.3.1.76 | This is included if *Available PLMN List* IE is included and if more than 6 Available PLMNs is to be signalled. | YES | ignore |
| >>Available SNPN ID List | O |  | 9.3.1.y7 | Indicates the available SNPN ID list.  If this IE is included, the content of the *Available PLMN List* IE and *Extended Available PLMN List IE* if present in the Cells to be Activated List Item is ignored. | YES | ignore |
| gNB-CU RRC version | M |  | RRC version 9.3.1.70 |  | YES | reject |
| Transport Layer Address Info | O |  | 9.3.2.5 |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxCellingNBDU | Maximum no. cells that can be served by a gNB-DU. Value is 512. |

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

#### 9.2.1.8 GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE

This message is sent by a gNB-CU to a gNB-DU to acknowledge update of information associated to an F1-C interface instance.

NOTE: If F1-C signalling transport is shared among several F1-C interface instances, this message may transfer updated information associated to several F1-C interface instances.

Direction: gNB-CU → gNB-DU

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| Transaction ID | M |  | 9.3.1.23 |  | YES | reject |
| **Cells to be Activated List** |  | *0.. 1* |  | List of cells to be activated | YES | reject |
| **>Cells to be Activated List Item** |  | *1.. <maxCellingNBDU>* |  |  | EACH | reject |
| >> NR CGI | M |  | 9.3.1.12 |  | - |  |
| >> NR PCI | O |  | INTEGER (0..1007) | Physical Cell ID | - |  |
| >> gNB-CU System Information | O |  | 9.3.1.42 | RRC container with system information owned by gNB-CU | YES | reject |
| >>Available PLMN List | O |  | 9.3.1.65 |  | YES | ignore |
| >>Extended Available PLMN List | O |  | 9.3.1.76 | This is included if *Available PLMN List* IE is included and if more than 6 Available PLMNs is to be signalled. | YES | ignore |
| >>Available SNPN ID List | O |  | 9.3.1.y7 | Indicates the available SNPN ID list.  If this IE is included, the content of the *Available PLMN List* IE and *Extended Available PLMN List IE* if present in the Cells to be Activated List Item is ignored. | YES | ignore |
| Criticality Diagnostics | O |  | 9.3.1.3 |  | YES | ignore |
| **Cells to be Deactivated List** |  | *0.. 1* |  | List of cells to be deactivated | YES | reject |
| **>Cells to be Deactivated List Item** |  | *1.. <maxCellingNBDU>* |  |  | EACH | reject |
| >> NR CGI | M |  | 9.3.1.12 |  | - | - |
| Transport Layer Address Info | O |  | 9.3.2.5 |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxCellingNBDU | Maximum no. cells that can be served by a gNB-DU. Value is 512. |

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

#### 9.2.1.10 GNB-CU CONFIGURATION UPDATE

This message is sent by the gNB-CU to transfer updated information associated to an F1-C interface instance.

NOTE: If F1-C signalling transport is shared among several F1-C interface instances, this message may transfer updated information associated to several F1-C interface instances.

Direction: gNB-CU → gNB-DU

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| Transaction ID | M |  | 9.3.1.23 |  | YES | reject |
| **Cells to be Activated List** |  | *0..1* |  | List of cells to be activated or modified | YES | reject |
| **>Cells to be Activated List Item** |  | *1.. <maxCellingNBDU>* |  |  | EACH | reject |
| >> NR CGI | M |  | 9.3.1.12 |  | - |  |
| >> NR PCI | O |  | INTEGER (0..1007) | Physical Cell ID | - |  |
| >> gNB-CU System Information | O |  | 9.3.1.42 | RRC container with system information owned by gNB-CU | YES | reject |
| >>Available PLMN List | O |  | 9.3.1.65 |  | YES | ignore |
| >>Extended Available PLMN List | O |  | 9.3.1.76 | This is included if *Available PLMN List* IE is included and if more than 6 Available PLMNs is to be signalled. | YES | ignore |
| >>Available SNPN ID List | O |  | 9.3.1.y7 | Indicates the available SNPN ID list.  If this IE is included, the content of the *Available PLMN List* IE and *Extended Available PLMN List IE* if present in the Cells to be Activated List Item is ignored. | YES | ignore |
| **Cells to be Deactivated List** |  | *0..1* |  | List of cells to be deactivated | YES | reject |
| **>Cells to be Deactivated List Item** |  | *1.. <maxCellingNBDU>* |  |  | EACH | reject |
| >> NR CGI | M |  | 9.3.1.12 |  | - |  |
| **gNB-CU TNL Association To Add List** |  | *0..1* |  |  | YES | ignore |
| **>gNB-CU TNL Association To Add Item IEs** |  | *1..<maxnoofTNLAssociations>* |  |  | EACH | ignore |
| >>TNL Association Transport Layer Information | M |  | CP Transport Layer Address  9.3.2.4 | Transport Layer Address of the gNB-CU. | - |  |
| >>TNL Association Usage | M |  | ENUMERATED (ue, non-ue, both, ...) | Indicates whether the TNL association is only used for UE-associated signalling, or non-UE-associated signalling, or both. For usage of this IE, refer to TS 38.472 [22]. | - |  |
| **gNB-CU TNL Association To Remove List** |  | *0..1* |  |  | YES | ignore |
| **>gNB-CU TNL Association To Remove Item IEs** |  | *1..<maxnoofTNLAssociation>* |  |  | EACH | ignore |
| >>TNL Association Transport Layer Address | M |  | CP Transport Layer Address  9.3.2.4 | Transport Layer Address of the gNB-CU. | - |  |
| >>TNL Association Transport Layer Address gNB-DU | O |  | CP Transport Layer Address  9.3.2.4 | Transport Layer Address of the gNB-DU. | YES | reject |
| **gNB-CU TNL Association To Update List** |  | *0..1* |  |  | YES | ignore |
| **>gNB-CU TNL Association To Update Item IEs** |  | *1..<maxnoofTNLAssociations>* |  |  | EACH | ignore |
| >>TNL Association Transport Layer Address | M |  | CP Transport Layer Address  9.3.2.4 | Transport Layer Address of the gNB-CU. | - |  |
| >>TNL Association Usage | O |  | ENUMERATED (ue, non-ue, both, ...) | Indicates whether the TNL association is only used for UE-associated signalling, or non-UE-associated signalling, or both. For usage of this IE, refer to TS 38.472 [22]. | - |  |
| **Cells to be barred List** |  | *0..1* |  | List of cells to be barred. | YES | ignore |
| **>Cells to be barred List Item** |  | *1.. <maxCellingNBDU>* |  |  | EACH | ignore |
| >>NR CGI | M |  | 9.3.1.12 |  | - |  |
| >> Cell Barred | M |  | ENUMERATED (barred, not-barred, ...) |  | - |  |
| **Protected E-UTRA Resources List** |  | *0..1* |  | List of Protected E-UTRA Resources. | YES | reject |
| **>Protected E-UTRA Resources List Item** |  | *1.. <maxCellineNB>* |  |  | EACH | reject |
| >>Spectrum Sharing Group ID | M |  | INTEGER (1.. maxCellineNB) | Indicates the E-UTRA cells involved in resource coordination with the NR cells affiliated with the same Spectrum Sharing Group ID. | - |  |
| **>> E-UTRA Cells List** |  | *1* |  | List of applicable E-UTRA cells. | - |  |
| **>>> E-UTRA Cells List Item** |  | *1 .. <maxCellineNB>* |  |  | - |  |
| >>>>EUTRA Cell ID | M |  | BIT STRING (SIZE(28)) | Indicates the E-UTRAN Cell Global Identifier as defined in subclause 9.2.14 in TS 36.423 [9]. | - |  |
| >>>>Served E-UTRA Cell Information | M |  | 9.3.1.64 |  | - |  |
| **Neighbour Cell Information List** |  | *0..1* |  |  | YES | ignore |
| **>Neighbour Cell Information List Item** |  | *1 .. <maxCellingNBDU>* |  |  | EACH | ignore |
| >>NR CGI | M |  | 9.3.1.12 |  | - |  |
| >>Intended TDD DL-UL Configuration | O |  | 9.3.1.89 |  | - |  |
| Transport Layer Address Info | O |  | 9.3.2.5 |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxCellingNBDU | Maximum nunmerbs of cells that can be served by a gNB-DU. Value is 512. |
| maxnoofTNLAssociations | Maximum numbers of TNL Associations between the gNB-CU and the gNB-DU. Value is 32. |
| maxCellineNB | Maximum no. cells that can be served by an eNB. Value is 256. |

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

#### 9.2.2.1 UE CONTEXT SETUP REQUEST

This message is sent by the gNB-CU to request the setup of a UE context.

Direction: gNB-CU → gNB-DU.

| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| gNB-CU UE F1AP ID | M |  | 9.3.1.4 |  | YES | reject |
| gNB-DU UE F1AP ID | O |  | 9.3.1.5 |  | YES | ignore |
| SpCell ID | M |  | NR CGI  9.3.1.12 | Special Cell as defined in TS 38.321 [16]. For handover case, this IE is considered as target cell. | YES | reject |
| ServCellIndex | M |  | INTEGER (0..31,...) |  | YES | reject |
| SpCell UL Configured | O |  | Cell UL Configured  9.3.1.33 |  | YES | ignore |
| CU to DU RRC Information | M |  | 9.3.1.25 |  | YES | reject |
| **Candidate SpCell List** |  | *0..1* |  |  | YES | ignore |
| **>Candidate SpCell Item IEs** |  | *1 .. <maxnoofCandidateSpCells>* |  |  | EACH | ignore |
| >>Candidate SpCell ID | M |  | NR CGI  9.3.1.12 | Special Cell as defined in TS 38.321 [16] | - |  |
| DRX Cycle | O |  | DRX Cycle  9.3.1.24 |  | YES | ignore |
| Resource Coordination Transfer Container | O |  | OCTET STRING | Includes the *MeNB Resource Coordination Information* IE as defined in subclause 9.2.116 of TS 36.423 [9] for EN-DC case or *MR-DC Resource Coordination Information* IE as defined in TS 38.423 [28] for NGEN-DC and NE-DC cases. | YES | ignore |
| **SCell To Be Setup List** |  | *0..1* |  |  | YES | ignore |
| **>SCell to Be Setup Item IEs** |  | *1.. <maxnoofSCells>* |  |  | EACH | ignore |
| >>SCell ID | M |  | NR CGI  9.3.1.12 | SCell Identifier in gNB | - |  |
| >>SCellIndex | M |  | INTEGER (1..31) |  | - |  |
| >>SCell UL Configured | O |  | Cell UL Configured  9.3.1.33 |  | - |  |
| >>servingCellMO | O |  | INTEGER (1..64) |  | YES | ignore |
| **SRB to Be Setup List** |  | *0..1* |  |  | YES | reject |
| **>SRB to Be Setup Item IEs** |  | *1 .. <maxnoofSRBs>* |  |  | EACH | reject |
| >>SRB ID | M |  | 9.3.1.7 |  | - |  |
| >>Duplication Indication | O |  | ENUMERATED (true, ..., false) | If included, it should be set to true. | - |  |
| **DRB to Be Setup List** |  | *0..1* |  |  | YES | reject |
| **>DRB to Be Setup Item IEs** |  | *1 .. <maxnoofDRBs>* |  |  | EACH | reject |
| >>DRB ID | M |  | 9.3.1.8 |  | - |  |
| >>CHOICE QoS Information | M |  |  |  | - |  |
| >>>E-UTRAN QoS | M |  | 9.3.1.19 | Shall be used for EN-DC case to convey E-RAB Level QoS Parameters | - |  |
| **>>>DRB Information** |  | *1* |  | Shall be used for NG-RAN cases | YES | ignore |
| >>>>DRB QoS | M |  | 9.3.1.45 |  | - |  |
| >>>>S-NSSAI | M |  | 9.3.1.38 |  | - |  |
| >>>>Notification Control | O |  | 9.3.1.56 |  | - |  |
| **>>>>Flows Mapped to DRB Item** |  | *1 .. <maxnoofQoSFlows>* |  |  | - |  |
| >>>>>QoS Flow Identifier | M |  | 9.3.1.63 |  | - |  |
| >>>>>QoS Flow Level QoS Parameters | M |  | 9.3.1.45 |  | - |  |
| >>>>>QoS Flow Mapping Indication | O |  | 9.3.1.72 |  | YES | ignore |
| **>>UL UP TNL Information to be setup List** |  | *1* |  |  | - |  |
| **>>> UL UP TNL Information to Be Setup Item IEs** |  | *1 .. <maxnoofULUPTNLInformation>* |  |  | - |  |
| >>>>UL UP TNL Information | M |  | UP Transport Layer Information  9.3.2.1 | gNB-CU endpoint of the F1 transport bearer. For delivery of UL PDUs. | - |  |
| >> RLC Mode | M |  | 9.3.1.27 |  | - |  |
| >> UL Configuration | O |  | UL Configuraiton  9.3.1.31 | Information about UL usage in gNB-DU. | - |  |
| >>Duplication Activation | O |  | 9.3.1.36 | Information on the initial state of CA based UL PDCP duplication | - |  |
| >> DC Based Duplication Configured | O |  | ENUMERATED (true, ..., false) | Indication on whether DC based PDCP duplication is configured or not. If included, it should be set to true. | YES | reject |
| >>DC Based Duplication Activation | O |  | Duplication Activation  9.3.1.36 | Information on the initial state of DC basedUL PDCP duplication | YES | reject |
| >>DL PDCP SN length | M |  | ENUMERATED (12bits, 18bits, ...) |  | YES | ignore |
| >>UL PDCP SN length | O |  | ENUMERATED (12bits, 18bits, ...) |  | YES | ignore |
| Inactivity Monitoring Request | O |  | ENUMERATED (true, ...) |  | YES | reject |
| RAT-Frequency Priority Information | O |  | 9.3.1.34 |  | YES | reject |
| RRC-Container | O |  | 9.3.1.6 | Includes the *DL-DCCH-Message* IE as defined in subclause 6.2 of TS 38.331 [8], encapsulated in a PDCP PDU. | YES | ignore |
| Masked IMEISV | O |  | 9.3.1.55 |  | YES | ignore |
| Serving PLMN | O |  | PLMN ID  9.3.1.14 | Indicates the PLMN serving the UE. | YES | ignore |
| gNB-DU UE Aggregate Maximum Bit Rate Uplink | C-ifDRBSetup |  | Bit Rate 9.3.1.22 | The gNB-DU UE Aggregate Maximum Bit Rate Uplink is to be enforced by the gNB-DU. | YES | ignore |
| RRC Delivery Status Request | O |  | ENUMERATED (true, …) | Indicates whether RRC DELIVERY REPORT procedure is requested for the RRC message. | YES | ignore |
| Resource Coordination Transfer Information | O |  | 9.3.1.73 |  | YES | ignore |
| servingCellMO | O |  | INTEGER (1..64, ...) |  | YES | ignore |
| New gNB-CU UE F1AP ID | O |  | gNB-CU UE F1AP ID  9.3.1.4 |  | YES | reject |
| RAN UE ID | O |  | OCTET STRING (SIZE (8)) |  | YES | ignore |
| Trace Activation | O |  | 9.3.1.88 |  | YES | ignore |
| Additional RRM Policy Index | O |  | 9.3.1.90 |  | YES | ignore |
| Serving NID | O |  | 9.3.1.x1 |  | YES | reject |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofSCells | Maximum no. of SCells allowed towards one UE, the maximum value is 32. |
| maxnoofSRBs | Maximum no. of SRB allowed towards one UE, the maximum value is 8. |
| maxnoofDRBs | Maximum no. of DRB allowed towards one UE, the maximum value is 64. |
| maxnoofULUPTNLInformation | Maximum no. of ULUP TNL Information allowed towards one DRB, the maximum value is 2. |
| maxnoofCandidateSpCells | Maximum no. of SpCells allowed towards one UE, the maximum value is 64. |
| maxnoofQoSFlows | Maximum no. of flows allowed to be mapped to one DRB, the maximum value is 64. |

|  |  |
| --- | --- |
| Condition | Explanation |
| ifDRBSetup | This IE shall be present only if the *DRB to Be Setup List* IE is present. |

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

#### 9.3.1.2 Cause

The purpose of the *Cause* IE is to indicate the reason for a particular event for the F1AP protocol.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| CHOICE *Cause Group* | M |  |  |  |
| >*Radio Network Layer* |  |  |  |  |
| >>Radio Network Layer Cause | M |  | ENUMERATED (Unspecified, RL failure-RLC, Unknown or already allocated gNB-CU UE F1AP ID,  Unknown or already allocated gNB-DU UE F1AP ID,  Unknown or inconsistent pair of UE F1AP ID,  Interaction with other procedure,  Not supported QCI Value,  Action Desirable for Radio Reasons,  No Radio Resources Available,  Procedure cancelled, Normal Release, ..., Cell not available, RL failure-others, UE rejection, Resources not available for the slice(s), AMF initiated abnormal release, Release due to Pre-Emption, PLMN not served by the gNB-CU, Multiple DRB ID Instances, Unknown DRB ID, NPN not supported, NPN access denied) |  |
| *>Transport Layer* |  |  |  |  |
| >>Transport Layer Cause | M |  | ENUMERATED (Unspecified, Transport Resource Unavailable, ...) |  |
| *>Protocol* |  |  |  |  |
| >>Protocol Cause | M |  | ENUMERATED (Transfer Syntax Error, Abstract Syntax Error (Reject), Abstract Syntax Error (Ignore and Notify), Message not Compatible with Receiver State,  Semantic Error,  Abstract Syntax Error (Falsely Constructed Message), Unspecified, ...) |  |
| *>Misc* |  |  |  |  |
| >>Miscellaneous Cause | M |  | ENUMERATED (Control Processing Overload, Not enough User Plane Processing Resources, Hardware Failure, O&M Intervention, Unspecified, ...) |  |

The meaning of the different cause values is described in the following table. In general, "not supported" cause values indicate that the related capability is missing. On the other hand, "not available" cause values indicate that the related capability is present, but insufficient resources were available to perform the requested action.

|  |  |
| --- | --- |
| Radio Network Layer cause | Meaning |
| Unspecified | Sent for radio network layer cause when none of the specified cause values applies. |
| RL Failure-RLC | The action is due to an RL failure caused by exceeding the maximum number of ARQ retransmissions. |
| Unknown or already allocated gNB-CU UE F1AP ID | The action failed because the gNB-CU UE F1AP ID is either unknown, or (for a first message received at the gNB-CU) is known and already allocated to an existing context. |
| Unknown or already allocated gNB-DU UE F1AP ID | The action failed because the gNB-DU UE F1AP ID is either unknown, or (for a first message received at the gNB-DU) is known and already allocated to an existing context. |
| Unknown or inconsistent pair of UE F1AP ID | The action failed because both UE F1AP IDs are unknown, or are known but do not define a single UE context. |
| Interaction with other procedure | The action is due to an ongoing interaction with another procedure. |
| Not supported QCI Value | The action failed because the requested QCI is not supported. |
| Action Desirable for Radio Reasons | The reason for requesting the action is radio related. |
| No Radio Resources Available | The cell(s) in the requested node don’t have sufficient radio resources available. |
| Procedure cancelled | The sending node cancelled the procedure due to other urgent actions to be performed. |
| Normal Release | The action is due to a normal release of the UE (e.g. because of mobility) and does not indicate an error. |
| Cell Not Available | The action failed due to no cell available in the requested node. |
| RL Failure-others | The action is due to an RL failure caused by other radio link failures than exceeding the maximum number of ARQ retransmissions. |
| UE rejection | The action is due to gNB-CU’s rejection of a UE access request. |
| Resources not available for the slice(s) | The requested resources are not available for the slice(s). |
| AMF initiated abnormal release | The release is triggered by an error in the AMF or in the NAS layer. |
| Release due to Pre-Emption | Release is initiated due to pre-emption. |
| PLMN not served by the gNB-CU | The PLMN indicated by the UE is not served by the gNB-CU. |
| Multiple DRB ID Instances | The action failed because multiple instances of the same DRB had been provided. |
| Unknown DRB ID | The action failed because the DRB ID is unknow. |
| NPN not supported | The action fails because the indicated SNPN is not supported in the node. |
| NPN access denied | The action is due to rejection of a UE access request for NPN. |

|  |  |
| --- | --- |
| Transport Layer cause | Meaning |
| Unspecified | Sent when none of the above cause values applies but still the cause is Transport Network Layer related. |
| Transport Resource Unavailable | The required transport resources are not available. |

|  |  |
| --- | --- |
| **Protocol cause** | **Meaning** |
| Transfer Syntax Error | The received message included a transfer syntax error. |
| Abstract Syntax Error (Reject) | The received message included an abstract syntax error and the concerning criticality indicated "reject". |
| Abstract Syntax Error (Ignore And Notify) | The received message included an abstract syntax error and the concerning criticality indicated "ignore and notify". |
| Message Not Compatible With Receiver State | The received message was not compatible with the receiver state. |
| Semantic Error | The received message included a semantic error. |
| Abstract Syntax Error (Falsely Constructed Message) | The received message contained IEs or IE groups in wrong order or with too many occurrences. |
| Unspecified | Sent when none of the above cause values applies but still the cause is Protocol related. |

| **Miscellaneous cause** | **Meaning** |
| --- | --- |
| Control Processing Overload | Control processing overload. |
| Not EnoughUser Plane Processing Resources Available | No enough resources are available related to user plane processing. |
| Hardware Failure | Action related to hardware failure. |
| O&M Intervention | The action is due to O&M intervention. |
| Unspecified Failure | Sent when none of the above cause values applies and the cause is not related to any of the categories Radio Network Layer, Transport Network Layer or Protocol. |

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

#### 9.3.1.10 Served Cell Information

This IE contains cell configuration information of a cell in the gNB-DU.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| NR CGI | M |  | 9.3.1.12 |  | - |  |
| NR PCI | M |  | INTEGER (0..1007) | Physical Cell ID | - |  |
| 5GS TAC | O |  | 9.3.1.29 | 5GS Tracking Area Code | - |  |
| Configured EPS TAC | O |  | 9.3.1.29a |  | - |  |
| **Served PLMNs** |  | *1..<maxnoofBPLMNs>* |  | Broadcast PLMNs | - |  |
| >PLMN Identity | M |  | 9.3.1.14 |  | - |  |
| >TAI Slice Support List | O |  | Slice Support List  9.3.1.37 | Supported S-NSSAIs per TA. | YES | ignore |
| >NPN Support Information | O |  | 9.3.1.x2 | Supported NPNs per PLMN. | YES | reject |
| CHOICE *NR-Mode-Info* | M |  |  |  | - |  |
| *>FDD* |  |  |  |  | - |  |
| **>>FDD Info** |  | *1* |  |  | - |  |
| >>>UL FreqInfo | M |  | NR Frequency Info  9.3.1.17 |  | - |  |
| >>>DL FreqInfo | M |  | NR Frequency Info  9.3.1.17 |  | - |  |
| >>>UL Transmission Bandwidth | M |  | Transmission Bandwidth  9.3.1.15 |  | - |  |
| >>>DL Transmission Bandwidth | M |  | Transmission Bandwidth  9.3.1.15 |  | - |  |
| *>TDD* |  |  |  |  | - |  |
| **>>TDD Info** |  | *1* |  |  | - |  |
| >>>NR FreqInfo | M |  | NR Frequency Info  9.3.1.17 |  | - |  |
| >>>Transmission Bandwidth | M |  | Transmission Bandwidth  9.3.1.15 |  | - |  |
| >>>Intended TDD DL-UL Configuration | O |  | 9.3.1.89 |  | YES | ignore |
| Measurement Timing Configuration | M |  | OCTET STRING | Contains the *MeasurementTimingConfiguration* inter-node message defined in TS 38.331 [8]. | - |  |
| RANAC | O |  | RAN Area Code  9.3.1.57 |  | YES | ignore |
| **Extended Served PLMNs List** |  | *0..1* |  | This is included if more than 6 Served PLMNs is to be signalled. | YES | ignore |
| **>Extended Served PLMNs Item** |  | *1 ..<maxnoofExtendedBPLMNs>* |  |  | - |  |
| >>PLMN Identity | M |  | 9.3.1.14 |  | - |  |
| >>TAI Slice Support List | O |  | Slice Support List  9.3.1.37 | Supported S-NSSAIs per TA. | - |  |
| >>NPN Support Information | O |  | 9.3.1.x2 | Supported NPNs per PLMN. | YES | reject |
| Cell Direction | O |  | 9.3.1.78 |  | YES | ignore |
| Cell Type | O |  | 9.3.1.87 |  | YES | ignore |
| **Broadcast PLMN Identity Info List** |  | *0..<maxnoofBPLMNsNR-1>* |  | This IE corresponds to the *PLMN-IdentityInfoList* IE in *SIB1* as specified in TS 38.331 [8]. The PLMN Identities and associated information contained in this IE is provided in the same order as broadcast in SIB1. | YES | ignore |
| >PLMN Identity List | M |  | Available PLMN List  9.3.1.65 |  | - |  |
| >Extended PLMN Identity List | O |  | Extended Available PLMN List  9.3.1.76 |  | - |  |
| >5GS-TAC | O |  | OCTET STRING (3) |  | - |  |
| >NR Cell Identity | M |  | BIT STRING (36) |  | - |  |
| >RANAC | O |  | RAN Area Code  9.3.1.57 |  | - |  |
| >NPN Broadcast Information | O |  | 9.3.1.y1 | If this IE is included the content of the *PLMN Identity List* IE and *Extended PLMN Identity List* IE if present in the Broadcast PLMN Identity Info List IE is ignored. | YES | reject |
| Aggressor gNB Set ID | O |  | 9.3.1.93 | This IE indicates the associated aggressor gNB Set ID of the cell | YES | ignore |
| Victim gNB Set ID | O |  | 9.3.1.93 | This IE indicates the associated Victim gNB Set ID of the cell | YES | Ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofBPLMNs | Maximum no. of Broadcast PLMN Ids. Value is 6. |
| maxnoofExtendedBPLMNs | Maximum no. of Extended Broadcast PLMN Ids. Value is 6. |
| maxnoofBPLMNsNR-1 | Maximum no. of PLMN Ids.broadcast in an NR cell minus 1. Value is 11. |

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

#### 9.3.1.18 gNB-DU System Information

This IE contains the system information generated by the gNB-DU.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| MIB message | M |  | OCTET STRING | MIB message, as defined in TS 38.331 [8]. | - |  |
| SIB1 message | M |  | OCTET STRING | SIB1 message, as defined in TS 38.331 [8]. | - |  |
| SIB10 message | O |  | OCTET STRING | SIB10 message, as defined in TS 38.331 [8]. | YES | ignore |

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

#### 9.3.1.83 UAC Assistance Information

This information element contains assistance information helping the gNB-DU to set parameters for Unified Access Class barring.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| **UAC PLMN List** |  | *1* |  |  |
| **>UAC PLMN Item** |  | *1..<maxnoofUACPLMNs>* |  |  |
| >>PLMN Identity | M |  | 9.3.1.14 |  |
| **>>UAC Type List** |  | *1* |  |  |
| **>>>UAC Type Item** |  | *1..<maxnoofUACperPLMN>* |  |  |
| >>>>UAC Reduction Indication | M |  | 9.3.1.85 |  |
| >>>>CHOICE UAC Category Type | M |  |  |  |
| >>>>>UAC Standardized |  |  |  |  |
| >>>>>> UAC Action | M |  | 9.3.1.84 |  |
| >>>>>UAC Operator Defined |  |  |  |  |
| >>>>>>Access Category | M |  | INTEGER (32..63, …) | Indicates the operator defined Access Category as defined in subclause 6.3.2 in TS 38.331 [8]. |
| >>>>>>Access Identity | M |  | BIT STRING (SIZE(7)) | Indicates whether access attempt is allowed for each Access Identity as defined in subclause 6.3.2 in TS 38.331 [8]. |
| >>NID | O |  | 9.3.1.x1 |  |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofUACPLMNs | Maximum no. of UAC PLMN Ids. Value is 12. |
| maxnoofUACperPLMN | Maximum no. of signalled categories per PLMN. Value is 64. |

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

#### 9.3.1.x1 NID

This IE is used to identify (together with a PLMN identifier) a Stand-alone Non-Public Network. The NID is specified in TS 23.003 [22].

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| NID | M |  | BIT STRING (SIZE(44)) |  |

#### 9.3.1.x2 NPN Support Information

This IE contains NPN related broadcast information.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| CHOICE *NPN Support Information* | M |  |  |  |
| *>SNPN Information* |  |  |  |  |
| >>NID | M |  | 9.3.1.x1 |  |

#### 9.3.1.y1 NPN Broadcast Information

This IE contains NPN related broadcast information.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| CHOICE *NPN Broadcast Information per PLMN* | M |  |  |  |
| *>SNPN Information* |  |  |  |  |
| >>Broadcast SNPN ID List | M |  | 9.3.1.y2 |  |
| *>PNI-NPN Information* |  |  |  |  |
| >>Broadcast PNI-NPN ID List | M |  | 9.3.1.y6 |  |

#### 9.3.1.y2 Broadcast SNPN ID List

This IE contains SNPN related broadcast information associated with a set of PLMNs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| **Broadcast SNPN ID List** |  | *1..<maxnoofNIDs>* |  |  |
| >PLMN Identity | M |  | 9.3.1.14 |  |
| >Broadcast NID List | M |  | 9.3.1.y3 |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| *maxnoofNIDs* | Maximum no. of NIDs broadcast in a cell. Value is 12. |

#### 9.3.1.y3 Broadcast NID List

This IE contains a list of NIDs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | RangeNIDsupported | IE type and reference | Semantics description |
| **Broadcast NID** |  | *1..<maxnoofNIDsupported* |  |  |
| >NID | M |  | 9.3.1.x1 |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofNIDsupported | Maximum no. of NIDs broadcast in a cell. Value is 12. |

#### 9.3.1.y4 Broadcast CAG-Identifier List

This IE contains a list of CAG-Identifiers.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| **Broadcast CAG-Identifier List** |  | *1..<maxnoofCAGsupported>* |  |  |
| >CAG Id | M |  | 9.3.1.y5 |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofCAGsupported | Maximum no. of CAG-Identifiers broadcast in a cell. Value is 12. |

9.3.1.y5 CAG ID

This IE is used to identify (together with a PLMN identifier) a Public Network Integrated NPN, as defined in TS 23.003 [23].

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| CAG Id | M |  | BIT STRING (SIZE (32)) | Closed Access Group ID used in NR. |

#### 9.3.1.y6 Broadcast PNI-NPN ID Information

This IE contains a list of PNI-NPN IDs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| **Broadcast PNI-NPN ID Information** |  | *1..<maxnoofBPLMNs>* |  | Broadcast PLMNs |
| >PLMN Identity | M |  | 9.3.1.14 |  |
| >Broadcast CAG-Identifier List | M |  | 9.3.1.y4 |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofBPLMNs | Maximum no. of broadcast PLMNs by a cell. Value is 12. |

#### 9.3.1.y7 Available SNPN ID List

This IE indicates the list of available SNPN ID.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| **Available SNPN ID List** |  | *1..<maxnoofNIDs>* |  |  |
| >PLMN Identity | M |  | 9.3.1.14 |  |
| >Available NID List | M |  | Broadcast NID List  9.3.1.y3 |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| *maxnoofNIDs* | Maximum no. of NIDs broadcast in a cell. Value is 12. |

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

### 9.4.3 Elementary Procedure Definitions

-- ASN1START

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

--

-- Elementary Procedure definitions

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

F1AP-PDU-Descriptions {

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

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-PDU-Descriptions (0)}

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

--

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

IMPORTS

Criticality,

ProcedureCode

FROM F1AP-CommonDataTypes

Reset,

ResetAcknowledge,

F1SetupRequest,

F1SetupResponse,

F1SetupFailure,

GNBDUConfigurationUpdate,

GNBDUConfigurationUpdateAcknowledge,

GNBDUConfigurationUpdateFailure,

GNBCUConfigurationUpdate,

GNBCUConfigurationUpdateAcknowledge,

GNBCUConfigurationUpdateFailure,

UEContextSetupRequest,

UEContextSetupResponse,

UEContextSetupFailure,

UEContextReleaseCommand,

UEContextReleaseComplete,

UEContextModificationRequest,

UEContextModificationResponse,

UEContextModificationFailure,

UEContextModificationRequired,

UEContextModificationConfirm,

ErrorIndication,

UEContextReleaseRequest,

DLRRCMessageTransfer,

ULRRCMessageTransfer,

GNBDUResourceCoordinationRequest,

GNBDUResourceCoordinationResponse,

PrivateMessage,

UEInactivityNotification,

InitialULRRCMessageTransfer,

SystemInformationDeliveryCommand,

Paging,

Notify,

WriteReplaceWarningRequest,

WriteReplaceWarningResponse,

PWSCancelRequest,

PWSCancelResponse,

PWSRestartIndication,

PWSFailureIndication,

GNBDUStatusIndication,

RRCDeliveryReport,

UEContextModificationRefuse,

F1RemovalRequest,

F1RemovalResponse,

F1RemovalFailure,

NetworkAccessRateReduction,

TraceStart,

DeactivateTrace,

DUCURadioInformationTransfer,

CUDURadioInformationTransfer

FROM F1AP-PDU-Contents

id-Reset,

id-F1Setup,

id-gNBDUConfigurationUpdate,

id-gNBCUConfigurationUpdate,

id-UEContextSetup,

id-UEContextRelease,

id-UEContextModification,

id-UEContextModificationRequired,

id-ErrorIndication,

id-UEContextReleaseRequest,

id-DLRRCMessageTransfer,

id-ULRRCMessageTransfer,

id-GNBDUResourceCoordination,

id-privateMessage,

id-UEInactivityNotification,

id-InitialULRRCMessageTransfer,

id-SystemInformationDeliveryCommand,

id-Paging,

id-Notify,

id-WriteReplaceWarning,

id-PWSCancel,

id-PWSRestartIndication,

id-PWSFailureIndication,

id-GNBDUStatusIndication,

id-RRCDeliveryReport,

id-F1Removal,

id-NetworkAccessRateReduction,

id-TraceStart,

id-DeactivateTrace,

id-DUCURadioInformationTransfer,

id-CUDURadioInformationTransfer

FROM F1AP-Constants

ProtocolIE-SingleContainer{},

F1AP-PROTOCOL-IES

FROM F1AP-Containers;

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

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-- Interface Elementary Procedure Class

--

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

F1AP-ELEMENTARY-PROCEDURE ::= CLASS {

&InitiatingMessage ,

&SuccessfulOutcome OPTIONAL,

&UnsuccessfulOutcome OPTIONAL,

&procedureCode ProcedureCode UNIQUE,

&criticality Criticality DEFAULT ignore

}

WITH SYNTAX {

INITIATING MESSAGE &InitiatingMessage

[SUCCESSFUL OUTCOME &SuccessfulOutcome]

[UNSUCCESSFUL OUTCOME &UnsuccessfulOutcome]

PROCEDURE CODE &procedureCode

[CRITICALITY &criticality]

}

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

--

-- Interface PDU Definition

--

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

F1AP-PDU ::= CHOICE {

initiatingMessage InitiatingMessage,

successfulOutcome SuccessfulOutcome,

unsuccessfulOutcome UnsuccessfulOutcome,

choice-extension ProtocolIE-SingleContainer { { F1AP-PDU-ExtIEs} }

}

F1AP-PDU-ExtIEs F1AP-PROTOCOL-IES ::= { -- this extension is not used

...

}

InitiatingMessage ::= SEQUENCE {

procedureCode F1AP-ELEMENTARY-PROCEDURE.&procedureCode ({F1AP-ELEMENTARY-PROCEDURES}),

criticality F1AP-ELEMENTARY-PROCEDURE.&criticality ({F1AP-ELEMENTARY-PROCEDURES}{@procedureCode}),

value F1AP-ELEMENTARY-PROCEDURE.&InitiatingMessage ({F1AP-ELEMENTARY-PROCEDURES}{@procedureCode})

}

SuccessfulOutcome ::= SEQUENCE {

procedureCode F1AP-ELEMENTARY-PROCEDURE.&procedureCode ({F1AP-ELEMENTARY-PROCEDURES}),

criticality F1AP-ELEMENTARY-PROCEDURE.&criticality ({F1AP-ELEMENTARY-PROCEDURES}{@procedureCode}),

value F1AP-ELEMENTARY-PROCEDURE.&SuccessfulOutcome ({F1AP-ELEMENTARY-PROCEDURES}{@procedureCode})

}

UnsuccessfulOutcome ::= SEQUENCE {

procedureCode F1AP-ELEMENTARY-PROCEDURE.&procedureCode ({F1AP-ELEMENTARY-PROCEDURES}),

criticality F1AP-ELEMENTARY-PROCEDURE.&criticality ({F1AP-ELEMENTARY-PROCEDURES}{@procedureCode}),

value F1AP-ELEMENTARY-PROCEDURE.&UnsuccessfulOutcome ({F1AP-ELEMENTARY-PROCEDURES}{@procedureCode})

}

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

--

-- Interface Elementary Procedure List

--

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

F1AP-ELEMENTARY-PROCEDURES F1AP-ELEMENTARY-PROCEDURE ::= {

F1AP-ELEMENTARY-PROCEDURES-CLASS-1 |

F1AP-ELEMENTARY-PROCEDURES-CLASS-2,

...

}

F1AP-ELEMENTARY-PROCEDURES-CLASS-1 F1AP-ELEMENTARY-PROCEDURE ::= {

reset |

f1Setup |

gNBDUConfigurationUpdate |

gNBCUConfigurationUpdate |

uEContextSetup |

uEContextRelease |

uEContextModification |

uEContextModificationRequired |

writeReplaceWarning |

pWSCancel |

gNBDUResourceCoordination |

f1Removal ,

...

}

F1AP-ELEMENTARY-PROCEDURES-CLASS-2 F1AP-ELEMENTARY-PROCEDURE ::= {

errorIndication |

uEContextReleaseRequest |

dLRRCMessageTransfer |

uLRRCMessageTransfer |

uEInactivityNotification |

privateMessage |

initialULRRCMessageTransfer |

systemInformationDelivery |

paging |

notify |

pWSRestartIndication |

pWSFailureIndication |

gNBDUStatusIndication |

rRCDeliveryReport |

networkAccessRateReduction |

traceStart |

deactivateTrace |

dUCURadioInformationTransfer |

cUDURadioInformationTransfer ,

...

}

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

--

-- Interface Elementary Procedures

--

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

reset F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE Reset

SUCCESSFUL OUTCOME ResetAcknowledge

PROCEDURE CODE id-Reset

CRITICALITY reject

}

f1Setup F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE F1SetupRequest

SUCCESSFUL OUTCOME F1SetupResponse

UNSUCCESSFUL OUTCOME F1SetupFailure

PROCEDURE CODE id-F1Setup

CRITICALITY reject

}

gNBDUConfigurationUpdate F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE GNBDUConfigurationUpdate

SUCCESSFUL OUTCOME GNBDUConfigurationUpdateAcknowledge

UNSUCCESSFUL OUTCOME GNBDUConfigurationUpdateFailure

PROCEDURE CODE id-gNBDUConfigurationUpdate

CRITICALITY reject

}

gNBCUConfigurationUpdate F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE GNBCUConfigurationUpdate

SUCCESSFUL OUTCOME GNBCUConfigurationUpdateAcknowledge

UNSUCCESSFUL OUTCOME GNBCUConfigurationUpdateFailure

PROCEDURE CODE id-gNBCUConfigurationUpdate

CRITICALITY reject

}

uEContextSetup F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE UEContextSetupRequest

SUCCESSFUL OUTCOME UEContextSetupResponse

UNSUCCESSFUL OUTCOME UEContextSetupFailure

PROCEDURE CODE id-UEContextSetup

CRITICALITY reject

}

uEContextRelease F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE UEContextReleaseCommand

SUCCESSFUL OUTCOME UEContextReleaseComplete

PROCEDURE CODE id-UEContextRelease

CRITICALITY reject

}

uEContextModification F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE UEContextModificationRequest

SUCCESSFUL OUTCOME UEContextModificationResponse

UNSUCCESSFUL OUTCOME UEContextModificationFailure

PROCEDURE CODE id-UEContextModification

CRITICALITY reject

}

uEContextModificationRequired F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE UEContextModificationRequired

SUCCESSFUL OUTCOME UEContextModificationConfirm

UNSUCCESSFUL OUTCOME UEContextModificationRefuse

PROCEDURE CODE id-UEContextModificationRequired

CRITICALITY reject

}

writeReplaceWarning F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE WriteReplaceWarningRequest

SUCCESSFUL OUTCOME WriteReplaceWarningResponse

PROCEDURE CODE id-WriteReplaceWarning

CRITICALITY reject

}

pWSCancel F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE PWSCancelRequest

SUCCESSFUL OUTCOME PWSCancelResponse

PROCEDURE CODE id-PWSCancel

CRITICALITY reject

}

errorIndication F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE ErrorIndication

PROCEDURE CODE id-ErrorIndication

CRITICALITY ignore

}

uEContextReleaseRequest F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE UEContextReleaseRequest

PROCEDURE CODE id-UEContextReleaseRequest

CRITICALITY ignore

}

initialULRRCMessageTransfer F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE InitialULRRCMessageTransfer

PROCEDURE CODE id-InitialULRRCMessageTransfer

CRITICALITY ignore

}

dLRRCMessageTransfer F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE DLRRCMessageTransfer

PROCEDURE CODE id-DLRRCMessageTransfer

CRITICALITY ignore

}

uLRRCMessageTransfer F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE ULRRCMessageTransfer

PROCEDURE CODE id-ULRRCMessageTransfer

CRITICALITY ignore

}

uEInactivityNotification F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE UEInactivityNotification

PROCEDURE CODE id-UEInactivityNotification

CRITICALITY ignore

}

gNBDUResourceCoordination F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE GNBDUResourceCoordinationRequest

SUCCESSFUL OUTCOME GNBDUResourceCoordinationResponse

PROCEDURE CODE id-GNBDUResourceCoordination

CRITICALITY reject

}

privateMessage F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE PrivateMessage

PROCEDURE CODE id-privateMessage

CRITICALITY ignore

}

systemInformationDelivery F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE SystemInformationDeliveryCommand

PROCEDURE CODE id-SystemInformationDeliveryCommand

CRITICALITY ignore

}

paging F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE Paging

PROCEDURE CODE id-Paging

CRITICALITY ignore

}

notify F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE Notify

PROCEDURE CODE id-Notify

CRITICALITY ignore

}

networkAccessRateReduction F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE NetworkAccessRateReduction

PROCEDURE CODE id-NetworkAccessRateReduction

CRITICALITY ignore

}

pWSRestartIndication F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE PWSRestartIndication

PROCEDURE CODE id-PWSRestartIndication

CRITICALITY ignore

}

pWSFailureIndication F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE PWSFailureIndication

PROCEDURE CODE id-PWSFailureIndication

CRITICALITY ignore

}

gNBDUStatusIndication F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE GNBDUStatusIndication

PROCEDURE CODE id-GNBDUStatusIndication

CRITICALITY ignore

}

rRCDeliveryReport F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE RRCDeliveryReport

PROCEDURE CODE id-RRCDeliveryReport

CRITICALITY ignore

}

f1Removal F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE F1RemovalRequest

SUCCESSFUL OUTCOME F1RemovalResponse

UNSUCCESSFUL OUTCOME F1RemovalFailure

PROCEDURE CODE id-F1Removal

CRITICALITY reject

}

traceStart F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE TraceStart

PROCEDURE CODE id-TraceStart

CRITICALITY ignore

}

deactivateTrace F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE DeactivateTrace

PROCEDURE CODE id-DeactivateTrace

CRITICALITY ignore

}

dUCURadioInformationTransfer F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE DUCURadioInformationTransfer

PROCEDURE CODE id-DUCURadioInformationTransfer

CRITICALITY ignore

}

cUDURadioInformationTransfer F1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE CUDURadioInformationTransfer

PROCEDURE CODE id-CUDURadioInformationTransfer

CRITICALITY ignore

}

END

-- ASN1STOP

### 9.4.4 PDU Definitions

-- ASN1START

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

--

-- PDU definitions for F1AP.

--

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

F1AP-PDU-Contents {

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

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

--

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

IMPORTS

Candidate-SpCell-Item,

Cause,

Cells-Failed-to-be-Activated-List-Item,

Cells-Status-Item,

Cells-to-be-Activated-List-Item,

Cells-to-be-Deactivated-List-Item,

CellULConfigured,

CriticalityDiagnostics,

C-RNTI,

CUtoDURRCInformation,

DRB-Activity-Item,

DRBID,

DRBs-FailedToBeModified-Item,

DRBs-FailedToBeSetup-Item,

DRBs-FailedToBeSetupMod-Item,

DRB-Notify-Item,

DRBs-ModifiedConf-Item,

DRBs-Modified-Item,

DRBs-Required-ToBeModified-Item,

DRBs-Required-ToBeReleased-Item,

DRBs-Setup-Item,

DRBs-SetupMod-Item,

DRBs-ToBeModified-Item,

DRBs-ToBeReleased-Item,

DRBs-ToBeSetup-Item,

DRBs-ToBeSetupMod-Item,

DRXCycle,

DRXConfigurationIndicator,

DUtoCURRCInformation,

EUTRANQoS,

ExecuteDuplication,

FullConfiguration,

GNB-CU-UE-F1AP-ID,

GNB-DU-UE-F1AP-ID,

GNB-DU-ID,

GNB-DU-Served-Cells-Item,

GNB-DU-System-Information,

GNB-CU-Name,

GNB-DU-Name,

InactivityMonitoringRequest,

InactivityMonitoringResponse,

LowerLayerPresenceStatusChange,

NotificationControl,

NRCGI,

NRPCI,

UEContextNotRetrievable,

Potential-SpCell-Item,

RAT-FrequencyPriorityInformation,

ResourceCoordinationTransferContainer,

RRCContainer,

RRCContainer-RRCSetupComplete,

RRCReconfigurationCompleteIndicator,

SCellIndex,

SCell-ToBeRemoved-Item,

SCell-ToBeSetup-Item,

SCell-ToBeSetupMod-Item,

SCell-FailedtoSetup-Item,

SCell-FailedtoSetupMod-Item,

ServCellIndex,

Served-Cell-Information,

Served-Cells-To-Add-Item,

Served-Cells-To-Delete-Item,

Served-Cells-To-Modify-Item,

ServingCellMO,

SRBID,

SRBs-FailedToBeSetup-Item,

SRBs-FailedToBeSetupMod-Item,

SRBs-Required-ToBeReleased-Item,

SRBs-ToBeReleased-Item,

SRBs-ToBeSetup-Item,

SRBs-ToBeSetupMod-Item,

SRBs-Modified-Item,

SRBs-Setup-Item,

SRBs-SetupMod-Item,

TimeToWait,

TransactionID,

TransmissionActionIndicator,

UE-associatedLogicalF1-ConnectionItem,

DUtoCURRCContainer,

PagingCell-Item,

SItype-List,

UEIdentityIndexValue,

GNB-CU-TNL-Association-Setup-Item,

GNB-CU-TNL-Association-Failed-To-Setup-Item,

GNB-CU-TNL-Association-To-Add-Item,

GNB-CU-TNL-Association-To-Remove-Item,

GNB-CU-TNL-Association-To-Update-Item,

MaskedIMEISV,

PagingDRX,

PagingPriority,

PagingIdentity,

Cells-to-be-Barred-Item,

PWSSystemInformation,

Broadcast-To-Be-Cancelled-Item,

Cells-Broadcast-Cancelled-Item,

NR-CGI-List-For-Restart-Item,

PWS-Failed-NR-CGI-Item,

RepetitionPeriod,

NumberofBroadcastRequest,

Cells-To-Be-Broadcast-Item,

Cells-Broadcast-Completed-Item,

Cancel-all-Warning-Messages-Indicator,

EUTRA-NR-CellResourceCoordinationReq-Container,

EUTRA-NR-CellResourceCoordinationReqAck-Container,

RequestType,

PLMN-Identity,

RLCFailureIndication,

UplinkTxDirectCurrentListInformation,

SULAccessIndication,

Protected-EUTRA-Resources-Item,

GNB-DUConfigurationQuery,

BitRate,

RRC-Version,

GNBDUOverloadInformation,

RRCDeliveryStatusRequest,

NeedforGap,

RRCDeliveryStatus,

ResourceCoordinationTransferInformation,

Dedicated-SIDelivery-NeededUE-Item,

Associated-SCell-Item,

IgnoreResourceCoordinationContainer,

PagingOrigin,

UAC-Assistance-Info,

RANUEID,

GNB-DU-TNL-Association-To-Remove-Item,

NotificationInformation,

TraceActivation,

TraceID,

Neighbour-Cell-Information-Item,

SymbolAllocInSlot,

NumDLULSymbols,

AdditionalRRMPriorityIndex,

DUCURadioInformationType,

CUDURadioInformationType,

Transport-Layer-Address-Info,

NID,

CAGID

FROM F1AP-IEs

PrivateIE-Container{},

ProtocolExtensionContainer{},

ProtocolIE-Container{},

ProtocolIE-ContainerPair{},

ProtocolIE-SingleContainer{},

F1AP-PRIVATE-IES,

F1AP-PROTOCOL-EXTENSION,

F1AP-PROTOCOL-IES,

F1AP-PROTOCOL-IES-PAIR

FROM F1AP-Containers

id-Candidate-SpCell-Item,

id-Candidate-SpCell-List,

id-Cause,

id-Cancel-all-Warning-Messages-Indicator,

id-Cells-Failed-to-be-Activated-List,

id-Cells-Failed-to-be-Activated-List-Item,

id-Cells-Status-Item,

id-Cells-Status-List,

id-Cells-to-be-Activated-List,

id-Cells-to-be-Activated-List-Item,

id-Cells-to-be-Deactivated-List,

id-Cells-to-be-Deactivated-List-Item,

id-ConfirmedUEID,

id-CriticalityDiagnostics,

id-C-RNTI,

id-CUtoDURRCInformation,

id-DRB-Activity-Item,

id-DRB-Activity-List,

id-DRBs-FailedToBeModified-Item,

id-DRBs-FailedToBeModified-List,

id-DRBs-FailedToBeSetup-Item,

id-DRBs-FailedToBeSetup-List,

id-DRBs-FailedToBeSetupMod-Item,

id-DRBs-FailedToBeSetupMod-List,

id-DRBs-ModifiedConf-Item,

id-DRBs-ModifiedConf-List,

id-DRBs-Modified-Item,

id-DRBs-Modified-List,

id-DRB-Notify-Item,

id-DRB-Notify-List,

id-DRBs-Required-ToBeModified-Item,

id-DRBs-Required-ToBeModified-List,

id-DRBs-Required-ToBeReleased-Item,

id-DRBs-Required-ToBeReleased-List,

id-DRBs-Setup-Item,

id-DRBs-Setup-List,

id-DRBs-SetupMod-Item,

id-DRBs-SetupMod-List,

id-DRBs-ToBeModified-Item,

id-DRBs-ToBeModified-List,

id-DRBs-ToBeReleased-Item,

id-DRBs-ToBeReleased-List,

id-DRBs-ToBeSetup-Item,

id-DRBs-ToBeSetup-List,

id-DRBs-ToBeSetupMod-Item,

id-DRBs-ToBeSetupMod-List,

id-DRXCycle,

id-DUtoCURRCInformation,

id-ExecuteDuplication,

id-FullConfiguration,

id-gNB-CU-UE-F1AP-ID,

id-gNB-DU-UE-F1AP-ID,

id-gNB-DU-ID,

id-GNB-DU-Served-Cells-Item,

id-gNB-DU-Served-Cells-List,

id-gNB-CU-Name,

id-gNB-DU-Name,

id-InactivityMonitoringRequest,

id-InactivityMonitoringResponse,

id-new-gNB-CU-UE-F1AP-ID,

id-new-gNB-DU-UE-F1AP-ID,

id-oldgNB-DU-UE-F1AP-ID,

id-PLMNAssistanceInfoForNetShar,

id-Potential-SpCell-Item,

id-Potential-SpCell-List,

id-RAT-FrequencyPriorityInformation,

id-RedirectedRRCmessage,

id-ResetType,

id-ResourceCoordinationTransferContainer,

id-RRCContainer,

id-RRCContainer-RRCSetupComplete,

id-RRCReconfigurationCompleteIndicator,

id-SCell-FailedtoSetup-List,

id-SCell-FailedtoSetup-Item,

id-SCell-FailedtoSetupMod-List,

id-SCell-FailedtoSetupMod-Item,

id-SCell-ToBeRemoved-Item,

id-SCell-ToBeRemoved-List,

id-SCell-ToBeSetup-Item,

id-SCell-ToBeSetup-List,

id-SCell-ToBeSetupMod-Item,

id-SCell-ToBeSetupMod-List,

id-SelectedPLMNID,

id-Served-Cells-To-Add-Item,

id-Served-Cells-To-Add-List,

id-Served-Cells-To-Delete-Item,

id-Served-Cells-To-Delete-List,

id-Served-Cells-To-Modify-Item,

id-Served-Cells-To-Modify-List,

id-ServCellIndex,

id-ServingCellMO,

id-SpCell-ID,

id-SpCellULConfigured,

id-SRBID,

id-SRBs-FailedToBeSetup-Item,

id-SRBs-FailedToBeSetup-List,

id-SRBs-FailedToBeSetupMod-Item,

id-SRBs-FailedToBeSetupMod-List,

id-SRBs-Required-ToBeReleased-Item,

id-SRBs-Required-ToBeReleased-List,

id-SRBs-ToBeReleased-Item,

id-SRBs-ToBeReleased-List,

id-SRBs-ToBeSetup-Item,

id-SRBs-ToBeSetup-List,

id-SRBs-ToBeSetupMod-Item,

id-SRBs-ToBeSetupMod-List,

id-SRBs-Modified-Item,

id-SRBs-Modified-List,

id-SRBs-Setup-Item,

id-SRBs-Setup-List,

id-SRBs-SetupMod-Item,

id-SRBs-SetupMod-List,

id-TimeToWait,

id-TransactionID,

id-TransmissionActionIndicator,

id-UEContextNotRetrievable,

id-UE-associatedLogicalF1-ConnectionItem,

id-UE-associatedLogicalF1-ConnectionListResAck,

id-DUtoCURRCContainer,

id-NRCGI,

id-PagingCell-Item,

id-PagingCell-List,

id-PagingDRX,

id-PagingPriority,

id-SItype-List,

id-UEIdentityIndexValue,

id-GNB-CU-TNL-Association-Setup-List,

id-GNB-CU-TNL-Association-Setup-Item,

id-GNB-CU-TNL-Association-Failed-To-Setup-List,

id-GNB-CU-TNL-Association-Failed-To-Setup-Item,

id-GNB-CU-TNL-Association-To-Add-Item,

id-GNB-CU-TNL-Association-To-Add-List,

id-GNB-CU-TNL-Association-To-Remove-Item,

id-GNB-CU-TNL-Association-To-Remove-List,

id-GNB-CU-TNL-Association-To-Update-Item,

id-GNB-CU-TNL-Association-To-Update-List,

id-MaskedIMEISV,

id-PagingIdentity,

id-Cells-to-be-Barred-List,

id-Cells-to-be-Barred-Item,

id-PWSSystemInformation,

id-RepetitionPeriod,

id-NumberofBroadcastRequest,

id-Cells-To-Be-Broadcast-List,

id-Cells-To-Be-Broadcast-Item,

id-Cells-Broadcast-Completed-List,

id-Cells-Broadcast-Completed-Item,

id-Broadcast-To-Be-Cancelled-List,

id-Broadcast-To-Be-Cancelled-Item,

id-Cells-Broadcast-Cancelled-List,

id-Cells-Broadcast-Cancelled-Item,

id-NR-CGI-List-For-Restart-List,

id-NR-CGI-List-For-Restart-Item,

id-PWS-Failed-NR-CGI-List,

id-PWS-Failed-NR-CGI-Item,

id-EUTRA-NR-CellResourceCoordinationReq-Container,

id-EUTRA-NR-CellResourceCoordinationReqAck-Container,

id-Protected-EUTRA-Resources-List,

id-RequestType,

id-ServingPLMN,

id-DRXConfigurationIndicator,

id-RLCFailureIndication,

id-UplinkTxDirectCurrentListInformation,

id-SULAccessIndication,

id-Protected-EUTRA-Resources-Item,

id-GNB-DUConfigurationQuery,

id-GNB-DU-UE-AMBR-UL,

id-GNB-CU-RRC-Version,

id-GNB-DU-RRC-Version,

id-GNBDUOverloadInformation,

id-NeedforGap,

id-RRCDeliveryStatusRequest,

id-RRCDeliveryStatus,

id-Dedicated-SIDelivery-NeededUE-List,

id-Dedicated-SIDelivery-NeededUE-Item,

id-ResourceCoordinationTransferInformation,

id-Associated-SCell-List,

id-Associated-SCell-Item,

id-IgnoreResourceCoordinationContainer,

id-UAC-Assistance-Info,

id-RANUEID,

id-PagingOrigin,

id-GNB-DU-TNL-Association-To-Remove-Item,

id-GNB-DU-TNL-Association-To-Remove-List,

id-NotificationInformation,

id-TraceActivation,

id-TraceID,

id-Neighbour-Cell-Information-List,

id-Neighbour-Cell-Information-Item,

id-SymbolAllocInSlot,

id-NumDLULSymbols,

id-AdditionalRRMPriorityIndex,

id-DUCURadioInformationType,

id-CUDURadioInformationType,

id-LowerLayerPresenceStatusChange,

id-Transport-Layer-Address-Info,

id-ServingNID,

maxCellingNBDU,

maxnoofCandidateSpCells,

maxnoofDRBs,

maxnoofErrors,

maxnoofIndividualF1ConnectionsToReset,

maxnoofPotentialSpCells,

maxnoofSCells,

maxnoofSRBs,

maxnoofPagingCells,

maxnoofTNLAssociations,

maxCellineNB,

maxnoofUEIDs

FROM F1AP-Constants;

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

--

-- RESET ELEMENTARY PROCEDURE

--

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

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

--

-- Reset

--

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

Reset ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {ResetIEs} },

...

}

ResetIEs F1AP-PROTOCOL-IES ::= {

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

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

{ ID id-ResetType CRITICALITY reject TYPE ResetType PRESENCE mandatory },

...

}

ResetType ::= CHOICE {

f1-Interface ResetAll,

partOfF1-Interface UE-associatedLogicalF1-ConnectionListRes,

choice-extension ProtocolIE-SingleContainer { { ResetType-ExtIEs} }

}

ResetType-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

ResetAll ::= ENUMERATED {

reset-all,

...

}

UE-associatedLogicalF1-ConnectionListRes ::= SEQUENCE (SIZE(1.. maxnoofIndividualF1ConnectionsToReset)) OF ProtocolIE-SingleContainer { { UE-associatedLogicalF1-ConnectionItemRes } }

UE-associatedLogicalF1-ConnectionItemRes F1AP-PROTOCOL-IES ::= {

{ ID id-UE-associatedLogicalF1-ConnectionItem CRITICALITY reject TYPE UE-associatedLogicalF1-ConnectionItem PRESENCE mandatory},

...

}

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

--

-- Reset Acknowledge

--

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

ResetAcknowledge ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {ResetAcknowledgeIEs} },

...

}

ResetAcknowledgeIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-UE-associatedLogicalF1-ConnectionListResAck CRITICALITY ignore TYPE UE-associatedLogicalF1-ConnectionListResAck PRESENCE optional }|

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

...

}

UE-associatedLogicalF1-ConnectionListResAck ::= SEQUENCE (SIZE(1.. maxnoofIndividualF1ConnectionsToReset)) OF ProtocolIE-SingleContainer { { UE-associatedLogicalF1-ConnectionItemResAck } }

UE-associatedLogicalF1-ConnectionItemResAck F1AP-PROTOCOL-IES ::= {

{ ID id-UE-associatedLogicalF1-ConnectionItem CRITICALITY ignore TYPE UE-associatedLogicalF1-ConnectionItem PRESENCE mandatory },

...

}

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

--

-- ERROR INDICATION ELEMENTARY PROCEDURE

--

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

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

--

-- Error Indication

--

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

ErrorIndication ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ErrorIndicationIEs}},

...

}

ErrorIndicationIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY ignore TYPE GNB-CU-UE-F1AP-ID PRESENCE optional }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY ignore TYPE GNB-DU-UE-F1AP-ID PRESENCE optional }|

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

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

...

}

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

--

-- F1 SETUP ELEMENTARY PROCEDURE

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

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

--

-- F1 Setup Request

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

F1SetupRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {F1SetupRequestIEs} },

...

}

F1SetupRequestIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-gNB-DU-ID CRITICALITY reject TYPE GNB-DU-ID PRESENCE mandatory }|

{ ID id-gNB-DU-Name CRITICALITY ignore TYPE GNB-DU-Name PRESENCE optional }|

{ ID id-gNB-DU-Served-Cells-List CRITICALITY reject TYPE GNB-DU-Served-Cells-List PRESENCE optional }|

{ ID id-GNB-DU-RRC-Version CRITICALITY reject TYPE RRC-Version PRESENCE mandatory }|

{ ID id-Transport-Layer-Address-Info CRITICALITY ignore TYPE Transport-Layer-Address-Info PRESENCE optional },

...

}

GNB-DU-Served-Cells-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { GNB-DU-Served-Cells-ItemIEs } }

GNB-DU-Served-Cells-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-GNB-DU-Served-Cells-Item CRITICALITY reject TYPE GNB-DU-Served-Cells-Item PRESENCE mandatory },

...

}

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

--

-- F1 Setup Response

--

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

F1SetupResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {F1SetupResponseIEs} },

...

}

F1SetupResponseIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-gNB-CU-Name CRITICALITY ignore TYPE GNB-CU-Name PRESENCE optional }|

{ ID id-Cells-to-be-Activated-List CRITICALITY reject TYPE Cells-to-be-Activated-List PRESENCE optional }|

{ ID id-GNB-CU-RRC-Version CRITICALITY reject TYPE RRC-Version PRESENCE mandatory }|

{ ID id-Transport-Layer-Address-Info CRITICALITY ignore TYPE Transport-Layer-Address-Info PRESENCE optional },

...

}

Cells-to-be-Activated-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Cells-to-be-Activated-List-ItemIEs } }

Cells-to-be-Activated-List-ItemIEs F1AP-PROTOCOL-IES::= {

{ ID id-Cells-to-be-Activated-List-Item CRITICALITY reject TYPE Cells-to-be-Activated-List-Item PRESENCE mandatory},

...

}

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

--

-- F1 Setup Failure

--

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

F1SetupFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {F1SetupFailureIEs} },

...

}

F1SetupFailureIEs F1AP-PROTOCOL-IES ::= {

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

{ 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 },

...

}

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

--

-- GNB-DU CONFIGURATION UPDATE ELEMENTARY PROCEDURE

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

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

--

-- GNB-DU CONFIGURATION UPDATE

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

GNBDUConfigurationUpdate::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNBDUConfigurationUpdateIEs} },

...

}

GNBDUConfigurationUpdateIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-Served-Cells-To-Add-List CRITICALITY reject TYPE Served-Cells-To-Add-List PRESENCE optional }|

{ ID id-Served-Cells-To-Modify-List CRITICALITY reject TYPE Served-Cells-To-Modify-List PRESENCE optional }|

{ ID id-Served-Cells-To-Delete-List CRITICALITY reject TYPE Served-Cells-To-Delete-List PRESENCE optional }|

{ ID id-Cells-Status-List CRITICALITY reject TYPE Cells-Status-List PRESENCE optional }|

{ ID id-Dedicated-SIDelivery-NeededUE-List CRITICALITY ignore TYPE Dedicated-SIDelivery-NeededUE-List PRESENCE optional }|

{ ID id-gNB-DU-ID CRITICALITY reject TYPE GNB-DU-ID PRESENCE optional }|

{ ID id-GNB-DU-TNL-Association-To-Remove-List CRITICALITY reject TYPE GNB-DU-TNL-Association-To-Remove-List PRESENCE optional }|

{ ID id-Transport-Layer-Address-Info CRITICALITY ignore TYPE Transport-Layer-Address-Info PRESENCE optional },

...

}

Served-Cells-To-Add-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Served-Cells-To-Add-ItemIEs } }

Served-Cells-To-Modify-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Served-Cells-To-Modify-ItemIEs } }

Served-Cells-To-Delete-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Served-Cells-To-Delete-ItemIEs } }

Cells-Status-List ::= SEQUENCE (SIZE(0.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Cells-Status-ItemIEs } }

Dedicated-SIDelivery-NeededUE-List::= SEQUENCE (SIZE(1.. maxnoofUEIDs)) OF ProtocolIE-SingleContainer { { Dedicated-SIDelivery-NeededUE-ItemIEs } }

GNB-DU-TNL-Association-To-Remove-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF ProtocolIE-SingleContainer { { GNB-DU-TNL-Association-To-Remove-ItemIEs } }

Served-Cells-To-Add-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Served-Cells-To-Add-Item CRITICALITY reject TYPE Served-Cells-To-Add-Item PRESENCE mandatory },

...

}

Served-Cells-To-Modify-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Served-Cells-To-Modify-Item CRITICALITY reject TYPE Served-Cells-To-Modify-Item PRESENCE mandatory },

...

}

Served-Cells-To-Delete-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Served-Cells-To-Delete-Item CRITICALITY reject TYPE Served-Cells-To-Delete-Item PRESENCE mandatory },

...

}

Cells-Status-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Cells-Status-Item CRITICALITY reject TYPE Cells-Status-Item PRESENCE mandatory },

...

}

Dedicated-SIDelivery-NeededUE-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Dedicated-SIDelivery-NeededUE-Item CRITICALITY ignore TYPE Dedicated-SIDelivery-NeededUE-Item PRESENCE mandatory },

...

}

GNB-DU-TNL-Association-To-Remove-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-GNB-DU-TNL-Association-To-Remove-Item CRITICALITY reject TYPE GNB-DU-TNL-Association-To-Remove-Item PRESENCE mandatory },

...

}

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

--

-- GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE

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

GNBDUConfigurationUpdateAcknowledge ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNBDUConfigurationUpdateAcknowledgeIEs} },

...

}

GNBDUConfigurationUpdateAcknowledgeIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-Cells-to-be-Activated-List CRITICALITY reject TYPE Cells-to-be-Activated-List PRESENCE optional }|

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

{ ID id-Cells-to-be-Deactivated-List CRITICALITY reject TYPE Cells-to-be-Deactivated-List PRESENCE optional }|

{ ID id-Transport-Layer-Address-Info CRITICALITY ignore TYPE Transport-Layer-Address-Info PRESENCE optional },

...

}

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

--

-- GNB-DU CONFIGURATION UPDATE FAILURE

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

GNBDUConfigurationUpdateFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNBDUConfigurationUpdateFailureIEs} },

...

}

GNBDUConfigurationUpdateFailureIEs F1AP-PROTOCOL-IES ::= {

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

{ 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 },

...

}

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

--

-- GNB-CU CONFIGURATION UPDATE ELEMENTARY PROCEDURE

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

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

--

-- GNB-CU CONFIGURATION UPDATE

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

GNBCUConfigurationUpdate ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { GNBCUConfigurationUpdateIEs} },

...

}

GNBCUConfigurationUpdateIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-Cells-to-be-Activated-List CRITICALITY reject TYPE Cells-to-be-Activated-List PRESENCE optional }|

{ ID id-Cells-to-be-Deactivated-List CRITICALITY reject TYPE Cells-to-be-Deactivated-List PRESENCE optional }|

{ ID id-GNB-CU-TNL-Association-To-Add-List CRITICALITY ignore TYPE GNB-CU-TNL-Association-To-Add-List PRESENCE optional }|

{ ID id-GNB-CU-TNL-Association-To-Remove-List CRITICALITY ignore TYPE GNB-CU-TNL-Association-To-Remove-List PRESENCE optional }|

{ ID id-GNB-CU-TNL-Association-To-Update-List CRITICALITY ignore TYPE GNB-CU-TNL-Association-To-Update-List PRESENCE optional }|

{ ID id-Cells-to-be-Barred-List CRITICALITY ignore TYPE Cells-to-be-Barred-List PRESENCE optional }|

{ ID id-Protected-EUTRA-Resources-List CRITICALITY reject TYPE Protected-EUTRA-Resources-List PRESENCE optional }|

{ ID id-Neighbour-Cell-Information-List CRITICALITY ignore TYPE Neighbour-Cell-Information-List PRESENCE optional }|

{ ID id-Transport-Layer-Address-Info CRITICALITY ignore TYPE Transport-Layer-Address-Info PRESENCE optional },

...

}

Cells-to-be-Deactivated-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Cells-to-be-Deactivated-List-ItemIEs } }

GNB-CU-TNL-Association-To-Add-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF ProtocolIE-SingleContainer { { GNB-CU-TNL-Association-To-Add-ItemIEs } }

GNB-CU-TNL-Association-To-Remove-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF ProtocolIE-SingleContainer { { GNB-CU-TNL-Association-To-Remove-ItemIEs } }

GNB-CU-TNL-Association-To-Update-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF ProtocolIE-SingleContainer { { GNB-CU-TNL-Association-To-Update-ItemIEs } }

Cells-to-be-Barred-List ::= SEQUENCE(SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Cells-to-be-Barred-ItemIEs } }

Cells-to-be-Deactivated-List-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Cells-to-be-Deactivated-List-Item CRITICALITY reject TYPE Cells-to-be-Deactivated-List-Item PRESENCE mandatory },

...

}

GNB-CU-TNL-Association-To-Add-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-GNB-CU-TNL-Association-To-Add-Item CRITICALITY ignore TYPE GNB-CU-TNL-Association-To-Add-Item PRESENCE mandatory },

...

}

GNB-CU-TNL-Association-To-Remove-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-GNB-CU-TNL-Association-To-Remove-Item CRITICALITY ignore TYPE GNB-CU-TNL-Association-To-Remove-Item PRESENCE mandatory },

...

}

GNB-CU-TNL-Association-To-Update-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-GNB-CU-TNL-Association-To-Update-Item CRITICALITY ignore TYPE GNB-CU-TNL-Association-To-Update-Item PRESENCE mandatory },

...

}

Cells-to-be-Barred-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Cells-to-be-Barred-Item CRITICALITY ignore TYPE Cells-to-be-Barred-Item PRESENCE mandatory },

...

}

Protected-EUTRA-Resources-List ::= SEQUENCE (SIZE(1.. maxCellineNB)) OF ProtocolIE-SingleContainer { { Protected-EUTRA-Resources-ItemIEs } }

Protected-EUTRA-Resources-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Protected-EUTRA-Resources-Item CRITICALITY reject TYPE Protected-EUTRA-Resources-Item PRESENCE mandatory},

...

}

Neighbour-Cell-Information-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Neighbour-Cell-Information-ItemIEs } }

Neighbour-Cell-Information-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Neighbour-Cell-Information-Item CRITICALITY ignore TYPE Neighbour-Cell-Information-Item PRESENCE mandatory},

...

}

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

--

-- GNB-CU CONFIGURATION UPDATE ACKNOWLEDGE

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

GNBCUConfigurationUpdateAcknowledge ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { GNBCUConfigurationUpdateAcknowledgeIEs} },

...

}

GNBCUConfigurationUpdateAcknowledgeIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-Cells-Failed-to-be-Activated-List CRITICALITY reject TYPE Cells-Failed-to-be-Activated-List PRESENCE optional}|

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

{ ID id-GNB-CU-TNL-Association-Setup-List CRITICALITY ignore TYPE GNB-CU-TNL-Association-Setup-List PRESENCE optional }|

{ ID id-GNB-CU-TNL-Association-Failed-To-Setup-List CRITICALITY ignore TYPE GNB-CU-TNL-Association-Failed-To-Setup-List PRESENCE optional }|

{ ID id-Dedicated-SIDelivery-NeededUE-List CRITICALITY ignore TYPE Dedicated-SIDelivery-NeededUE-List PRESENCE optional }|

{ ID id-Transport-Layer-Address-Info CRITICALITY ignore TYPE Transport-Layer-Address-Info PRESENCE optional },

...

}

Cells-Failed-to-be-Activated-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Cells-Failed-to-be-Activated-List-ItemIEs } }

GNB-CU-TNL-Association-Setup-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF ProtocolIE-SingleContainer { { GNB-CU-TNL-Association-Setup-ItemIEs } }

GNB-CU-TNL-Association-Failed-To-Setup-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF ProtocolIE-SingleContainer { { GNB-CU-TNL-Association-Failed-To-Setup-ItemIEs } }

Cells-Failed-to-be-Activated-List-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Cells-Failed-to-be-Activated-List-Item CRITICALITY reject TYPE Cells-Failed-to-be-Activated-List-Item PRESENCE mandatory },

...

}

GNB-CU-TNL-Association-Setup-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-GNB-CU-TNL-Association-Setup-Item CRITICALITY ignore TYPE GNB-CU-TNL-Association-Setup-Item PRESENCE mandatory },

...

}

GNB-CU-TNL-Association-Failed-To-Setup-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-GNB-CU-TNL-Association-Failed-To-Setup-Item CRITICALITY ignore TYPE GNB-CU-TNL-Association-Failed-To-Setup-Item PRESENCE mandatory },

...

}

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

--

-- GNB-CU CONFIGURATION UPDATE FAILURE

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

GNBCUConfigurationUpdateFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { GNBCUConfigurationUpdateFailureIEs} },

...

}

GNBCUConfigurationUpdateFailureIEs F1AP-PROTOCOL-IES ::= {

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

{ 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 },

...

}

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

--

-- GNB-DU RESOURCE COORDINATION REQUEST

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

GNBDUResourceCoordinationRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{GNBDUResourceCoordinationRequest-IEs}},

...

}

GNBDUResourceCoordinationRequest-IEs F1AP-PROTOCOL-IES ::= {

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

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

{ ID id-EUTRA-NR-CellResourceCoordinationReq-Container CRITICALITY reject TYPE EUTRA-NR-CellResourceCoordinationReq-Container PRESENCE mandatory}|

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

...

}

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

--

-- GNB-DU RESOURCE COORDINATION RESPONSE

--

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

GNBDUResourceCoordinationResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{GNBDUResourceCoordinationResponse-IEs}},

...

}

GNBDUResourceCoordinationResponse-IEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-EUTRA-NR-CellResourceCoordinationReqAck-Container CRITICALITY reject TYPE EUTRA-NR-CellResourceCoordinationReqAck-Container PRESENCE mandatory},

...

}

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

--

-- UE Context Setup ELEMENTARY PROCEDURE

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

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

--

-- UE CONTEXT SETUP REQUEST

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

UEContextSetupRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { UEContextSetupRequestIEs} },

...

}

UEContextSetupRequestIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY ignore TYPE GNB-DU-UE-F1AP-ID PRESENCE optional }|

{ ID id-SpCell-ID CRITICALITY reject TYPE NRCGI PRESENCE mandatory }|

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

{ ID id-SpCellULConfigured CRITICALITY ignore TYPE CellULConfigured PRESENCE optional }|

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

{ ID id-Candidate-SpCell-List CRITICALITY ignore TYPE Candidate-SpCell-List PRESENCE optional }|

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

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

{ ID id-SCell-ToBeSetup-List CRITICALITY ignore TYPE SCell-ToBeSetup-List PRESENCE optional }|

{ ID id-SRBs-ToBeSetup-List CRITICALITY reject TYPE SRBs-ToBeSetup-List PRESENCE optional }|

{ ID id-DRBs-ToBeSetup-List CRITICALITY reject TYPE DRBs-ToBeSetup-List PRESENCE optional }|

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

{ ID id-RAT-FrequencyPriorityInformation CRITICALITY reject TYPE RAT-FrequencyPriorityInformation PRESENCE optional }|

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

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

{ ID id-ServingPLMN CRITICALITY ignore TYPE PLMN-Identity PRESENCE optional }|

{ ID id-GNB-DU-UE-AMBR-UL CRITICALITY ignore TYPE BitRate PRESENCE conditional }|

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

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

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

{ ID id-new-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE optional }|

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

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

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

{ ID id-ServingNID CRITICALITY reject TYPE NID PRESENCE optional },

...

}

Candidate-SpCell-List::= SEQUENCE (SIZE(1..maxnoofCandidateSpCells)) OF ProtocolIE-SingleContainer { { Candidate-SpCell-ItemIEs} }

SCell-ToBeSetup-List::= SEQUENCE (SIZE(1..maxnoofSCells)) OF ProtocolIE-SingleContainer { { SCell-ToBeSetup-ItemIEs} }

SRBs-ToBeSetup-List ::= SEQUENCE (SIZE(1..maxnoofSRBs)) OF ProtocolIE-SingleContainer { { SRBs-ToBeSetup-ItemIEs} }

DRBs-ToBeSetup-List ::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-ToBeSetup-ItemIEs} }

Candidate-SpCell-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Candidate-SpCell-Item CRITICALITY ignore TYPE Candidate-SpCell-Item PRESENCE mandatory },

...

}

SCell-ToBeSetup-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SCell-ToBeSetup-Item CRITICALITY ignore TYPE SCell-ToBeSetup-Item PRESENCE mandatory },

...

}

SRBs-ToBeSetup-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SRBs-ToBeSetup-Item CRITICALITY reject TYPE SRBs-ToBeSetup-Item PRESENCE mandatory},

...

}

DRBs-ToBeSetup-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-ToBeSetup-Item CRITICALITY reject TYPE DRBs-ToBeSetup-Item PRESENCE mandatory},

...

}

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

--

-- UE CONTEXT SETUP RESPONSE

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

UEContextSetupResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { UEContextSetupResponseIEs} },

...

}

UEContextSetupResponseIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

{ ID id-C-RNTI CRITICALITY ignore TYPE C-RNTI PRESENCE optional }|

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

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

{ ID id-DRBs-Setup-List CRITICALITY ignore TYPE DRBs-Setup-List PRESENCE optional }|

{ ID id-SRBs-FailedToBeSetup-List CRITICALITY ignore TYPE SRBs-FailedToBeSetup-List PRESENCE optional }|

{ ID id-DRBs-FailedToBeSetup-List CRITICALITY ignore TYPE DRBs-FailedToBeSetup-List PRESENCE optional }|

{ ID id-SCell-FailedtoSetup-List CRITICALITY ignore TYPE SCell-FailedtoSetup-List PRESENCE optional }|

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

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

{ ID id-SRBs-Setup-List CRITICALITY ignore TYPE SRBs-Setup-List PRESENCE optional },

...

}

DRBs-Setup-List ::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-Setup-ItemIEs} }

SRBs-FailedToBeSetup-List ::= SEQUENCE (SIZE(1..maxnoofSRBs)) OF ProtocolIE-SingleContainer { { SRBs-FailedToBeSetup-ItemIEs} }

DRBs-FailedToBeSetup-List ::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-FailedToBeSetup-ItemIEs} }

SCell-FailedtoSetup-List ::= SEQUENCE (SIZE(1..maxnoofSCells)) OF ProtocolIE-SingleContainer { { SCell-FailedtoSetup-ItemIEs} }

SRBs-Setup-List ::= SEQUENCE (SIZE(1..maxnoofSRBs)) OF ProtocolIE-SingleContainer { { SRBs-Setup-ItemIEs} }

DRBs-Setup-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-Setup-Item CRITICALITY ignore TYPE DRBs-Setup-Item PRESENCE mandatory},

...

}

SRBs-Setup-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SRBs-Setup-Item CRITICALITY ignore TYPE SRBs-Setup-Item PRESENCE mandatory},

...

}

SRBs-FailedToBeSetup-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SRBs-FailedToBeSetup-Item CRITICALITY ignore TYPE SRBs-FailedToBeSetup-Item PRESENCE mandatory},

...

}

DRBs-FailedToBeSetup-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-FailedToBeSetup-Item CRITICALITY ignore TYPE DRBs-FailedToBeSetup-Item PRESENCE mandatory},

...

}

SCell-FailedtoSetup-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SCell-FailedtoSetup-Item CRITICALITY ignore TYPE SCell-FailedtoSetup-Item PRESENCE mandatory},

...

}

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

--

-- UE CONTEXT SETUP FAILURE

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

UEContextSetupFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { UEContextSetupFailureIEs} },

...

}

UEContextSetupFailureIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY ignore TYPE GNB-DU-UE-F1AP-ID PRESENCE optional }|

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

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

{ ID id-Potential-SpCell-List CRITICALITY ignore TYPE Potential-SpCell-List PRESENCE optional },

...

}

Potential-SpCell-List::= SEQUENCE (SIZE(0..maxnoofPotentialSpCells)) OF ProtocolIE-SingleContainer { { Potential-SpCell-ItemIEs} }

Potential-SpCell-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Potential-SpCell-Item CRITICALITY ignore TYPE Potential-SpCell-Item PRESENCE mandatory },

...

}

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

--

-- UE Context Release Request ELEMENTARY PROCEDURE

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

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

--

-- UE Context Release Request

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

UEContextReleaseRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ UEContextReleaseRequestIEs}},

...

}

UEContextReleaseRequestIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

...

}

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

--

-- UE Context Release (gNB-CU initiated) ELEMENTARY PROCEDURE

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

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

--

-- UE CONTEXT RELEASE COMMAND

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

UEContextReleaseCommand ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { UEContextReleaseCommandIEs} },

...

}

UEContextReleaseCommandIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

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

{ ID id-SRBID CRITICALITY ignore TYPE SRBID PRESENCE conditional }|

{ ID id-oldgNB-DU-UE-F1AP-ID CRITICALITY ignore TYPE GNB-DU-UE-F1AP-ID PRESENCE optional }|

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

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

...

}

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

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-- UE CONTEXT RELEASE COMPLETE

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

UEContextReleaseComplete ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { UEContextReleaseCompleteIEs} },

...

}

UEContextReleaseCompleteIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

...

}

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

--

-- UE Context Modification ELEMENTARY PROCEDURE

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

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--

-- UE CONTEXT MODIFICATION REQUEST

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

UEContextModificationRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { UEContextModificationRequestIEs} },

...

}

UEContextModificationRequestIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-SpCell-ID CRITICALITY ignore TYPE NRCGI PRESENCE optional }|

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

{ ID id-SpCellULConfigured CRITICALITY ignore TYPE CellULConfigured PRESENCE optional }|

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

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

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

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

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

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

{ ID id-SCell-ToBeSetupMod-List CRITICALITY ignore TYPE SCell-ToBeSetupMod-List PRESENCE optional }|

{ ID id-SCell-ToBeRemoved-List CRITICALITY ignore TYPE SCell-ToBeRemoved-List PRESENCE optional }|

{ ID id-SRBs-ToBeSetupMod-List CRITICALITY reject TYPE SRBs-ToBeSetupMod-List PRESENCE optional }|

{ ID id-DRBs-ToBeSetupMod-List CRITICALITY reject TYPE DRBs-ToBeSetupMod-List PRESENCE optional }|

{ ID id-DRBs-ToBeModified-List CRITICALITY reject TYPE DRBs-ToBeModified-List PRESENCE optional }|

{ ID id-SRBs-ToBeReleased-List CRITICALITY reject TYPE SRBs-ToBeReleased-List PRESENCE optional }|

{ ID id-DRBs-ToBeReleased-List CRITICALITY reject TYPE DRBs-ToBeReleased-List PRESENCE optional }|

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

{ ID id-RAT-FrequencyPriorityInformation CRITICALITY reject TYPE RAT-FrequencyPriorityInformation PRESENCE optional }|

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

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

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

{ ID id-GNB-DUConfigurationQuery CRITICALITY reject TYPE GNB-DUConfigurationQuery PRESENCE optional }|

{ ID id-GNB-DU-UE-AMBR-UL CRITICALITY ignore TYPE BitRate PRESENCE optional }|

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

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

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

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

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

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

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

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

...

}

SCell-ToBeSetupMod-List::= SEQUENCE (SIZE(1..maxnoofSCells)) OF ProtocolIE-SingleContainer { { SCell-ToBeSetupMod-ItemIEs} }

SCell-ToBeRemoved-List::= SEQUENCE (SIZE(1..maxnoofSCells)) OF ProtocolIE-SingleContainer { { SCell-ToBeRemoved-ItemIEs} }

SRBs-ToBeSetupMod-List ::= SEQUENCE (SIZE(1..maxnoofSRBs)) OF ProtocolIE-SingleContainer { { SRBs-ToBeSetupMod-ItemIEs} }

DRBs-ToBeSetupMod-List ::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-ToBeSetupMod-ItemIEs} }

DRBs-ToBeModified-List ::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-ToBeModified-ItemIEs} }

SRBs-ToBeReleased-List ::= SEQUENCE (SIZE(1..maxnoofSRBs)) OF ProtocolIE-SingleContainer { { SRBs-ToBeReleased-ItemIEs} }

DRBs-ToBeReleased-List ::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-ToBeReleased-ItemIEs} }

SCell-ToBeSetupMod-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SCell-ToBeSetupMod-Item CRITICALITY ignore TYPE SCell-ToBeSetupMod-Item PRESENCE mandatory },

...

}

SCell-ToBeRemoved-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SCell-ToBeRemoved-Item CRITICALITY ignore TYPE SCell-ToBeRemoved-Item PRESENCE mandatory },

...

}

SRBs-ToBeSetupMod-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SRBs-ToBeSetupMod-Item CRITICALITY reject TYPE SRBs-ToBeSetupMod-Item PRESENCE mandatory},

...

}

DRBs-ToBeSetupMod-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-ToBeSetupMod-Item CRITICALITY reject TYPE DRBs-ToBeSetupMod-Item PRESENCE mandatory},

...

}

DRBs-ToBeModified-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-ToBeModified-Item CRITICALITY reject TYPE DRBs-ToBeModified-Item PRESENCE mandatory},

...

}

SRBs-ToBeReleased-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SRBs-ToBeReleased-Item CRITICALITY reject TYPE SRBs-ToBeReleased-Item PRESENCE mandatory},

...

}

DRBs-ToBeReleased-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-ToBeReleased-Item CRITICALITY reject TYPE DRBs-ToBeReleased-Item PRESENCE mandatory},

...

}

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

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-- UE CONTEXT MODIFICATION RESPONSE

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

UEContextModificationResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { UEContextModificationResponseIEs} },

...

}

UEContextModificationResponseIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

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

{ ID id-DRBs-SetupMod-List CRITICALITY ignore TYPE DRBs-SetupMod-List PRESENCE optional}|

{ ID id-DRBs-Modified-List CRITICALITY ignore TYPE DRBs-Modified-List PRESENCE optional}|

{ ID id-SRBs-FailedToBeSetupMod-List CRITICALITY ignore TYPE SRBs-FailedToBeSetupMod-List PRESENCE optional }|

{ ID id-DRBs-FailedToBeSetupMod-List CRITICALITY ignore TYPE DRBs-FailedToBeSetupMod-List PRESENCE optional }|

{ ID id-SCell-FailedtoSetupMod-List CRITICALITY ignore TYPE SCell-FailedtoSetupMod-List PRESENCE optional }|

{ ID id-DRBs-FailedToBeModified-List CRITICALITY ignore TYPE DRBs-FailedToBeModified-List PRESENCE optional }|

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

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

{ ID id-C-RNTI CRITICALITY ignore TYPE C-RNTI PRESENCE optional }|

{ ID id-Associated-SCell-List CRITICALITY ignore TYPE Associated-SCell-List PRESENCE optional }|

{ ID id-SRBs-SetupMod-List CRITICALITY ignore TYPE SRBs-SetupMod-List PRESENCE optional }|

{ ID id-SRBs-Modified-List CRITICALITY ignore TYPE SRBs-Modified-List PRESENCE optional }|

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

...

}

DRBs-SetupMod-List ::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-SetupMod-ItemIEs} }

DRBs-Modified-List::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-Modified-ItemIEs } }

SRBs-SetupMod-List ::= SEQUENCE (SIZE(1..maxnoofSRBs)) OF ProtocolIE-SingleContainer { { SRBs-SetupMod-ItemIEs} }

SRBs-Modified-List ::= SEQUENCE (SIZE(1..maxnoofSRBs)) OF ProtocolIE-SingleContainer { { SRBs-Modified-ItemIEs } }

DRBs-FailedToBeModified-List ::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-FailedToBeModified-ItemIEs} }

SRBs-FailedToBeSetupMod-List ::= SEQUENCE (SIZE(1..maxnoofSRBs)) OF ProtocolIE-SingleContainer { { SRBs-FailedToBeSetupMod-ItemIEs} }

DRBs-FailedToBeSetupMod-List ::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-FailedToBeSetupMod-ItemIEs} }

SCell-FailedtoSetupMod-List ::= SEQUENCE (SIZE(1..maxnoofSCells)) OF ProtocolIE-SingleContainer { { SCell-FailedtoSetupMod-ItemIEs} }

Associated-SCell-List ::= SEQUENCE (SIZE(1.. maxnoofSCells)) OF ProtocolIE-SingleContainer { { Associated-SCell-ItemIEs} }

DRBs-SetupMod-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-SetupMod-Item CRITICALITY ignore TYPE DRBs-SetupMod-Item PRESENCE mandatory},

...

}

DRBs-Modified-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-Modified-Item CRITICALITY ignore TYPE DRBs-Modified-Item PRESENCE mandatory},

...

}

SRBs-SetupMod-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SRBs-SetupMod-Item CRITICALITY ignore TYPE SRBs-SetupMod-Item PRESENCE mandatory},

...

}

SRBs-Modified-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SRBs-Modified-Item CRITICALITY ignore TYPE SRBs-Modified-Item PRESENCE mandatory},

...

}

SRBs-FailedToBeSetupMod-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SRBs-FailedToBeSetupMod-Item CRITICALITY ignore TYPE SRBs-FailedToBeSetupMod-Item PRESENCE mandatory},

...

}

DRBs-FailedToBeSetupMod-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-FailedToBeSetupMod-Item CRITICALITY ignore TYPE DRBs-FailedToBeSetupMod-Item PRESENCE mandatory},

...

}

DRBs-FailedToBeModified-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-FailedToBeModified-Item CRITICALITY ignore TYPE DRBs-FailedToBeModified-Item PRESENCE mandatory},

...

}

SCell-FailedtoSetupMod-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SCell-FailedtoSetupMod-Item CRITICALITY ignore TYPE SCell-FailedtoSetupMod-Item PRESENCE mandatory},

...

}

Associated-SCell-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Associated-SCell-Item CRITICALITY ignore TYPE Associated-SCell-Item PRESENCE mandatory},

...

}

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

--

-- UE CONTEXT MODIFICATION FAILURE

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

UEContextModificationFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { UEContextModificationFailureIEs} },

...

}

UEContextModificationFailureIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

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

...

}

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

--

-- UE Context Modification Required (gNB-DU initiated) ELEMENTARY PROCEDURE

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

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

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-- UE CONTEXT MODIFICATION REQUIRED

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

UEContextModificationRequired ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { UEContextModificationRequiredIEs} },

...

}

UEContextModificationRequiredIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

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

{ ID id-DRBs-Required-ToBeModified-List CRITICALITY reject TYPE DRBs-Required-ToBeModified-List PRESENCE optional}|

{ ID id-SRBs-Required-ToBeReleased-List CRITICALITY reject TYPE SRBs-Required-ToBeReleased-List PRESENCE optional}|

{ ID id-DRBs-Required-ToBeReleased-List CRITICALITY reject TYPE DRBs-Required-ToBeReleased-List PRESENCE optional}|

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

...

}

DRBs-Required-ToBeModified-List::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-Required-ToBeModified-ItemIEs } }

DRBs-Required-ToBeReleased-List::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-Required-ToBeReleased-ItemIEs } }

SRBs-Required-ToBeReleased-List::= SEQUENCE (SIZE(1..maxnoofSRBs)) OF ProtocolIE-SingleContainer { { SRBs-Required-ToBeReleased-ItemIEs } }

DRBs-Required-ToBeModified-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-Required-ToBeModified-Item CRITICALITY reject TYPE DRBs-Required-ToBeModified-Item PRESENCE mandatory},

...

}

DRBs-Required-ToBeReleased-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-Required-ToBeReleased-Item CRITICALITY reject TYPE DRBs-Required-ToBeReleased-Item PRESENCE mandatory},

...

}

SRBs-Required-ToBeReleased-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-SRBs-Required-ToBeReleased-Item CRITICALITY reject TYPE SRBs-Required-ToBeReleased-Item PRESENCE mandatory},

...

}

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

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-- UE CONTEXT MODIFICATION CONFIRM

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

UEContextModificationConfirm::= SEQUENCE {

protocolIEs ProtocolIE-Container { { UEContextModificationConfirmIEs} },

...

}

UEContextModificationConfirmIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

{ ID id-DRBs-ModifiedConf-List CRITICALITY ignore TYPE DRBs-ModifiedConf-List PRESENCE optional}|

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

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

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

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

...

}

DRBs-ModifiedConf-List::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRBs-ModifiedConf-ItemIEs } }

DRBs-ModifiedConf-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-ModifiedConf-Item CRITICALITY ignore TYPE DRBs-ModifiedConf-Item PRESENCE mandatory},

...

}

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

--

-- UE CONTEXT MODIFICATION REFUSE

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

UEContextModificationRefuse::= SEQUENCE {

protocolIEs ProtocolIE-Container { { UEContextModificationRefuseIEs} },

...

}

UEContextModificationRefuseIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

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

...

}

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

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-- WRITE-REPLACE WARNING ELEMENTARY PROCEDURE

--

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

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

--

-- Write-Replace Warning Request

--

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

WriteReplaceWarningRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {WriteReplaceWarningRequestIEs} },

...

}

WriteReplaceWarningRequestIEs F1AP-PROTOCOL-IES ::= {

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

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

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

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

{ ID id-Cells-To-Be-Broadcast-List CRITICALITY reject TYPE Cells-To-Be-Broadcast-List PRESENCE optional },

...

}

Cells-To-Be-Broadcast-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Cells-To-Be-Broadcast-List-ItemIEs } }

Cells-To-Be-Broadcast-List-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Cells-To-Be-Broadcast-Item CRITICALITY reject TYPE Cells-To-Be-Broadcast-Item PRESENCE mandatory },

...

}

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

--

-- Write-Replace Warning Response

--

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

WriteReplaceWarningResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {WriteReplaceWarningResponseIEs} },

...

}

WriteReplaceWarningResponseIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-Cells-Broadcast-Completed-List CRITICALITY reject TYPE Cells-Broadcast-Completed-List PRESENCE optional }|

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

{ ID id-Dedicated-SIDelivery-NeededUE-List CRITICALITY ignore TYPE Dedicated-SIDelivery-NeededUE-List PRESENCE optional },

...

}

Cells-Broadcast-Completed-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Cells-Broadcast-Completed-List-ItemIEs } }

Cells-Broadcast-Completed-List-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Cells-Broadcast-Completed-Item CRITICALITY reject TYPE Cells-Broadcast-Completed-Item PRESENCE mandatory },

...

}

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

--

-- PWS CANCEL ELEMENTARY PROCEDURE

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

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

--

-- PWS Cancel Request

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

PWSCancelRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {PWSCancelRequestIEs} },

...

}

PWSCancelRequestIEs F1AP-PROTOCOL-IES ::= {

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

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

{ ID id-Broadcast-To-Be-Cancelled-List CRITICALITY reject TYPE Broadcast-To-Be-Cancelled-List PRESENCE optional }|

{ ID id-Cancel-all-Warning-Messages-Indicator CRITICALITY reject TYPE Cancel-all-Warning-Messages-Indicator PRESENCE optional }|

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

...

}

Broadcast-To-Be-Cancelled-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Broadcast-To-Be-Cancelled-List-ItemIEs } }

Broadcast-To-Be-Cancelled-List-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Broadcast-To-Be-Cancelled-Item CRITICALITY reject TYPE Broadcast-To-Be-Cancelled-Item PRESENCE mandatory },

...

}

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

--

-- PWS Cancel Response

--

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

PWSCancelResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {PWSCancelResponseIEs} },

...

}

PWSCancelResponseIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-Cells-Broadcast-Cancelled-List CRITICALITY reject TYPE Cells-Broadcast-Cancelled-List PRESENCE optional }|

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

...

}

Cells-Broadcast-Cancelled-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { Cells-Broadcast-Cancelled-List-ItemIEs } }

Cells-Broadcast-Cancelled-List-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-Cells-Broadcast-Cancelled-Item CRITICALITY reject TYPE Cells-Broadcast-Cancelled-Item PRESENCE mandatory },

...

}

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

--

-- UE Inactivity Notification ELEMENTARY PROCEDURE

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

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--

-- UE Inactivity Notification

--

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

UEInactivityNotification ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ UEInactivityNotificationIEs}},

...

}

UEInactivityNotificationIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-DRB-Activity-List CRITICALITY reject TYPE DRB-Activity-List PRESENCE mandatory } ,

...

}

DRB-Activity-List::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRB-Activity-ItemIEs } }

DRB-Activity-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRB-Activity-Item CRITICALITY reject TYPE DRB-Activity-Item PRESENCE mandatory},

...

}

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

--

-- Initial UL RRC Message Transfer ELEMENTARY PROCEDURE

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

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

--

-- INITIAL UL RRC Message Transfer

--

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

InitialULRRCMessageTransfer ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ InitialULRRCMessageTransferIEs}},

...

}

InitialULRRCMessageTransferIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

{ ID id-C-RNTI CRITICALITY reject TYPE C-RNTI PRESENCE mandatory }|

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

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

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

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

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

{ ID id-RRCContainer-RRCSetupComplete CRITICALITY ignore TYPE RRCContainer-RRCSetupComplete PRESENCE optional },

...

}

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

--

-- DL RRC Message Transfer ELEMENTARY PROCEDURE

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

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

--

-- DL RRC Message Transfer

--

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

DLRRCMessageTransfer ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ DLRRCMessageTransferIEs}},

...

}

DLRRCMessageTransferIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-oldgNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE optional }|

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

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

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

{ ID id-RAT-FrequencyPriorityInformation CRITICALITY reject TYPE RAT-FrequencyPriorityInformation PRESENCE optional }|

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

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

{ ID id-RedirectedRRCmessage CRITICALITY reject TYPE OCTET STRING PRESENCE optional }|

{ ID id-PLMNAssistanceInfoForNetShar CRITICALITY ignore TYPE PLMN-Identity PRESENCE optional }|

{ ID id-new-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE optional }|

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

...

}

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

--

-- UL RRC Message Transfer ELEMENTARY PROCEDURE

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

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--

-- UL RRC Message Transfer

--

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

ULRRCMessageTransfer ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ ULRRCMessageTransferIEs}},

...

}

ULRRCMessageTransferIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

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

{ ID id-SelectedPLMNID CRITICALITY reject TYPE PLMN-Identity PRESENCE optional }|

{ ID id-new-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE optional },

...

}

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

--

-- PRIVATE MESSAGE

--

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

PrivateMessage ::= SEQUENCE {

privateIEs PrivateIE-Container {{PrivateMessage-IEs}},

...

}

PrivateMessage-IEs F1AP-PRIVATE-IES ::= {

...

}

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

--

-- System Information ELEMENTARY PROCEDURE

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

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

--

-- System information Delivery Command

--

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

SystemInformationDeliveryCommand ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ SystemInformationDeliveryCommandIEs}},

...

}

SystemInformationDeliveryCommandIEs F1AP-PROTOCOL-IES ::= {

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

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

{ ID id-SItype-List CRITICALITY reject TYPE SItype-List PRESENCE mandatory }|

{ ID id-ConfirmedUEID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory },

...

}

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

--

-- Paging PROCEDURE

--

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

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

--

-- Paging

--

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

Paging ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ PagingIEs}},

...

}

PagingIEs F1AP-PROTOCOL-IES ::= {

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

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

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

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

{ ID id-PagingCell-List CRITICALITY ignore TYPE PagingCell-list PRESENCE mandatory }|

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

...

}

PagingCell-list::= SEQUENCE (SIZE(1.. maxnoofPagingCells)) OF ProtocolIE-SingleContainer { { PagingCell-ItemIEs } }

PagingCell-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-PagingCell-Item CRITICALITY ignore TYPE PagingCell-Item PRESENCE mandatory} ,

...

}

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

--

-- Notify

--

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

Notify ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ NotifyIEs}},

...

}

NotifyIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-DRB-Notify-List CRITICALITY reject TYPE DRB-Notify-List PRESENCE mandatory },

...

}

DRB-Notify-List::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF ProtocolIE-SingleContainer { { DRB-Notify-ItemIEs } }

DRB-Notify-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRB-Notify-Item CRITICALITY reject TYPE DRB-Notify-Item PRESENCE mandatory},

...

}

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

--

-- NETWORK ACCESS RATE REDUCTION ELEMENTARY PROCEDURE

--

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

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

--

-- Network Access Rate Reduction

--

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

NetworkAccessRateReduction ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ NetworkAccessRateReductionIEs }},

...

}

NetworkAccessRateReductionIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-UAC-Assistance-Info CRITICALITY reject TYPE UAC-Assistance-Info PRESENCE mandatory },

...

}

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

--

-- PWS RESTART INDICATION ELEMENTARY PROCEDURE

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

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

--

-- PWS Restart Indication

--

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

PWSRestartIndication ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { PWSRestartIndicationIEs} },

...

}

PWSRestartIndicationIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-NR-CGI-List-For-Restart-List CRITICALITY reject TYPE NR-CGI-List-For-Restart-List PRESENCE mandatory },

...

}

NR-CGI-List-For-Restart-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { NR-CGI-List-For-Restart-List-ItemIEs } }

NR-CGI-List-For-Restart-List-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-NR-CGI-List-For-Restart-Item CRITICALITY reject TYPE NR-CGI-List-For-Restart-Item PRESENCE mandatory },

...

}

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

--

-- PWS FAILURE INDICATION ELEMENTARY PROCEDURE

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

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

--

-- PWS Failure Indication

--

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

PWSFailureIndication ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { PWSFailureIndicationIEs} },

...

}

PWSFailureIndicationIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-PWS-Failed-NR-CGI-List CRITICALITY reject TYPE PWS-Failed-NR-CGI-List PRESENCE optional },

...

}

PWS-Failed-NR-CGI-List ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF ProtocolIE-SingleContainer { { PWS-Failed-NR-CGI-List-ItemIEs } }

PWS-Failed-NR-CGI-List-ItemIEs F1AP-PROTOCOL-IES ::= {

{ ID id-PWS-Failed-NR-CGI-Item CRITICALITY reject TYPE PWS-Failed-NR-CGI-Item PRESENCE mandatory },

...

}

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

--

-- gNB-DU STATUS INDICATION ELEMENTARY PROCEDURE

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

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

--

-- gNB-DU Status Indication

--

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

GNBDUStatusIndication ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNBDUStatusIndicationIEs} },

...

}

GNBDUStatusIndicationIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-GNBDUOverloadInformation CRITICALITY reject TYPE GNBDUOverloadInformation PRESENCE mandatory },

...

}

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

--

-- RRC Delivery Report ELEMENTARY PROCEDURE

--

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

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

--

-- RRC Delivery Report

--

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

RRCDeliveryReport ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ RRCDeliveryReportIEs}},

...

}

RRCDeliveryReportIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

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

{ ID id-SRBID CRITICALITY ignore TYPE SRBID PRESENCE mandatory },

...

}

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

--

-- F1 Removal ELEMENTARY PROCEDURE

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

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

--

-- F1 Removal Request

--

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

F1RemovalRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ F1RemovalRequestIEs }},

...

}

F1RemovalRequestIEs F1AP-PROTOCOL-IES ::= {

{ ID id-TransactionID CRITICALITY reject TYPE TransactionID PRESENCE mandatory },

...

}

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

--

-- F1 Removal Response

--

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

F1RemovalResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ F1RemovalResponseIEs }},

...

}

F1RemovalResponseIEs F1AP-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- F1 Removal Failure

--

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

F1RemovalFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ F1RemovalFailureIEs }},

...

}

F1RemovalFailureIEs F1AP-PROTOCOL-IES ::= {

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

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

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

...

}

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

--

-- TRACE ELEMENTARY PROCEDURES

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

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

--

-- TRACE START

--

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

TraceStart ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {TraceStartIEs} },

...

}

TraceStartIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-TraceActivation CRITICALITY ignore TYPE TraceActivation PRESENCE mandatory },

...

}

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

--

-- DEACTIVATE TRACE

--

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

DeactivateTrace ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {DeactivateTraceIEs} },

...

}

DeactivateTraceIEs F1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-UE-F1AP-ID CRITICALITY reject TYPE GNB-CU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-gNB-DU-UE-F1AP-ID CRITICALITY reject TYPE GNB-DU-UE-F1AP-ID PRESENCE mandatory }|

{ ID id-TraceID CRITICALITY ignore TYPE TraceID PRESENCE mandatory },

...

}

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

--

-- DU-CU Radio Information Transfer ELEMENTARY PROCEDURE

--

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

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

--

-- DU-CU Radio Information Transfer

--

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

DUCURadioInformationTransfer ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ DUCURadioInformationTransferIEs}},

...

}

DUCURadioInformationTransferIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-DUCURadioInformationType CRITICALITY ignore TYPE DUCURadioInformationType PRESENCE mandatory },

...

}

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

--

-- CU-DU Radio Information Transfer ELEMENTARY PROCEDURE

--

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

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

--

-- CU-DU Radio Information Transfer

--

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

CUDURadioInformationTransfer ::= SEQUENCE {

protocolIEs ProtocolIE-Container {{ CUDURadioInformationTransferIEs}},

...

}

CUDURadioInformationTransferIEs F1AP-PROTOCOL-IES ::= {

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

{ ID id-CUDURadioInformationType CRITICALITY ignore TYPE CUDURadioInformationType PRESENCE mandatory },

...

}

END

-- ASN1STOP

### 9.4.5 Information Element Definitions

-- ASN1START

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

--

-- Information Element Definitions

--

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

F1AP-IEs {

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

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

id-gNB-CUSystemInformation,

id-HandoverPreparationInformation,

id-TAISliceSupportList,

id-RANAC,

id-BearerTypeChange,

id-Cell-Direction,

id-Cell-Type,

id-CellGroupConfig,

id-AvailablePLMNList,

id-PDUSessionID,

id-ULPDUSessionAggregateMaximumBitRate,

id-DC-Based-Duplication-Configured,

id-DC-Based-Duplication-Activation,

id-Duplication-Activation,

id-DLPDCPSNLength,

id-ULPDCPSNLength,

id-RLC-Status,

id-MeasurementTimingConfiguration,

id-DRB-Information,

id-QoSFlowMappingIndication,

id-ServingCellMO,

id-RLCMode,

id-ExtendedServedPLMNs-List,

id-ExtendedAvailablePLMN-List,

id-DRX-LongCycleStartOffset,

id-SelectedBandCombinationIndex,

id-SelectedFeatureSetEntryIndex,

id-Ph-InfoSCG,

id-latest-RRC-Version-Enhanced,

id-RequestedBandCombinationIndex,

id-RequestedFeatureSetEntryIndex,

id-DRX-Config,

id-UEAssistanceInformation,

id-PDCCH-BlindDetectionSCG,

id-Requested-PDCCH-BlindDetectionSCG,

id-BPLMN-ID-Info-List,

id-NotificationInformation,

id-TNLAssociationTransportLayerAddressgNBDU,

id-portNumber,

id-AdditionalSIBMessageList,

id-IgnorePRACHConfiguration,

id-CG-Config,

id-Ph-InfoMCG,

id-AggressorgNBSetID,

id-VictimgNBSetID,

id-MeasGapSharingConfig,

id-systemInformationAreaID,

id-areaScope,

id-NID,

id-NPNSupportInfo,

id-NPNBroadcastInformation,

id-IntendedTDD-DL-ULConfig,

id-QosMonitoringRequest,

id-AvailableSNPN-ID-List,

id-SIB10-message,

maxNRARFCN,

maxnoofErrors,

maxnoofBPLMNs,

maxnoofBPLMNsNRminus1,

maxnoofDLUPTNLInformation,

maxnoofNrCellBands,

maxnoofULUPTNLInformation,

maxnoofQoSFlows,

maxnoofSliceItems,

maxnoofSIBTypes,

maxnoofSITypes,

maxCellineNB,

maxnoofExtendedBPLMNs,

maxnoofAdditionalSIBs,

maxnoofUACPLMNs,

maxnoofUACperPLMN,

maxCellingNBDU,

maxnoofTLAs,

maxnoofGTPTLAs,

maxnoofslots,

maxnoofCAGsupported,

maxnoofNIDsupported

FROM F1AP-Constants

Criticality,

ProcedureCode,

ProtocolIE-ID,

TriggeringMessage

FROM F1AP-CommonDataTypes

ProtocolExtensionContainer{},

F1AP-PROTOCOL-EXTENSION,

ProtocolIE-SingleContainer{},

F1AP-PROTOCOL-IES

FROM F1AP-Containers;

-- A

AdditionalSIBMessageList ::= SEQUENCE (SIZE(1..maxnoofAdditionalSIBs)) OF AdditionalSIBMessageList-Item

AdditionalSIBMessageList-Item ::= SEQUENCE {

additionalSIB OCTET STRING,

iE-Extensions ProtocolExtensionContainer { { AdditionalSIBMessageList-Item-ExtIEs} } OPTIONAL

}

AdditionalSIBMessageList-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

AdditionalRRMPriorityIndex ::= BIT STRING (SIZE(32))

AggressorCellList ::= SEQUENCE (SIZE(1..maxCellingNBDU)) OF AggressorCellList-Item

AggressorCellList-Item ::= SEQUENCE {

aggressorCell-ID NRCGI,

iE-Extensions ProtocolExtensionContainer { { AggressorCellList-Item-ExtIEs } } OPTIONAL

}

AggressorCellList-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

AggressorgNBSetID ::= SEQUENCE {

aggressorgNBSetID GNBSetID,

iE-Extensions ProtocolExtensionContainer { { AggressorgNBSetID-ExtIEs } } OPTIONAL

}

AggressorgNBSetID-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

AllocationAndRetentionPriority ::= SEQUENCE {

priorityLevel PriorityLevel,

pre-emptionCapability Pre-emptionCapability,

pre-emptionVulnerability Pre-emptionVulnerability,

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

...

}

AllocationAndRetentionPriority-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Associated-SCell-Item ::= SEQUENCE {

sCell-ID NRCGI,

iE-Extensions ProtocolExtensionContainer { { Associated-SCell-ItemExtIEs } } OPTIONAL

}

Associated-SCell-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

AvailablePLMNList ::= SEQUENCE (SIZE(1..maxnoofBPLMNs)) OF AvailablePLMNList-Item

AvailablePLMNList-Item ::= SEQUENCE {

pLMNIdentity PLMN-Identity,

iE-Extensions ProtocolExtensionContainer { { AvailablePLMNList-Item-ExtIEs} } OPTIONAL

}

AvailablePLMNList-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

AvailableSNPN-ID-List ::= SEQUENCE (SIZE(1..maxnoofNIDsupported)) OF AvailableSNPN-ID-List-Item

AvailableSNPN-ID-List-Item ::= SEQUENCE {

pLMN-Identity PLMN-Identity,

availableNIDList BroadcastNIDList,

iE-Extensions ProtocolExtensionContainer { { AvailableSNPN-ID-List-ItemExtIEs} } OPTIONAL,

...

}

AvailableSNPN-ID-List-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

AveragingWindow ::= INTEGER (0..4095, ...)

AreaScope ::= ENUMERATED {true, ...}

-- B

BitRate ::= INTEGER (0..4000000000000,...)

BearerTypeChange ::= ENUMERATED {true, ...}

BPLMN-ID-Info-List ::= SEQUENCE (SIZE(1..maxnoofBPLMNsNRminus1)) OF BPLMN-ID-Info-Item

BPLMN-ID-Info-Item ::= SEQUENCE {

pLMN-Identity-List AvailablePLMNList,

extended-PLMN-Identity-List ExtendedAvailablePLMN-List OPTIONAL,

fiveGS-TAC FiveGS-TAC OPTIONAL,

nr-cell-ID NRCellIdentity,

ranac RANAC OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { BPLMN-ID-Info-ItemExtIEs} } OPTIONAL,

...

}

BPLMN-ID-Info-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-NPNBroadcastInformation CRITICALITY reject EXTENSION NPNBroadcastInformation PRESENCE optional},

...

}

ServedPLMNs-List ::= SEQUENCE (SIZE(1..maxnoofBPLMNs)) OF ServedPLMNs-Item

ServedPLMNs-Item ::= SEQUENCE {

pLMN-Identity PLMN-Identity,

iE-Extensions ProtocolExtensionContainer { { ServedPLMNs-ItemExtIEs} } OPTIONAL,

...

}

ServedPLMNs-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-TAISliceSupportList CRITICALITY ignore EXTENSION SliceSupportList PRESENCE optional }|

{ ID id-NPNSupportInfo CRITICALITY reject EXTENSION NPNSupportInfo PRESENCE optional },

...

}

BroadcastCAGList ::= SEQUENCE (SIZE(1..maxnoofCAGsupported)) OF CAGID

BroadcastNIDList ::= SEQUENCE (SIZE(1..maxnoofNIDsupported)) OF NID

BroadcastSNPN-ID-List ::= SEQUENCE (SIZE(1..maxnoofNIDsupported)) OF BroadcastSNPN-ID-List-Item

BroadcastSNPN-ID-List-Item ::= SEQUENCE {

pLMN-Identity PLMN-Identity,

broadcastNIDList BroadcastNIDList,

iE-Extensions ProtocolExtensionContainer { { BroadcastSNPN-ID-List-ItemExtIEs} } OPTIONAL,

...

}

BroadcastSNPN-ID-List-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

BroadcastPNI-NPN-ID-List ::= SEQUENCE (SIZE(1..maxnoofCAGsupported)) OF BroadcastPNI-NPN-ID-List-Item

BroadcastPNI-NPN-ID-List-Item ::= SEQUENCE {

pLMN-Identity PLMN-Identity,

broadcastCAGList BroadcastCAGList,

iE-Extensions ProtocolExtensionContainer { { BroadcastPNI-NPN-ID-List-ItemExtIEs} } OPTIONAL,

...

}

BroadcastPNI-NPN-ID-List-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

-- C

CAGID ::= BIT STRING (SIZE(32))

Cancel-all-Warning-Messages-Indicator ::= ENUMERATED {true, ...}

Candidate-SpCell-Item ::= SEQUENCE {

candidate-SpCell-ID NRCGI ,

iE-Extensions ProtocolExtensionContainer { { Candidate-SpCell-ItemExtIEs } } OPTIONAL,

...

}

Candidate-SpCell-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Cause ::= CHOICE {

radioNetwork CauseRadioNetwork,

transport CauseTransport,

protocol CauseProtocol,

misc CauseMisc,

choice-extension ProtocolIE-SingleContainer { { Cause-ExtIEs} }

}

Cause-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

CauseMisc ::= ENUMERATED {

control-processing-overload,

not-enough-user-plane-processing-resources,

hardware-failure,

om-intervention,

unspecified,

...

}

CauseProtocol ::= ENUMERATED {

transfer-syntax-error,

abstract-syntax-error-reject,

abstract-syntax-error-ignore-and-notify,

message-not-compatible-with-receiver-state,

semantic-error,

abstract-syntax-error-falsely-constructed-message,

unspecified,

...

}

CauseRadioNetwork ::= ENUMERATED {

unspecified,

rl-failure-rlc,

unknown-or-already-allocated-gnb-cu-ue-f1ap-id,

unknown-or-already-allocated-gnb-du-ue-f1ap-id,

unknown-or-inconsistent-pair-of-ue-f1ap-id,

interaction-with-other-procedure,

not-supported-qci-Value,

action-desirable-for-radio-reasons,

no-radio-resources-available,

procedure-cancelled,

normal-release,

...,

cell-not-available,

rl-failure-others,

ue-rejection,

resources-not-available-for-the-slice,

amf-initiated-abnormal-release,

release-due-to-pre-emption,

plmn-not-served-by-the-gNB-CU,

multiple-drb-id-instances,

unknown-drb-id,

nPN-not-supported,

nPN-access-denied

}

CauseTransport ::= ENUMERATED {

unspecified,

transport-resource-unavailable,

...

}

CellGroupConfig ::= OCTET STRING

Cell-Direction ::= ENUMERATED {dl-only, ul-only}

Cells-Failed-to-be-Activated-List-Item ::= SEQUENCE {

nRCGI NRCGI,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { Cells-Failed-to-be-Activated-List-ItemExtIEs } } OPTIONAL,

...

}

Cells-Failed-to-be-Activated-List-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Cells-Status-Item ::= SEQUENCE {

nRCGI NRCGI,

service-status Service-Status,

iE-Extensions ProtocolExtensionContainer { { Cells-Status-ItemExtIEs } } OPTIONAL,

...

}

Cells-Status-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Cells-To-Be-Broadcast-Item ::= SEQUENCE {

nRCGI NRCGI,

iE-Extensions ProtocolExtensionContainer { { Cells-To-Be-Broadcast-ItemExtIEs } } OPTIONAL,

...

}

Cells-To-Be-Broadcast-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Cells-Broadcast-Completed-Item ::= SEQUENCE {

nRCGI NRCGI,

iE-Extensions ProtocolExtensionContainer { { Cells-Broadcast-Completed-ItemExtIEs } } OPTIONAL,

...

}

Cells-Broadcast-Completed-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Broadcast-To-Be-Cancelled-Item ::= SEQUENCE {

nRCGI NRCGI,

iE-Extensions ProtocolExtensionContainer { { Broadcast-To-Be-Cancelled-ItemExtIEs } } OPTIONAL,

...

}

Broadcast-To-Be-Cancelled-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Cells-Broadcast-Cancelled-Item ::= SEQUENCE {

nRCGI NRCGI,

numberOfBroadcasts NumberOfBroadcasts,

iE-Extensions ProtocolExtensionContainer { { Cells-Broadcast-Cancelled-ItemExtIEs } } OPTIONAL,

...

}

Cells-Broadcast-Cancelled-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Cells-to-be-Activated-List-Item ::= SEQUENCE {

nRCGI NRCGI,

nRPCI NRPCI OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Cells-to-be-Activated-List-ItemExtIEs} } OPTIONAL,

...

}

Cells-to-be-Activated-List-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-gNB-CUSystemInformation CRITICALITY reject EXTENSION GNB-CUSystemInformation PRESENCE optional }|

{ ID id-AvailablePLMNList CRITICALITY ignore EXTENSION AvailablePLMNList PRESENCE optional }|

{ ID id-ExtendedAvailablePLMN-List CRITICALITY ignore EXTENSION ExtendedAvailablePLMN-List PRESENCE optional }|

{ ID id-AvailableSNPN-ID-List CRITICALITY ignore EXTENSION AvailableSNPN-ID-List PRESENCE optional },

...

}

Cells-to-be-Deactivated-List-Item ::= SEQUENCE {

nRCGI NRCGI ,

iE-Extensions ProtocolExtensionContainer { { Cells-to-be-Deactivated-List-ItemExtIEs } } OPTIONAL,

...

}

Cells-to-be-Deactivated-List-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Cells-to-be-Barred-Item::= SEQUENCE {

nRCGI NRCGI ,

cellBarred CellBarred,

iE-Extensions ProtocolExtensionContainer { { Cells-to-be-Barred-Item-ExtIEs } } OPTIONAL

}

Cells-to-be-Barred-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

CellBarred ::= ENUMERATED {barred, not-barred, ...}

CellSize ::= ENUMERATED {verysmall, small, medium, large, ...}

CellType ::= SEQUENCE {

cellSize CellSize,

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

...

}

CellType-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

CellULConfigured ::= ENUMERATED {none, ul, sul, ul-and-sul, ...}

CNUEPagingIdentity ::= CHOICE {

fiveG-S-TMSI BIT STRING (SIZE(48)),

choice-extension ProtocolIE-SingleContainer { { CNUEPagingIdentity-ExtIEs } }

}

CNUEPagingIdentity-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

CP-TransportLayerAddress ::= CHOICE {

endpoint-IP-address TransportLayerAddress,

endpoint-IP-address-and-port Endpoint-IP-address-and-port,

choice-extension ProtocolIE-SingleContainer { { CP-TransportLayerAddress-ExtIEs } }

}

CP-TransportLayerAddress-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

CriticalityDiagnostics ::= SEQUENCE {

procedureCode ProcedureCode OPTIONAL,

triggeringMessage TriggeringMessage OPTIONAL,

procedureCriticality Criticality OPTIONAL,

transactionID TransactionID OPTIONAL,

iEsCriticalityDiagnostics CriticalityDiagnostics-IE-List OPTIONAL,

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

...

}

CriticalityDiagnostics-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1.. maxnoofErrors)) OF CriticalityDiagnostics-IE-Item

CriticalityDiagnostics-IE-Item ::= SEQUENCE {

iECriticality Criticality,

iE-ID ProtocolIE-ID,

typeOfError TypeOfError,

iE-Extensions ProtocolExtensionContainer {{CriticalityDiagnostics-IE-Item-ExtIEs}} OPTIONAL,

...

}

CriticalityDiagnostics-IE-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

C-RNTI ::= INTEGER (0..65535, ...)

CUDURadioInformationType ::= CHOICE {

rIM CUDURIMInformation,

choice-extension ProtocolIE-SingleContainer { { CUDURadioInformationType-ExtIEs} }

}

CUDURadioInformationType-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

CUDURIMInformation ::= SEQUENCE {

victimgNBSetID GNBSetID,

rIMRSDetectionStatus RIMRSDetectionStatus,

iE-Extensions ProtocolExtensionContainer { { CUDURIMInformation-ExtIEs} } OPTIONAL

}

CUDURIMInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

CUtoDURRCInformation ::= SEQUENCE {

cG-ConfigInfo CG-ConfigInfo OPTIONAL,

uE-CapabilityRAT-ContainerList UE-CapabilityRAT-ContainerList OPTIONAL,

measConfig MeasConfig OPTIONAL,

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

...

}

CUtoDURRCInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-HandoverPreparationInformation CRITICALITY ignore EXTENSION HandoverPreparationInformation PRESENCE optional }|

{ ID id-CellGroupConfig CRITICALITY ignore EXTENSION CellGroupConfig PRESENCE optional }|

{ ID id-MeasurementTimingConfiguration CRITICALITY ignore EXTENSION MeasurementTimingConfiguration PRESENCE optional }|

{ ID id-UEAssistanceInformation CRITICALITY ignore EXTENSION UEAssistanceInformation PRESENCE optional }|

{ ID id-CG-Config CRITICALITY ignore EXTENSION CG-Config PRESENCE optional },

...

}

-- D

DCBasedDuplicationConfigured::= ENUMERATED{true,..., false}

Dedicated-SIDelivery-NeededUE-Item ::= SEQUENCE {

gNB-CU-UE-F1AP-ID GNB-CU-UE-F1AP-ID,

nRCGI NRCGI,

iE-Extensions ProtocolExtensionContainer { { DedicatedSIDeliveryNeededUE-Item-ExtIEs} } OPTIONAL,

...

}

DedicatedSIDeliveryNeededUE-Item-ExtIEs F1AP-PROTOCOL-EXTENSION::={

...

}

DLUPTNLInformation-ToBeSetup-List ::= SEQUENCE (SIZE(1..maxnoofDLUPTNLInformation)) OF DLUPTNLInformation-ToBeSetup-Item

DLUPTNLInformation-ToBeSetup-Item ::= SEQUENCE {

dLUPTNLInformation UPTransportLayerInformation ,

iE-Extensions ProtocolExtensionContainer { { DLUPTNLInformation-ToBeSetup-ItemExtIEs } } OPTIONAL,

...

}

DLUPTNLInformation-ToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Activity-Item ::= SEQUENCE {

dRBID DRBID,

dRB-Activity DRB-Activity OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-Activity-ItemExtIEs } } OPTIONAL,

...

}

DRB-Activity-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Activity ::= ENUMERATED {active, not-active}

DRBID ::= INTEGER (1..32, ...)

DRBs-FailedToBeModified-Item ::= SEQUENCE {

dRBID DRBID ,

cause Cause OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRBs-FailedToBeModified-ItemExtIEs } } OPTIONAL,

...

}

DRBs-FailedToBeModified-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRBs-FailedToBeSetup-Item ::= SEQUENCE {

dRBID DRBID,

cause Cause OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRBs-FailedToBeSetup-ItemExtIEs } } OPTIONAL,

...

}

DRBs-FailedToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRBs-FailedToBeSetupMod-Item ::= SEQUENCE {

dRBID DRBID ,

cause Cause OPTIONAL ,

iE-Extensions ProtocolExtensionContainer { { DRBs-FailedToBeSetupMod-ItemExtIEs } } OPTIONAL,

...

}

DRBs-FailedToBeSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Information ::= SEQUENCE {

dRB-QoS QoSFlowLevelQoSParameters,

sNSSAI SNSSAI,

notificationControl NotificationControl OPTIONAL,

flows-Mapped-To-DRB-List Flows-Mapped-To-DRB-List,

iE-Extensions ProtocolExtensionContainer { { DRB-Information-ItemExtIEs } } OPTIONAL

}

DRB-Information-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRBs-Modified-Item ::= SEQUENCE {

dRBID DRBID,

lCID LCID OPTIONAL,

dLUPTNLInformation-ToBeSetup-List DLUPTNLInformation-ToBeSetup-List,

iE-Extensions ProtocolExtensionContainer { { DRBs-Modified-ItemExtIEs } } OPTIONAL,

...

}

DRBs-Modified-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-RLC-Status CRITICALITY ignore EXTENSION RLC-Status PRESENCE optional },

...

}

DRBs-ModifiedConf-Item ::= SEQUENCE {

dRBID DRBID,

uLUPTNLInformation-ToBeSetup-List ULUPTNLInformation-ToBeSetup-List ,

iE-Extensions ProtocolExtensionContainer { { DRBs-ModifiedConf-ItemExtIEs } } OPTIONAL,

...

}

DRBs-ModifiedConf-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Notify-Item ::= SEQUENCE {

dRBID DRBID,

notification-Cause Notification-Cause,

iE-Extensions ProtocolExtensionContainer { { DRB-Notify-ItemExtIEs } } OPTIONAL,

...

}

DRB-Notify-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRBs-Required-ToBeModified-Item ::= SEQUENCE {

dRBID DRBID,

dLUPTNLInformation-ToBeSetup-List DLUPTNLInformation-ToBeSetup-List ,

iE-Extensions ProtocolExtensionContainer { { DRBs-Required-ToBeModified-ItemExtIEs } } OPTIONAL,

...

}

DRBs-Required-ToBeModified-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-RLC-Status CRITICALITY ignore EXTENSION RLC-Status PRESENCE optional },

...

}

DRBs-Required-ToBeReleased-Item ::= SEQUENCE {

dRBID DRBID,

iE-Extensions ProtocolExtensionContainer { { DRBs-Required-ToBeReleased-ItemExtIEs } } OPTIONAL,

...

}

DRBs-Required-ToBeReleased-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRBs-Setup-Item ::= SEQUENCE {

dRBID DRBID,

lCID LCID OPTIONAL,

dLUPTNLInformation-ToBeSetup-List DLUPTNLInformation-ToBeSetup-List ,

iE-Extensions ProtocolExtensionContainer { { DRBs-Setup-ItemExtIEs } } OPTIONAL,

...

}

DRBs-Setup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRBs-SetupMod-Item ::= SEQUENCE {

dRBID DRBID,

lCID LCID OPTIONAL,

dLUPTNLInformation-ToBeSetup-List DLUPTNLInformation-ToBeSetup-List ,

iE-Extensions ProtocolExtensionContainer { { DRBs-SetupMod-ItemExtIEs } } OPTIONAL,

...

}

DRBs-SetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRBs-ToBeModified-Item ::= SEQUENCE {

dRBID DRBID,

qoSInformation QoSInformation OPTIONAL,

uLUPTNLInformation-ToBeSetup-List ULUPTNLInformation-ToBeSetup-List ,

uLConfiguration ULConfiguration OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRBs-ToBeModified-ItemExtIEs } } OPTIONAL,

...

}

DRBs-ToBeModified-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-DLPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE optional }|

{ ID id-ULPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE optional }|

{ID id-BearerTypeChange CRITICALITY ignore EXTENSION BearerTypeChange PRESENCE optional}|

{ ID id-RLCMode CRITICALITY ignore EXTENSION RLCMode PRESENCE optional }|

{ ID id-Duplication-Activation CRITICALITY reject EXTENSION DuplicationActivation PRESENCE optional }|

{ ID id-DC-Based-Duplication-Configured CRITICALITY reject EXTENSION DCBasedDuplicationConfigured PRESENCE optional }|

{ ID id-DC-Based-Duplication-Activation CRITICALITY reject EXTENSION DuplicationActivation PRESENCE optional },

...

}

DRBs-ToBeReleased-Item ::= SEQUENCE {

dRBID DRBID,

iE-Extensions ProtocolExtensionContainer { { DRBs-ToBeReleased-ItemExtIEs } } OPTIONAL,

...

}

DRBs-ToBeReleased-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRBs-ToBeSetup-Item ::= SEQUENCE {

dRBID DRBID,

qoSInformation QoSInformation,

uLUPTNLInformation-ToBeSetup-List ULUPTNLInformation-ToBeSetup-List ,

rLCMode RLCMode,

uLConfiguration ULConfiguration OPTIONAL,

duplicationActivation DuplicationActivation OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRBs-ToBeSetup-ItemExtIEs } } OPTIONAL,

...

}

DRBs-ToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-DC-Based-Duplication-Configured CRITICALITY reject EXTENSION DCBasedDuplicationConfigured PRESENCE optional }|

{ ID id-DC-Based-Duplication-Activation CRITICALITY reject EXTENSION DuplicationActivation PRESENCE optional }|

{ ID id-DLPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE mandatory }|

{ ID id-ULPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE optional },

...

}

DRBs-ToBeSetupMod-Item ::= SEQUENCE {

dRBID DRBID,

qoSInformation QoSInformation,

uLUPTNLInformation-ToBeSetup-List ULUPTNLInformation-ToBeSetup-List,

rLCMode RLCMode,

uLConfiguration ULConfiguration OPTIONAL,

duplicationActivation DuplicationActivation OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRBs-ToBeSetupMod-ItemExtIEs } } OPTIONAL,

...

}

DRBs-ToBeSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-DC-Based-Duplication-Configured CRITICALITY reject EXTENSION DCBasedDuplicationConfigured PRESENCE optional }|

{ ID id-DC-Based-Duplication-Activation CRITICALITY reject EXTENSION DuplicationActivation PRESENCE optional }|

{ ID id-DLPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE optional }|

{ ID id-ULPDCPSNLength CRITICALITY ignore EXTENSION PDCPSNLength PRESENCE optional },

...

}

DRXCycle ::= SEQUENCE {

longDRXCycleLength LongDRXCycleLength,

shortDRXCycleLength ShortDRXCycleLength OPTIONAL,

shortDRXCycleTimer ShortDRXCycleTimer OPTIONAL,

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

...

}

DRXCycle-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DRX-Config ::= OCTET STRING

DRXConfigurationIndicator ::= ENUMERATED{ release, ...}

DRX-LongCycleStartOffset ::= INTEGER (0..10239)

DUtoCURRCContainer ::= OCTET STRING

DUCURadioInformationType ::= CHOICE {

rIM DUCURIMInformation,

choice-extension ProtocolIE-SingleContainer { { DUCURadioInformationType-ExtIEs} }

}

DUCURadioInformationType-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

DUCURIMInformation ::= SEQUENCE {

victimgNBSetID GNBSetID,

rIMRSDetectionStatus RIMRSDetectionStatus,

aggressorCellList AggressorCellList,

iE-Extensions ProtocolExtensionContainer { { DUCURIMInformation-ExtIEs} } OPTIONAL

}

DUCURIMInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

DUtoCURRCInformation ::= SEQUENCE {

cellGroupConfig CellGroupConfig,

measGapConfig MeasGapConfig OPTIONAL,

requestedP-MaxFR1 OCTET STRING OPTIONAL,

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

...

}

DUtoCURRCInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-DRX-LongCycleStartOffset CRITICALITY ignore EXTENSION DRX-LongCycleStartOffset PRESENCE optional }|

{ ID id-SelectedBandCombinationIndex CRITICALITY ignore EXTENSION SelectedBandCombinationIndex PRESENCE optional }|

{ ID id-SelectedFeatureSetEntryIndex CRITICALITY ignore EXTENSION SelectedFeatureSetEntryIndex PRESENCE optional }|

{ ID id-Ph-InfoSCG CRITICALITY ignore EXTENSION Ph-InfoSCG PRESENCE optional }|

{ ID id-RequestedBandCombinationIndex CRITICALITY ignore EXTENSION RequestedBandCombinationIndex PRESENCE optional }|

{ ID id-RequestedFeatureSetEntryIndex CRITICALITY ignore EXTENSION RequestedFeatureSetEntryIndex PRESENCE optional }|

{ ID id-DRX-Config CRITICALITY ignore EXTENSION DRX-Config PRESENCE optional }|

{ ID id-PDCCH-BlindDetectionSCG CRITICALITY ignore EXTENSION PDCCH-BlindDetectionSCG PRESENCE optional }|

{ ID id-Requested-PDCCH-BlindDetectionSCG CRITICALITY ignore EXTENSION Requested-PDCCH-BlindDetectionSCG PRESENCE optional }|

{ ID id-Ph-InfoMCG CRITICALITY ignore EXTENSION Ph-InfoMCG PRESENCE optional }|

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

...

}

DuplicationActivation ::= ENUMERATED{active,inactive,... }

DuplicationIndication ::= ENUMERATED {true, ... , false }

Dynamic5QIDescriptor ::= SEQUENCE {

qoSPriorityLevel INTEGER (1..127),

packetDelayBudget PacketDelayBudget,

packetErrorRate PacketErrorRate,

fiveQI INTEGER (0..255, ...) OPTIONAL,

delayCritical ENUMERATED {delay-critical, non-delay-critical} OPTIONAL,

-- C-ifGBRflow: This IE shall be present if the GBR QoS Flow Information IE is present in the QoS Flow Level QoS Parameters IE.

averagingWindow AveragingWindow OPTIONAL,

-- C-ifGBRflow: This IE shall be present if the GBR QoS Flow Information IE is present in the QoS Flow Level QoS Parameters IE.

maxDataBurstVolume MaxDataBurstVolume OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Dynamic5QIDescriptor-ExtIEs } } OPTIONAL

}

Dynamic5QIDescriptor-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

-- E

Endpoint-IP-address-and-port ::=SEQUENCE {

endpointIPAddress TransportLayerAddress,

iE-Extensions ProtocolExtensionContainer { { Endpoint-IP-address-and-port-ExtIEs} } OPTIONAL

}

Endpoint-IP-address-and-port-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-portNumber CRITICALITY reject EXTENSION PortNumber PRESENCE optional},

...

}

ExtendedAvailablePLMN-List ::= SEQUENCE (SIZE(1..maxnoofExtendedBPLMNs)) OF ExtendedAvailablePLMN-Item

ExtendedAvailablePLMN-Item ::= SEQUENCE {

pLMNIdentity PLMN-Identity,

iE-Extensions ProtocolExtensionContainer { { ExtendedAvailablePLMN-Item-ExtIEs} } OPTIONAL

}

ExtendedAvailablePLMN-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

ExtendedServedPLMNs-List ::= SEQUENCE (SIZE(1.. maxnoofExtendedBPLMNs)) OF ExtendedServedPLMNs-Item

ExtendedServedPLMNs-Item ::= SEQUENCE {

pLMN-Identity PLMN-Identity,

tAISliceSupportList SliceSupportList OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { ExtendedServedPLMNs-ItemExtIEs} } OPTIONAL,

...

}

ExtendedServedPLMNs-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-NPNSupportInfo CRITICALITY reject EXTENSION NPNSupportInfo PRESENCE optional },

...

}

EUTRACells-List ::= SEQUENCE (SIZE (1.. maxCellineNB)) OF EUTRACells-List-item

EUTRACells-List-item ::= SEQUENCE {

eUTRA-Cell-ID EUTRA-Cell-ID,

served-EUTRA-Cells-Information Served-EUTRA-Cells-Information,

iE-Extensions ProtocolExtensionContainer { { EUTRACells-List-itemExtIEs } } OPTIONAL

}

EUTRACells-List-itemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

EUTRA-Cell-ID ::= BIT STRING (SIZE(28))

EUTRA-Coex-FDD-Info ::= SEQUENCE {

uL-EARFCN ExtendedEARFCN OPTIONAL,

dL-EARFCN ExtendedEARFCN,

uL-Transmission-Bandwidth EUTRA-Transmission-Bandwidth OPTIONAL,

dL-Transmission-Bandwidth EUTRA-Transmission-Bandwidth,

iE-Extensions ProtocolExtensionContainer { {EUTRA-Coex-FDD-Info-ExtIEs} } OPTIONAL,

...

}

EUTRA-Coex-FDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

EUTRA-Coex-Mode-Info ::= CHOICE {

fDD EUTRA-Coex-FDD-Info,

tDD EUTRA-Coex-TDD-Info,

...

}

EUTRA-Coex-TDD-Info ::= SEQUENCE {

eARFCN ExtendedEARFCN,

transmission-Bandwidth EUTRA-Transmission-Bandwidth,

subframeAssignment EUTRA-SubframeAssignment,

specialSubframe-Info EUTRA-SpecialSubframe-Info,

iE-Extensions ProtocolExtensionContainer { {EUTRA-Coex-TDD-Info-ExtIEs} } OPTIONAL,

...

}

EUTRA-Coex-TDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

EUTRA-CyclicPrefixDL ::= ENUMERATED {

normal,

extended,

...

}

EUTRA-CyclicPrefixUL ::= ENUMERATED {

normal,

extended,

...

}

EUTRA-PRACH-Configuration ::= SEQUENCE {

rootSequenceIndex INTEGER (0..837),

zeroCorrelationIndex INTEGER (0..15),

highSpeedFlag BOOLEAN,

prach-FreqOffset INTEGER (0..94),

prach-ConfigIndex INTEGER (0..63) OPTIONAL,

-- C-ifTDD: This IE shall be present if the EUTRA-Mode-Info IE in the Resource Coordination E-UTRA Cell Information IE is set to the value "TDD"

iE-Extensions ProtocolExtensionContainer { {EUTRA-PRACH-Configuration-ExtIEs} } OPTIONAL,

...

}

EUTRA-PRACH-Configuration-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

EUTRA-SpecialSubframe-Info ::= SEQUENCE {

specialSubframePatterns EUTRA-SpecialSubframePatterns,

cyclicPrefixDL EUTRA-CyclicPrefixDL,

cyclicPrefixUL EUTRA-CyclicPrefixUL,

iE-Extensions ProtocolExtensionContainer { { EUTRA-SpecialSubframe-Info-ExtIEs} } OPTIONAL,

...

}

EUTRA-SpecialSubframe-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

EUTRA-SpecialSubframePatterns ::= ENUMERATED {

ssp0,

ssp1,

ssp2,

ssp3,

ssp4,

ssp5,

ssp6,

ssp7,

ssp8,

ssp9,

ssp10,

...

}

EUTRA-SubframeAssignment ::= ENUMERATED {

sa0,

sa1,

sa2,

sa3,

sa4,

sa5,

sa6,

...

}

EUTRA-Transmission-Bandwidth ::= ENUMERATED {

bw6,

bw15,

bw25,

bw50,

bw75,

bw100,

...

}

EUTRANQoS ::= SEQUENCE {

qCI QCI,

allocationAndRetentionPriority AllocationAndRetentionPriority,

gbrQosInformation GBR-QosInformation OPTIONAL,

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

...

}

EUTRANQoS-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

ExecuteDuplication ::= ENUMERATED{true,...}

ExtendedEARFCN ::= INTEGER (0..262143)

EUTRA-Mode-Info ::= CHOICE {

eUTRAFDD EUTRA-FDD-Info,

eUTRATDD EUTRA-TDD-Info,

choice-extension ProtocolIE-SingleContainer { { EUTRA-Mode-Info-ExtIEs} }

}

EUTRA-Mode-Info-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

EUTRA-NR-CellResourceCoordinationReq-Container ::= OCTET STRING

EUTRA-NR-CellResourceCoordinationReqAck-Container ::= OCTET STRING

EUTRA-FDD-Info ::= SEQUENCE {

uL-offsetToPointA OffsetToPointA,

dL-offsetToPointA OffsetToPointA,

iE-Extensions ProtocolExtensionContainer { {EUTRA-FDD-Info-ExtIEs} } OPTIONAL,

...

}

EUTRA-FDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

EUTRA-TDD-Info ::= SEQUENCE {

offsetToPointA OffsetToPointA,

iE-Extensions ProtocolExtensionContainer { {EUTRA-TDD-Info-ExtIEs} } OPTIONAL,

...

}

EUTRA-TDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

-- F

FDD-Info ::= SEQUENCE {

uL-NRFreqInfo NRFreqInfo,

dL-NRFreqInfo NRFreqInfo,

uL-Transmission-Bandwidth Transmission-Bandwidth,

dL-Transmission-Bandwidth Transmission-Bandwidth,

iE-Extensions ProtocolExtensionContainer { {FDD-Info-ExtIEs} } OPTIONAL,

...

}

FDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Flows-Mapped-To-DRB-List ::= SEQUENCE (SIZE(1.. maxnoofQoSFlows)) OF Flows-Mapped-To-DRB-Item

Flows-Mapped-To-DRB-Item ::= SEQUENCE {

qoSFlowIdentifier QoSFlowIdentifier,

qoSFlowLevelQoSParameters QoSFlowLevelQoSParameters,

iE-Extensions ProtocolExtensionContainer { { Flows-Mapped-To-DRB-ItemExtIEs} } OPTIONAL

}

Flows-Mapped-To-DRB-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

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

...

}

FreqBandNrItem ::= SEQUENCE {

freqBandIndicatorNr INTEGER (1..1024,...),

supportedSULBandList SEQUENCE (SIZE(0..maxnoofNrCellBands)) OF SupportedSULFreqBandItem,

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

...

}

FreqBandNrItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

FullConfiguration ::= ENUMERATED {full, ...}

-- G

GBR-QosInformation ::= SEQUENCE {

e-RAB-MaximumBitrateDL BitRate,

e-RAB-MaximumBitrateUL BitRate,

e-RAB-GuaranteedBitrateDL BitRate,

e-RAB-GuaranteedBitrateUL BitRate,

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

...

}

GBR-QosInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

GBR-QoSFlowInformation::= SEQUENCE {

maxFlowBitRateDownlink BitRate,

maxFlowBitRateUplink BitRate,

guaranteedFlowBitRateDownlink BitRate,

guaranteedFlowBitRateUplink BitRate,

maxPacketLossRateDownlink MaxPacketLossRate OPTIONAL,

maxPacketLossRateUplink MaxPacketLossRate OPTIONAL,

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

...

}

GBR-QosFlowInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

CG-Config ::= OCTET STRING

GNB-CUSystemInformation::= SEQUENCE {

sibtypetobeupdatedlist SEQUENCE (SIZE(1.. maxnoofSIBTypes)) OF SibtypetobeupdatedListItem,

iE-Extensions ProtocolExtensionContainer { { GNB-CUSystemInformation-ExtIEs} } OPTIONAL,

...

}

GNB-CUSystemInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ID id-systemInformationAreaID CRITICALITY ignore EXTENSION SystemInformationAreaID PRESENCE optional},

...

}

GNB-CU-TNL-Association-Setup-Item::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

iE-Extensions ProtocolExtensionContainer { { GNB-CU-TNL-Association-Setup-Item-ExtIEs} } OPTIONAL

}

GNB-CU-TNL-Association-Setup-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

GNB-CU-TNL-Association-Failed-To-Setup-Item ::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { GNB-CU-TNL-Association-Failed-To-Setup-Item-ExtIEs} } OPTIONAL

}

GNB-CU-TNL-Association-Failed-To-Setup-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

GNB-CU-TNL-Association-To-Add-Item ::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

tNLAssociationUsage TNLAssociationUsage,

iE-Extensions ProtocolExtensionContainer { { GNB-CU-TNL-Association-To-Add-Item-ExtIEs} } OPTIONAL

}

GNB-CU-TNL-Association-To-Add-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

GNB-CU-TNL-Association-To-Remove-Item::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

iE-Extensions ProtocolExtensionContainer { { GNB-CU-TNL-Association-To-Remove-Item-ExtIEs} } OPTIONAL

}

GNB-CU-TNL-Association-To-Remove-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ID id-TNLAssociationTransportLayerAddressgNBDU CRITICALITY reject EXTENSION CP-TransportLayerAddress PRESENCE optional},

...

}

GNB-CU-TNL-Association-To-Update-Item::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

tNLAssociationUsage TNLAssociationUsage OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { GNB-CU-TNL-Association-To-Update-Item-ExtIEs} } OPTIONAL

}

GNB-CU-TNL-Association-To-Update-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

GNB-CU-UE-F1AP-ID ::= INTEGER (0..4294967295)

GNB-DU-UE-F1AP-ID ::= INTEGER (0..4294967295)

GNB-DU-ID ::= INTEGER (0..68719476735)

GNB-CU-Name ::= PrintableString(SIZE(1..150,...))

GNB-DU-Name ::= PrintableString(SIZE(1..150,...))

GNB-DU-Served-Cells-Item ::= SEQUENCE {

served-Cell-Information Served-Cell-Information,

gNB-DU-System-Information GNB-DU-System-Information OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { GNB-DU-Served-Cells-ItemExtIEs} } OPTIONAL,

...

}

GNB-DU-Served-Cells-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

GNB-DU-System-Information ::= SEQUENCE {

mIB-message MIB-message,

sIB1-message SIB1-message,

iE-Extensions ProtocolExtensionContainer { { GNB-DU-System-Information-ExtIEs } } OPTIONAL,

...

}

GNB-DU-System-Information-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ID id-SIB10-message CRITICALITY ignore EXTENSION SIB10-message PRESENCE optional},

...

}

GNB-DUConfigurationQuery ::= ENUMERATED {true, ...}

GNBDUOverloadInformation ::= ENUMERATED {overloaded, not-overloaded}

GNB-DU-TNL-Association-To-Remove-Item::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TransportLayerAddress ,

tNLAssociationTransportLayerAddressgNBCU CP-TransportLayerAddress OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { GNB-DU-TNL-Association-To-Remove-Item-ExtIEs} } OPTIONAL

}

GNB-DU-TNL-Association-To-Remove-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

GNBSetID ::= BIT STRING (SIZE(22))

GTP-TEID ::= OCTET STRING (SIZE (4))

GTPTLAs ::= SEQUENCE (SIZE(1.. maxnoofGTPTLAs)) OF GTPTLA-Item

GTPTLA-Item ::= SEQUENCE {

gTPTransportLayerAddress TransportLayerAddress,

iE-Extensions ProtocolExtensionContainer { { GTPTLA-Item-ExtIEs } } OPTIONAL

}

GTPTLA-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

GTPTunnel ::= SEQUENCE {

transportLayerAddress TransportLayerAddress,

gTP-TEID GTP-TEID,

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

...

}

GTPTunnel-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

-- H

HandoverPreparationInformation ::= OCTET STRING

-- I

IgnorePRACHConfiguration::= ENUMERATED { true,...}

IgnoreResourceCoordinationContainer ::= ENUMERATED { yes,...}

InactivityMonitoringRequest ::= ENUMERATED { true,...}

InactivityMonitoringResponse ::= ENUMERATED { not-supported,...}

InterfacesToTrace ::= BIT STRING (SIZE(8))

IntendedTDD-DL-ULConfig ::= SEQUENCE {

nRSCS ENUMERATED { scs15, scs30, scs60, scs120,...},

nRCP ENUMERATED { normal, extended,...},

nRDLULTxPeriodicity ENUMERATED { ms0p5, ms0p625, ms1, ms1p25, ms2, ms2p5, ms3, ms4, ms5, ms10, ms20, ms40, ms60, ms80, ms100, ms120, ms140, ms160, ...},

slot-Configuration-List Slot-Configuration-List,

iE-Extensions ProtocolExtensionContainer { {IntendedTDD-DL-ULConfig-ExtIEs} } OPTIONAL

}

IntendedTDD-DL-ULConfig-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

-- J

-- K

-- L

LCID ::= INTEGER (1..32, ...)

LongDRXCycleLength ::= ENUMERATED

{ms10, ms20, ms32, ms40, ms60, ms64, ms70, ms80, ms128, ms160, ms256, ms320, ms512, ms640, ms1024, ms1280, ms2048, ms2560, ms5120, ms10240, ...}

LowerLayerPresenceStatusChange ::= ENUMERATED {

suspend-lower-layers,

resume-lower-layers,

...

}

-- M

MaskedIMEISV ::= BIT STRING (SIZE (64))

MaxDataBurstVolume ::= INTEGER (0..4095, ..., 4096.. 2000000)

MaxPacketLossRate ::= INTEGER (0..1000)

MIB-message ::= OCTET STRING

MeasConfig ::= OCTET STRING

MeasGapConfig ::= OCTET STRING

MeasGapSharingConfig ::= OCTET STRING

MeasurementTimingConfiguration ::= OCTET STRING

MessageIdentifier ::= BIT STRING (SIZE (16))

-- N

NeedforGap::= ENUMERATED {true, ...}

Neighbour-Cell-Information-Item ::= SEQUENCE {

nRCGI NRCGI,

intendedTDD-DL-ULConfig IntendedTDD-DL-ULConfig OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Neighbour-Cell-Information-ItemExtIEs } } OPTIONAL

}

Neighbour-Cell-Information-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

NGRANAllocationAndRetentionPriority ::= SEQUENCE {

priorityLevel PriorityLevel,

pre-emptionCapability Pre-emptionCapability,

pre-emptionVulnerability Pre-emptionVulnerability,

iE-Extensions ProtocolExtensionContainer { {NGRANAllocationAndRetentionPriority-ExtIEs} } OPTIONAL

}

NGRANAllocationAndRetentionPriority-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

NID ::= BIT STRING (SIZE(44))

NR-CGI-List-For-Restart-Item ::= SEQUENCE {

nRCGI NRCGI,

iE-Extensions ProtocolExtensionContainer { { NR-CGI-List-For-Restart-ItemExtIEs } } OPTIONAL,

...

}

NR-CGI-List-For-Restart-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

NonDynamic5QIDescriptor ::= SEQUENCE {

fiveQI INTEGER (0..255, ...),

qoSPriorityLevel INTEGER (1..127) OPTIONAL,

averagingWindow AveragingWindow OPTIONAL,

maxDataBurstVolume MaxDataBurstVolume OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { NonDynamic5QIDescriptor-ExtIEs } } OPTIONAL

}

NonDynamic5QIDescriptor-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Notification-Cause ::= ENUMERATED {fulfilled, not-fulfilled, ...}

NotificationControl ::= ENUMERATED {active, not-active, ...}

NotificationInformation ::= SEQUENCE {

message-Identifier MessageIdentifier,

serialNumber SerialNumber,

iE-Extensions ProtocolExtensionContainer { { NotificationInformationExtIEs} } OPTIONAL,

...

}

NotificationInformationExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

NPNBroadcastInformation ::= CHOICE {

sNPN-Broadcast-Information NPN-Broadcast-Information-SNPN,

pNI-NPN-Broadcast-Information NPN-Broadcast-Information-PNI-NPN,

choice-extension ProtocolIE-SingleContainer { {NPNBroadcastInformation-ExtIEs} }

}

NPNBroadcastInformation-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

NPN-Broadcast-Information-SNPN ::= SEQUENCE {

broadcastSNPNID-List BroadcastSNPN-ID-List,

iE-Extension ProtocolExtensionContainer { {NPN-Broadcast-Information-SNPN-ExtIEs} } OPTIONAL,

...

}

NPN-Broadcast-Information-SNPN-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

NPN-Broadcast-Information-PNI-NPN ::= SEQUENCE {

broadcastPNI-NPN-ID-Information BroadcastPNI-NPN-ID-List,

iE-Extension ProtocolExtensionContainer { {NPN-Broadcast-Information-PNI-NPN-ExtIEs} } OPTIONAL,

...

}

NPN-Broadcast-Information-PNI-NPN-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

NPNSupportInfo ::= CHOICE {

sNPN-Information NID,

choice-extension ProtocolIE-SingleContainer { { NPNSupportInfo-ExtIEs } }

}

NPNSupportInfo-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

NRFreqInfo ::= SEQUENCE {

nRARFCN INTEGER (0..maxNRARFCN),

sul-Information SUL-Information OPTIONAL,

freqBandListNr SEQUENCE (SIZE(1..maxnoofNrCellBands)) OF FreqBandNrItem,

iE-Extensions ProtocolExtensionContainer { { NRFreqInfoExtIEs} } OPTIONAL,

...

}

NRFreqInfoExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

NRCGI ::= SEQUENCE {

pLMN-Identity PLMN-Identity,

nRCellIdentity NRCellIdentity,

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

...

}

NRCGI-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

NR-Mode-Info ::= CHOICE {

fDD FDD-Info,

tDD TDD-Info,

choice-extension ProtocolIE-SingleContainer { { NR-Mode-Info-ExtIEs} }

}

NR-Mode-Info-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

NRCellIdentity ::= BIT STRING (SIZE(36))

NRNRB ::= ENUMERATED { nrb11, nrb18, nrb24, nrb25, nrb31, nrb32, nrb38, nrb51, nrb52, nrb65, nrb66, nrb78, nrb79, nrb93, nrb106, nrb107, nrb121, nrb132, nrb133, nrb135, nrb160, nrb162, nrb189, nrb216, nrb217, nrb245, nrb264, nrb270, nrb273, ...}

NRPCI ::= INTEGER(0..1007)

NRSCS ::= ENUMERATED { scs15, scs30, scs60, scs120, ...}

NumberOfBroadcasts ::= INTEGER (0..65535)

NumberofBroadcastRequest ::= INTEGER (0..65535)

NumDLULSymbols ::= SEQUENCE {

numDLSymbols INTEGER (0..13, ...),

numULSymbols INTEGER (0..13, ...),

iE-Extensions ProtocolExtensionContainer { { NumDLULSymbols-ExtIEs} } OPTIONAL

}

NumDLULSymbols-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

-- O

OffsetToPointA ::= INTEGER (0..2199,...)

-- P

PacketDelayBudget ::= INTEGER (0..1023, ...)

PacketErrorRate ::= SEQUENCE {

pER-Scalar PER-Scalar,

pER-Exponent PER-Exponent,

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

...

}

PacketErrorRate-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

PER-Scalar ::= INTEGER (0..9, ...)

PER-Exponent ::= INTEGER (0..9, ...)

PagingCell-Item ::= SEQUENCE {

nRCGI NRCGI ,

iE-Extensions ProtocolExtensionContainer { { PagingCell-ItemExtIEs } } OPTIONAL

}

PagingCell-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

PagingDRX ::= ENUMERATED {

v32,

v64,

v128,

v256,

...

}

PagingIdentity ::= CHOICE {

rANUEPagingIdentity RANUEPagingIdentity,

cNUEPagingIdentity CNUEPagingIdentity,

choice-extension ProtocolIE-SingleContainer { { PagingIdentity-ExtIEs } }

}

PagingIdentity-ExtIEs F1AP-PROTOCOL-IES::= {

...

}

PagingOrigin ::= ENUMERATED { non-3gpp, ...}

PagingPriority ::= ENUMERATED { priolevel1, priolevel2, priolevel3, priolevel4, priolevel5, priolevel6, priolevel7, priolevel8,...}

PDCCH-BlindDetectionSCG ::= OCTET STRING

PDCP-SN ::= INTEGER (0..4095)

PDCPSNLength ::= ENUMERATED { twelve-bits,eighteen-bits,...}

PDUSessionID ::= INTEGER (0..255)

Ph-InfoMCG ::= OCTET STRING

Ph-InfoSCG ::= OCTET STRING

PLMN-Identity ::= OCTET STRING (SIZE(3))

PortNumber ::= BIT STRING (SIZE (16))

Pre-emptionCapability ::= ENUMERATED {

shall-not-trigger-pre-emption,

may-trigger-pre-emption

}

Pre-emptionVulnerability ::= ENUMERATED {

not-pre-emptable,

pre-emptable

}

PriorityLevel ::= INTEGER { spare (0), highest (1), lowest (14), no-priority (15) } (0..15)

ProtectedEUTRAResourceIndication ::= OCTET STRING

Protected-EUTRA-Resources-Item ::= SEQUENCE {

spectrumSharingGroupID SpectrumSharingGroupID,

eUTRACells-List EUTRACells-List,

iE-Extensions ProtocolExtensionContainer { { Protected-EUTRA-Resources-ItemExtIEs } } OPTIONAL

}

Protected-EUTRA-Resources-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Potential-SpCell-Item ::= SEQUENCE {

potential-SpCell-ID NRCGI ,

iE-Extensions ProtocolExtensionContainer { { Potential-SpCell-ItemExtIEs } } OPTIONAL,

...

}

Potential-SpCell-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

PWS-Failed-NR-CGI-Item ::= SEQUENCE {

nRCGI NRCGI,

numberOfBroadcasts NumberOfBroadcasts,

iE-Extensions ProtocolExtensionContainer { { PWS-Failed-NR-CGI-ItemExtIEs } } OPTIONAL,

...

}

PWS-Failed-NR-CGI-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

PWSSystemInformation ::= SEQUENCE {

sIBtype SIBType-PWS,

sIBmessage OCTET STRING,

iE-Extensions ProtocolExtensionContainer { { PWSSystemInformationExtIEs } } OPTIONAL,

...

}

PWSSystemInformationExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ID id-NotificationInformation CRITICALITY ignore EXTENSION NotificationInformation PRESENCE optional}|

{ ID id-AdditionalSIBMessageList CRITICALITY reject EXTENSION AdditionalSIBMessageList PRESENCE optional},

...

}

-- Q

QCI ::= INTEGER (0..255)

QoS-Characteristics ::= CHOICE {

non-Dynamic-5QI NonDynamic5QIDescriptor,

dynamic-5QI Dynamic5QIDescriptor,

choice-extension ProtocolIE-SingleContainer { { QoS-Characteristics-ExtIEs } }

}

QoS-Characteristics-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

QoSFlowIdentifier ::= INTEGER (0..63)

QoSFlowLevelQoSParameters ::= SEQUENCE {

qoS-Characteristics QoS-Characteristics,

nGRANallocationRetentionPriority NGRANAllocationAndRetentionPriority,

gBR-QoS-Flow-Information GBR-QoSFlowInformation OPTIONAL,

reflective-QoS-Attribute ENUMERATED {subject-to, ...} OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { QoSFlowLevelQoSParameters-ExtIEs } } OPTIONAL

}

QoSFlowLevelQoSParameters-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-PDUSessionID CRITICALITY ignore EXTENSION PDUSessionID PRESENCE optional}|

{ ID id-ULPDUSessionAggregateMaximumBitRate CRITICALITY ignore EXTENSION BitRate PRESENCE optional}|

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

...

}

QoSFlowMappingIndication ::= ENUMERATED {ul,dl,...}

QoSInformation ::= CHOICE {

eUTRANQoS EUTRANQoS,

choice-extension ProtocolIE-SingleContainer { { QoSInformation-ExtIEs} }

}

QoSInformation-ExtIEs F1AP-PROTOCOL-IES ::= {

{ ID id-DRB-Information CRITICALITY ignore TYPE DRB-Information PRESENCE mandatory},

...

}

QosMonitoringRequest ::= ENUMERATED {ul, dl, both}

-- R

RANAC ::= INTEGER (0..255)

RANUEID ::= OCTET STRING (SIZE (8))

RANUEPagingIdentity ::= SEQUENCE {

iRNTI BIT STRING (SIZE(40)),

iE-Extensions ProtocolExtensionContainer { { RANUEPagingIdentity-ExtIEs } } OPTIONAL}

RANUEPagingIdentity-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

RAT-FrequencyPriorityInformation::= CHOICE {

eNDC SubscriberProfileIDforRFP,

nGRAN RAT-FrequencySelectionPriority,

choice-extension ProtocolIE-SingleContainer { { RAT-FrequencyPriorityInformation-ExtIEs} }

}

RAT-FrequencyPriorityInformation-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

RAT-FrequencySelectionPriority::= INTEGER (1.. 256, ...)

Reestablishment-Indication ::= ENUMERATED {

reestablished,

...

}

RequestedBandCombinationIndex ::= OCTET STRING

RequestedFeatureSetEntryIndex ::= OCTET STRING

Requested-PDCCH-BlindDetectionSCG ::= OCTET STRING

RequestType ::= ENUMERATED {offer, execution, ...}

ResourceCoordinationEUTRACellInfo ::= SEQUENCE {

eUTRA-Mode-Info EUTRA-Coex-Mode-Info,

eUTRA-PRACH-Configuration EUTRA-PRACH-Configuration,

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

...

}

ResourceCoordinationEUTRACellInfo-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ID id-IgnorePRACHConfiguration CRITICALITY reject EXTENSION IgnorePRACHConfiguration PRESENCE optional },

...

}

ResourceCoordinationTransferInformation ::= SEQUENCE {

meNB-Cell-ID EUTRA-Cell-ID,

resourceCoordinationEUTRACellInfo ResourceCoordinationEUTRACellInfo OPTIONAL,

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

...

}

ResourceCoordinationTransferInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

ResourceCoordinationTransferContainer ::= OCTET STRING

RepetitionPeriod ::= INTEGER (0..131071, ...)

RLCFailureIndication ::= SEQUENCE {

assocatedLCID LCID,

iE-Extensions ProtocolExtensionContainer { {RLCFailureIndication-ExtIEs} } OPTIONAL

}

RLCFailureIndication-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

RLCMode ::= ENUMERATED {

rlc-am,

rlc-um-bidirectional,

rlc-um-unidirectional-ul,

rlc-um-unidirectional-dl,

...

}

RLC-Status ::= SEQUENCE {

reestablishment-Indication Reestablishment-Indication,

iE-Extensions ProtocolExtensionContainer { { RLC-Status-ExtIEs } } OPTIONAL,

...

}

RLC-Status-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

RIMRSDetectionStatus ::= ENUMERATED {rs-detected, rs-disappeared, ...}

RRCContainer ::= OCTET STRING

RRCContainer-RRCSetupComplete ::= OCTET STRING

RRCDeliveryStatus ::= SEQUENCE {

delivery-status PDCP-SN,

triggering-message PDCP-SN,

iE-Extensions ProtocolExtensionContainer { { RRCDeliveryStatus-ExtIEs } } OPTIONAL}

RRCDeliveryStatus-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

RRCDeliveryStatusRequest ::= ENUMERATED {true, ...}

RRCReconfigurationCompleteIndicator ::= ENUMERATED {

true,

...,

failure

}

RRC-Version ::= SEQUENCE {

latest-RRC-Version BIT STRING (SIZE(3)),

iE-Extensions ProtocolExtensionContainer { { RRC-Version-ExtIEs } } OPTIONAL}

RRC-Version-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ID id-latest-RRC-Version-Enhanced CRITICALITY ignore EXTENSION OCTET STRING (SIZE(3)) PRESENCE optional },

...

}

-- S

SCell-FailedtoSetup-Item ::= SEQUENCE {

sCell-ID NRCGI ,

cause Cause OPTIONAL ,

iE-Extensions ProtocolExtensionContainer { { SCell-FailedtoSetup-ItemExtIEs } } OPTIONAL,

...

}

SCell-FailedtoSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SCell-FailedtoSetupMod-Item ::= SEQUENCE {

sCell-ID NRCGI ,

cause Cause OPTIONAL ,

iE-Extensions ProtocolExtensionContainer { { SCell-FailedtoSetupMod-ItemExtIEs } } OPTIONAL,

...

}

SCell-FailedtoSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SCell-ToBeRemoved-Item ::= SEQUENCE {

sCell-ID NRCGI ,

iE-Extensions ProtocolExtensionContainer { { SCell-ToBeRemoved-ItemExtIEs } } OPTIONAL,

...

}

SCell-ToBeRemoved-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SCell-ToBeSetup-Item ::= SEQUENCE {

sCell-ID NRCGI ,

sCellIndex SCellIndex,

sCellULConfigured CellULConfigured OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { SCell-ToBeSetup-ItemExtIEs } } OPTIONAL,

...

}

SCell-ToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

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

...

}

SCell-ToBeSetupMod-Item ::= SEQUENCE {

sCell-ID NRCGI ,

sCellIndex SCellIndex,

sCellULConfigured CellULConfigured OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { SCell-ToBeSetupMod-ItemExtIEs } } OPTIONAL,

...

}

SCell-ToBeSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

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

...

}

SCellIndex ::=INTEGER (1..31, ...)

SerialNumber ::= BIT STRING (SIZE (16))

SIBType-PWS ::=INTEGER (6..8, ...)

SelectedBandCombinationIndex ::= OCTET STRING

SelectedFeatureSetEntryIndex ::= OCTET STRING

CG-ConfigInfo ::= OCTET STRING

ServCellIndex ::= INTEGER (0..31, ...)

ServingCellMO ::= INTEGER (1..64, ...)

Served-Cell-Information ::= SEQUENCE {

nRCGI NRCGI,

nRPCI NRPCI,

fiveGS-TAC FiveGS-TAC OPTIONAL,

configured-EPS-TAC Configured-EPS-TAC OPTIONAL,

servedPLMNs ServedPLMNs-List,

nR-Mode-Info NR-Mode-Info,

measurementTimingConfiguration OCTET STRING,

iE-Extensions ProtocolExtensionContainer { {Served-Cell-Information-ExtIEs} } OPTIONAL,

...

}

Served-Cell-Information-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-RANAC CRITICALITY ignore EXTENSION RANAC PRESENCE optional }|

{ ID id-ExtendedServedPLMNs-List CRITICALITY ignore EXTENSION ExtendedServedPLMNs-List PRESENCE optional }|

{ ID id-Cell-Direction CRITICALITY ignore EXTENSION Cell-Direction PRESENCE optional }|

{ ID id-BPLMN-ID-Info-List CRITICALITY ignore EXTENSION BPLMN-ID-Info-List PRESENCE optional }|

{ ID id-Cell-Type CRITICALITY ignore EXTENSION CellType PRESENCE optional}|

{ ID id-AggressorgNBSetID CRITICALITY ignore EXTENSION AggressorgNBSetID PRESENCE optional}|

{ ID id-VictimgNBSetID CRITICALITY ignore EXTENSION VictimgNBSetID PRESENCE optional}|

,

...

}

Served-Cells-To-Add-Item ::= SEQUENCE {

served-Cell-Information Served-Cell-Information,

gNB-DU-System-Information GNB-DU-System-Information OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Served-Cells-To-Add-ItemExtIEs} } OPTIONAL,

...

}

Served-Cells-To-Add-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Served-Cells-To-Delete-Item ::= SEQUENCE {

oldNRCGI NRCGI ,

iE-Extensions ProtocolExtensionContainer { { Served-Cells-To-Delete-ItemExtIEs } } OPTIONAL,

...

}

Served-Cells-To-Delete-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Served-Cells-To-Modify-Item ::= SEQUENCE {

oldNRCGI NRCGI ,

served-Cell-Information Served-Cell-Information ,

gNB-DU-System-Information GNB-DU-System-Information OPTIONAL ,

iE-Extensions ProtocolExtensionContainer { { Served-Cells-To-Modify-ItemExtIEs } } OPTIONAL,

...

}

Served-Cells-To-Modify-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Served-EUTRA-Cells-Information::= SEQUENCE {

eUTRA-Mode-Info EUTRA-Mode-Info,

protectedEUTRAResourceIndication ProtectedEUTRAResourceIndication,

iE-Extensions ProtocolExtensionContainer { {Served-EUTRA-Cell-Information-ExtIEs} } OPTIONAL,

...

}

Served-EUTRA-Cell-Information-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Service-State ::= ENUMERATED {

in-service,

out-of-service,

...

}

Service-Status ::= SEQUENCE {

service-state Service-State,

switchingOffOngoing ENUMERATED {true, ...} OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Service-Status-ExtIEs } } OPTIONAL,

...

}

Service-Status-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

ShortDRXCycleLength ::= ENUMERATED {ms2, ms3, ms4, ms5, ms6, ms7, ms8, ms10, ms14, ms16, ms20, ms30, ms32, ms35, ms40, ms64, ms80, ms128, ms160, ms256, ms320, ms512, ms640, ...}

ShortDRXCycleTimer ::= INTEGER (1..16)

SIB1-message ::= OCTET STRING

SIB10-message ::= OCTET STRING

SItype ::= INTEGER (1..32, ...)

SItype-List ::= SEQUENCE (SIZE(1.. maxnoofSITypes)) OF SItype-Item

SItype-Item ::= SEQUENCE {

sItype SItype ,

iE-Extensions ProtocolExtensionContainer { { SItype-ItemExtIEs } } OPTIONAL

}

SItype-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SibtypetobeupdatedListItem ::= SEQUENCE {

sIBtype INTEGER (2..32,...),

sIBmessage OCTET STRING,

valueTag INTEGER (0..31,...),

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

...

}

SibtypetobeupdatedListItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ID id-areaScope CRITICALITY ignore EXTENSION AreaScope PRESENCE optional},

...

}

SliceSupportList ::= SEQUENCE (SIZE(1.. maxnoofSliceItems)) OF SliceSupportItem

SliceSupportItem ::= SEQUENCE {

sNSSAI SNSSAI,

iE-Extensions ProtocolExtensionContainer { { SliceSupportItem-ExtIEs } } OPTIONAL

}

SliceSupportItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Slot-Configuration-List ::= SEQUENCE (SIZE(1.. maxnoofslots)) OF Slot-Configuration-Item

Slot-Configuration-Item ::= SEQUENCE {

slotIndex INTEGER (0..319, ...),

symbolAllocInSlot SymbolAllocInSlot,

iE-Extensions ProtocolExtensionContainer { { Slot-Configuration-ItemExtIEs } } OPTIONAL

}

Slot-Configuration-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SNSSAI ::= SEQUENCE {

sST OCTET STRING (SIZE(1)),

sD OCTET STRING (SIZE(3)) OPTIONAL ,

iE-Extensions ProtocolExtensionContainer { { SNSSAI-ExtIEs } } OPTIONAL

}

SNSSAI-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SpectrumSharingGroupID ::= INTEGER (1..maxCellineNB)

SRBID ::= INTEGER (0..3, ...)

SRBs-FailedToBeSetup-Item ::= SEQUENCE {

sRBID SRBID ,

cause Cause OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { SRBs-FailedToBeSetup-ItemExtIEs } } OPTIONAL,

...

}

SRBs-FailedToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SRBs-FailedToBeSetupMod-Item ::= SEQUENCE {

sRBID SRBID ,

cause Cause OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { SRBs-FailedToBeSetupMod-ItemExtIEs } } OPTIONAL,

...

}

SRBs-FailedToBeSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SRBs-Modified-Item ::= SEQUENCE {

sRBID SRBID,

lCID LCID,

iE-Extensions ProtocolExtensionContainer { { SRBs-Modified-ItemExtIEs } } OPTIONAL,

...

}

SRBs-Modified-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SRBs-Required-ToBeReleased-Item ::= SEQUENCE {

sRBID SRBID,

iE-Extensions ProtocolExtensionContainer { { SRBs-Required-ToBeReleased-ItemExtIEs } } OPTIONAL,

...

}

SRBs-Required-ToBeReleased-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SRBs-Setup-Item ::= SEQUENCE {

sRBID SRBID,

lCID LCID,

iE-Extensions ProtocolExtensionContainer { { SRBs-Setup-ItemExtIEs } } OPTIONAL,

...

}

SRBs-Setup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SRBs-SetupMod-Item ::= SEQUENCE {

sRBID SRBID,

lCID LCID,

iE-Extensions ProtocolExtensionContainer { { SRBs-SetupMod-ItemExtIEs } } OPTIONAL,

...

}

SRBs-SetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SRBs-ToBeReleased-Item ::= SEQUENCE {

sRBID SRBID,

iE-Extensions ProtocolExtensionContainer { { SRBs-ToBeReleased-ItemExtIEs } } OPTIONAL,

...

}

SRBs-ToBeReleased-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SRBs-ToBeSetup-Item ::= SEQUENCE {

sRBID SRBID ,

duplicationIndication DuplicationIndication OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { SRBs-ToBeSetup-ItemExtIEs } } OPTIONAL,

...

}

SRBs-ToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SRBs-ToBeSetupMod-Item ::= SEQUENCE {

sRBID SRBID,

duplicationIndication DuplicationIndication OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { SRBs-ToBeSetupMod-ItemExtIEs } } OPTIONAL,

...

}

SRBs-ToBeSetupMod-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SUL-Information ::= SEQUENCE {

sUL-NRARFCN INTEGER (0..maxNRARFCN),

sUL-transmission-Bandwidth Transmission-Bandwidth,

iE-Extensions ProtocolExtensionContainer { { SUL-InformationExtIEs} } OPTIONAL,

...

}

SUL-InformationExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SubscriberProfileIDforRFP ::= INTEGER (1..256, ...)

SULAccessIndication ::= ENUMERATED {true,...}

SupportedSULFreqBandItem ::= SEQUENCE {

freqBandIndicatorNr INTEGER (1..1024,...),

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

...

}

SupportedSULFreqBandItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

SymbolAllocInSlot ::= CHOICE {

all-DL NULL,

all-UL NULL,

both-DL-and-UL NumDLULSymbols,

choice-extension ProtocolIE-SingleContainer { { SymbolAllocInSlot-ExtIEs } }

}

SymbolAllocInSlot-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

SystemInformationAreaID ::=BIT STRING (SIZE (24))

-- T

FiveGS-TAC ::= OCTET STRING (SIZE(3))

Configured-EPS-TAC ::= OCTET STRING (SIZE(2))

TDD-Info ::= SEQUENCE {

nRFreqInfo NRFreqInfo,

transmission-Bandwidth Transmission-Bandwidth,

iE-Extensions ProtocolExtensionContainer { {TDD-Info-ExtIEs} } OPTIONAL,

...

}

TDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ID id-IntendedTDD-DL-ULConfig CRITICALITY ignore EXTENSION IntendedTDD-DL-ULConfig PRESENCE optional},

...

}

TimeToWait ::= ENUMERATED {v1s, v2s, v5s, v10s, v20s, v60s, ...}

TNLAssociationUsage ::= ENUMERATED {

ue,

non-ue,

both,

...

}

TraceActivation ::= SEQUENCE {

traceID TraceID,

interfacesToTrace InterfacesToTrace,

traceDepth TraceDepth,

traceCollectionEntityIPAddress TransportLayerAddress,

iE-Extensions ProtocolExtensionContainer { {TraceActivation-ExtIEs} } OPTIONAL

}

TraceActivation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

TraceDepth ::= ENUMERATED {

minimum,

medium,

maximum,

minimumWithoutVendorSpecificExtension,

mediumWithoutVendorSpecificExtension,

maximumWithoutVendorSpecificExtension,

...

}

TraceID ::= OCTET STRING (SIZE(8))

TransportLayerAddress ::= BIT STRING (SIZE(1..160, ...))

TransactionID ::= INTEGER (0..255, ...)

Transmission-Bandwidth ::= SEQUENCE {

nRSCS NRSCS,

nRNRB NRNRB,

iE-Extensions ProtocolExtensionContainer { { Transmission-Bandwidth-ExtIEs} } OPTIONAL,

...

}

Transmission-Bandwidth-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Transport-UP-Layer-Address-Info-To-Add-List ::= SEQUENCE (SIZE(1.. maxnoofTLAs)) OF Transport-UP-Layer-Address-Info-To-Add-Item

Transport-UP-Layer-Address-Info-To-Add-Item ::= SEQUENCE {

iP-SecTransportLayerAddress TransportLayerAddress,

gTPTransportLayerAddressToAdd GTPTLAs OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Transport-UP-Layer-Address-Info-To-Add-ItemExtIEs } } OPTIONAL

}

Transport-UP-Layer-Address-Info-To-Add-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

Transport-UP-Layer-Address-Info-To-Remove-List ::= SEQUENCE (SIZE(1.. maxnoofTLAs)) OF Transport-UP-Layer-Address-Info-To-Remove-Item

Transport-UP-Layer-Address-Info-To-Remove-Item ::= SEQUENCE {

iP-SecTransportLayerAddress TransportLayerAddress,

gTPTransportLayerAddressToRemove GTPTLAs OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Transport-UP-Layer-Address-Info-To-Remove-ItemExtIEs } } OPTIONAL

}

Transport-UP-Layer-Address-Info-To-Remove-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

TransmissionActionIndicator ::= ENUMERATED {stop, ..., restart }

TypeOfError ::= ENUMERATED {

not-understood,

missing,

...

}

Transport-Layer-Address-Info ::= SEQUENCE {

transport-UP-Layer-Address-Info-To-Add-List Transport-UP-Layer-Address-Info-To-Add-List OPTIONAL,

transport-UP-Layer-Address-Info-To-Remove-List Transport-UP-Layer-Address-Info-To-Remove-List OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Transport-Layer-Address-Info-ExtIEs } } OPTIONAL

}

Transport-Layer-Address-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

-- U

UAC-Assistance-Info ::= SEQUENCE {

uACPLMN-List UACPLMN-List,

iE-Extensions ProtocolExtensionContainer { { UAC-Assistance-InfoExtIEs} } OPTIONAL

}

UAC-Assistance-InfoExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

UACPLMN-List ::= SEQUENCE (SIZE(1..maxnoofUACPLMNs)) OF UACPLMN-Item

UACPLMN-Item::= SEQUENCE {

pLMNIdentity PLMN-Identity,

uACType-List UACType-List, iE-Extensions ProtocolExtensionContainer { { UACPLMN-Item-ExtIEs} } OPTIONAL

}

UACPLMN-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

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

...

}

UACType-List ::= SEQUENCE (SIZE(1..maxnoofUACperPLMN)) OF UACType-Item

UACType-Item::= SEQUENCE {

uACReductionIndication UACReductionIndication,

uACCategoryType UACCategoryType,

iE-Extensions ProtocolExtensionContainer { { UACType-Item-ExtIEs } } OPTIONAL

}

UACType-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

UACCategoryType ::= CHOICE {

uACstandardized UACAction,

uACOperatorDefined UACOperatorDefined,

choice-extension ProtocolIE-SingleContainer { { UACCategoryType-ExtIEs } }

}

UACCategoryType-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

UACOperatorDefined ::= SEQUENCE {

accessCategory INTEGER (32..63,...),

accessIdentity BIT STRING (SIZE(7)),

iE-Extensions ProtocolExtensionContainer { { UACOperatorDefined-ExtIEs} } OPTIONAL

}

UACOperatorDefined-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

UACAction ::= ENUMERATED {

reject-non-emergency-mo-dt,

reject-rrc-cr-signalling,

permit-emergency-sessions-and-mobile-terminated-services-only,

permit-high-priority-sessions-and-mobile-terminated-services-only,

...

}

UACReductionIndication ::= INTEGER (0..100)

UE-associatedLogicalF1-ConnectionItem ::= SEQUENCE {

gNB-CU-UE-F1AP-ID GNB-CU-UE-F1AP-ID OPTIONAL,

gNB-DU-UE-F1AP-ID GNB-DU-UE-F1AP-ID OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { UE-associatedLogicalF1-ConnectionItemExtIEs} } OPTIONAL,

...

}

UEAssistanceInformation ::= OCTET STRING

UE-associatedLogicalF1-ConnectionItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

UE-CapabilityRAT-ContainerList::= OCTET STRING

UEContextNotRetrievable ::= ENUMERATED {true, ...}

UEIdentityIndexValue ::= CHOICE {

indexLength10 BIT STRING (SIZE (10)),

choice-extension ProtocolIE-SingleContainer { {UEIdentityIndexValueChoice-ExtIEs} }

}

UEIdentityIndexValueChoice-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

ULConfiguration ::= SEQUENCE {

uLUEConfiguration ULUEConfiguration,

iE-Extensions ProtocolExtensionContainer { { ULConfigurationExtIEs } } OPTIONAL,

...

}

ULConfigurationExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

ULUEConfiguration ::= ENUMERATED {no-data, shared, only, ...}

ULUPTNLInformation-ToBeSetup-List ::= SEQUENCE (SIZE(1..maxnoofULUPTNLInformation)) OF ULUPTNLInformation-ToBeSetup-Item

ULUPTNLInformation-ToBeSetup-Item ::=SEQUENCE {

uLUPTNLInformation UPTransportLayerInformation,

iE-Extensions ProtocolExtensionContainer { { ULUPTNLInformation-ToBeSetup-ItemExtIEs } } OPTIONAL,

...

}

ULUPTNLInformation-ToBeSetup-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

UplinkTxDirectCurrentListInformation ::= OCTET STRING

UPTransportLayerInformation ::= CHOICE {

gTPTunnel GTPTunnel,

choice-extension ProtocolIE-SingleContainer { { UPTransportLayerInformation-ExtIEs} }

}

UPTransportLayerInformation-ExtIEs F1AP-PROTOCOL-IES ::= {

...

}

-- V

VictimgNBSetID ::= SEQUENCE {

victimgNBSetID GNBSetID,

iE-Extensions ProtocolExtensionContainer { { VictimgNBSetID-ExtIEs } } OPTIONAL

}

VictimgNBSetID-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

...

}

-- W

-- X

-- Y

-- Z

END

-- ASN1STOP

### 9.4.6 Common Definitions

-- ASN1START

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

--

-- Common definitions

--

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

F1AP-CommonDataTypes {

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

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-CommonDataTypes (3) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

Criticality ::= ENUMERATED { reject, ignore, notify }

Presence ::= ENUMERATED { optional, conditional, mandatory }

PrivateIE-ID ::= CHOICE {

local INTEGER (0..65535),

global OBJECT IDENTIFIER

}

ProcedureCode ::= INTEGER (0..255)

ProtocolExtensionID ::= INTEGER (0..65535)

ProtocolIE-ID ::= INTEGER (0..65535)

TriggeringMessage ::= ENUMERATED { initiating-message, successful-outcome, unsuccessful-outcome }

END

-- ASN1STOP

### 9.4.7 Constant Definitions

-- ASN1START

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

--

-- Constant definitions

--

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

F1AP-Constants {

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

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

--

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

IMPORTS

ProcedureCode,

ProtocolIE-ID

FROM F1AP-CommonDataTypes;

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

--

-- Elementary Procedures

--

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

id-Reset ProcedureCode ::= 0

id-F1Setup ProcedureCode ::= 1

id-ErrorIndication ProcedureCode ::= 2

id-gNBDUConfigurationUpdate ProcedureCode ::= 3

id-gNBCUConfigurationUpdate ProcedureCode ::= 4

id-UEContextSetup ProcedureCode ::= 5

id-UEContextRelease ProcedureCode ::= 6

id-UEContextModification ProcedureCode ::= 7

id-UEContextModificationRequired ProcedureCode ::= 8

id-UEMobilityCommand ProcedureCode ::= 9

id-UEContextReleaseRequest ProcedureCode ::= 10

id-InitialULRRCMessageTransfer ProcedureCode ::= 11

id-DLRRCMessageTransfer ProcedureCode ::= 12

id-ULRRCMessageTransfer ProcedureCode ::= 13

id-privateMessage ProcedureCode ::= 14

id-UEInactivityNotification ProcedureCode ::= 15

id-GNBDUResourceCoordination ProcedureCode ::= 16

id-SystemInformationDeliveryCommand ProcedureCode ::= 17

id-Paging ProcedureCode ::= 18

id-Notify ProcedureCode ::= 19

id-WriteReplaceWarning ProcedureCode ::= 20

id-PWSCancel ProcedureCode ::= 21

id-PWSRestartIndication ProcedureCode ::= 22

id-PWSFailureIndication ProcedureCode ::= 23

id-GNBDUStatusIndication ProcedureCode ::= 24

id-RRCDeliveryReport ProcedureCode ::= 25

id-F1Removal ProcedureCode ::= 26

id-NetworkAccessRateReduction ProcedureCode ::= 27

id-TraceStart ProcedureCode ::= 28

id-DeactivateTrace ProcedureCode ::= 29

id-DUCURadioInformationTransfer ProcedureCode ::= 30

id-CUDURadioInformationTransfer ProcedureCode ::= 31

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

--

-- Extension constants

--

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

maxPrivateIEs INTEGER ::= 65535

maxProtocolExtensions INTEGER ::= 65535

maxProtocolIEs INTEGER ::= 65535

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

--

-- Lists

--

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

maxNRARFCN INTEGER ::= 3279165

maxnoofErrors INTEGER ::= 256

maxnoofIndividualF1ConnectionsToReset INTEGER ::= 65536

maxCellingNBDU INTEGER ::= 512

maxnoofSCells INTEGER ::= 32

maxnoofSRBs INTEGER ::= 8

maxnoofDRBs INTEGER ::= 64

maxnoofULUPTNLInformation INTEGER ::= 2

maxnoofDLUPTNLInformation INTEGER ::= 2

maxnoofBPLMNs INTEGER ::= 6

maxnoofCandidateSpCells INTEGER ::= 64

maxnoofPotentialSpCells INTEGER ::= 64

maxnoofNrCellBands INTEGER ::= 32

maxnoofSIBTypes INTEGER ::= 32

maxnoofSITypes INTEGER ::= 32

maxnoofPagingCells INTEGER ::= 512

maxnoofTNLAssociations INTEGER ::= 32

maxnoofQoSFlows INTEGER ::= 64

maxnoofSliceItems INTEGER ::= 1024

maxCellineNB INTEGER ::= 256

maxnoofExtendedBPLMNs INTEGER ::= 6

maxnoofUEIDs INTEGER ::= 65536

maxnoofBPLMNsNRminus1 INTEGER ::= 11

maxnoofUACPLMNs INTEGER ::= 12

maxnoofUACperPLMN INTEGER ::= 64

maxnoofAdditionalSIBs INTEGER ::= 63

maxnoofslots INTEGER ::= 320

maxnoofTLAs INTEGER ::= 16

maxnoofGTPTLAs INTEGER ::= 16

maxnoofCAGsupported INTEGER ::= 12

maxnoofNIDsupported INTEGER ::= 12

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

--

-- IEs

--

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

id-Cause ProtocolIE-ID ::= 0

id-Cells-Failed-to-be-Activated-List ProtocolIE-ID ::= 1

id-Cells-Failed-to-be-Activated-List-Item ProtocolIE-ID ::= 2

id-Cells-to-be-Activated-List ProtocolIE-ID ::= 3

id-Cells-to-be-Activated-List-Item ProtocolIE-ID ::= 4

id-Cells-to-be-Deactivated-List ProtocolIE-ID ::= 5

id-Cells-to-be-Deactivated-List-Item ProtocolIE-ID ::= 6

id-CriticalityDiagnostics ProtocolIE-ID ::= 7

id-CUtoDURRCInformation ProtocolIE-ID ::= 9

id-DRBs-FailedToBeModified-Item ProtocolIE-ID ::= 12

id-DRBs-FailedToBeModified-List ProtocolIE-ID ::= 13

id-DRBs-FailedToBeSetup-Item ProtocolIE-ID ::= 14

id-DRBs-FailedToBeSetup-List ProtocolIE-ID ::= 15

id-DRBs-FailedToBeSetupMod-Item ProtocolIE-ID ::= 16

id-DRBs-FailedToBeSetupMod-List ProtocolIE-ID ::= 17

id-DRBs-ModifiedConf-Item ProtocolIE-ID ::= 18

id-DRBs-ModifiedConf-List ProtocolIE-ID ::= 19

id-DRBs-Modified-Item ProtocolIE-ID ::= 20

id-DRBs-Modified-List ProtocolIE-ID ::= 21

id-DRBs-Required-ToBeModified-Item ProtocolIE-ID ::= 22

id-DRBs-Required-ToBeModified-List ProtocolIE-ID ::= 23

id-DRBs-Required-ToBeReleased-Item ProtocolIE-ID ::= 24

id-DRBs-Required-ToBeReleased-List ProtocolIE-ID ::= 25

id-DRBs-Setup-Item ProtocolIE-ID ::= 26

id-DRBs-Setup-List ProtocolIE-ID ::= 27

id-DRBs-SetupMod-Item ProtocolIE-ID ::= 28

id-DRBs-SetupMod-List ProtocolIE-ID ::= 29

id-DRBs-ToBeModified-Item ProtocolIE-ID ::= 30

id-DRBs-ToBeModified-List ProtocolIE-ID ::= 31

id-DRBs-ToBeReleased-Item ProtocolIE-ID ::= 32

id-DRBs-ToBeReleased-List ProtocolIE-ID ::= 33

id-DRBs-ToBeSetup-Item ProtocolIE-ID ::= 34

id-DRBs-ToBeSetup-List ProtocolIE-ID ::= 35

id-DRBs-ToBeSetupMod-Item ProtocolIE-ID ::= 36

id-DRBs-ToBeSetupMod-List ProtocolIE-ID ::= 37

id-DRXCycle ProtocolIE-ID ::= 38

id-DUtoCURRCInformation ProtocolIE-ID ::= 39

id-gNB-CU-UE-F1AP-ID ProtocolIE-ID ::= 40

id-gNB-DU-UE-F1AP-ID ProtocolIE-ID ::= 41

id-gNB-DU-ID ProtocolIE-ID ::= 42

id-GNB-DU-Served-Cells-Item ProtocolIE-ID ::= 43

id-gNB-DU-Served-Cells-List ProtocolIE-ID ::= 44

id-gNB-DU-Name ProtocolIE-ID ::= 45

id-NRCellID ProtocolIE-ID ::= 46

id-oldgNB-DU-UE-F1AP-ID ProtocolIE-ID ::= 47

id-ResetType ProtocolIE-ID ::= 48

id-ResourceCoordinationTransferContainer ProtocolIE-ID ::= 49

id-RRCContainer ProtocolIE-ID ::= 50

id-SCell-ToBeRemoved-Item ProtocolIE-ID ::= 51

id-SCell-ToBeRemoved-List ProtocolIE-ID ::= 52

id-SCell-ToBeSetup-Item ProtocolIE-ID ::= 53

id-SCell-ToBeSetup-List ProtocolIE-ID ::= 54

id-SCell-ToBeSetupMod-Item ProtocolIE-ID ::= 55

id-SCell-ToBeSetupMod-List ProtocolIE-ID ::= 56

id-Served-Cells-To-Add-Item ProtocolIE-ID ::= 57

id-Served-Cells-To-Add-List ProtocolIE-ID ::= 58

id-Served-Cells-To-Delete-Item ProtocolIE-ID ::= 59

id-Served-Cells-To-Delete-List ProtocolIE-ID ::= 60

id-Served-Cells-To-Modify-Item ProtocolIE-ID ::= 61

id-Served-Cells-To-Modify-List ProtocolIE-ID ::= 62

id-SpCell-ID ProtocolIE-ID ::= 63

id-SRBID ProtocolIE-ID ::= 64

id-SRBs-FailedToBeSetup-Item ProtocolIE-ID ::= 65

id-SRBs-FailedToBeSetup-List ProtocolIE-ID ::= 66

id-SRBs-FailedToBeSetupMod-Item ProtocolIE-ID ::= 67

id-SRBs-FailedToBeSetupMod-List ProtocolIE-ID ::= 68

id-SRBs-Required-ToBeReleased-Item ProtocolIE-ID ::= 69

id-SRBs-Required-ToBeReleased-List ProtocolIE-ID ::= 70

id-SRBs-ToBeReleased-Item ProtocolIE-ID ::= 71

id-SRBs-ToBeReleased-List ProtocolIE-ID ::= 72

id-SRBs-ToBeSetup-Item ProtocolIE-ID ::= 73

id-SRBs-ToBeSetup-List ProtocolIE-ID ::= 74

id-SRBs-ToBeSetupMod-Item ProtocolIE-ID ::= 75

id-SRBs-ToBeSetupMod-List ProtocolIE-ID ::= 76

id-TimeToWait ProtocolIE-ID ::= 77

id-TransactionID ProtocolIE-ID ::= 78

id-TransmissionActionIndicator ProtocolIE-ID ::= 79

id-UE-associatedLogicalF1-ConnectionItem ProtocolIE-ID ::= 80

id-UE-associatedLogicalF1-ConnectionListResAck ProtocolIE-ID ::= 81

id-gNB-CU-Name ProtocolIE-ID ::= 82

id-SCell-FailedtoSetup-List ProtocolIE-ID ::= 83

id-SCell-FailedtoSetup-Item ProtocolIE-ID ::= 84

id-SCell-FailedtoSetupMod-List ProtocolIE-ID ::= 85

id-SCell-FailedtoSetupMod-Item ProtocolIE-ID ::= 86

id-RRCReconfigurationCompleteIndicator ProtocolIE-ID ::= 87

id-Cells-Status-Item ProtocolIE-ID ::= 88

id-Cells-Status-List ProtocolIE-ID ::= 89

id-Candidate-SpCell-List ProtocolIE-ID ::= 90

id-Candidate-SpCell-Item ProtocolIE-ID ::= 91

id-Potential-SpCell-List ProtocolIE-ID ::= 92

id-Potential-SpCell-Item ProtocolIE-ID ::= 93

id-FullConfiguration ProtocolIE-ID ::= 94

id-C-RNTI ProtocolIE-ID ::= 95

id-SpCellULConfigured ProtocolIE-ID ::= 96

id-InactivityMonitoringRequest ProtocolIE-ID ::= 97

id-InactivityMonitoringResponse ProtocolIE-ID ::= 98

id-DRB-Activity-Item ProtocolIE-ID ::= 99

id-DRB-Activity-List ProtocolIE-ID ::= 100

id-EUTRA-NR-CellResourceCoordinationReq-Container ProtocolIE-ID ::= 101

id-EUTRA-NR-CellResourceCoordinationReqAck-Container ProtocolIE-ID ::= 102

id-Protected-EUTRA-Resources-List ProtocolIE-ID ::= 105

id-RequestType ProtocolIE-ID ::= 106

id-ServCellIndex ProtocolIE-ID ::= 107

id-RAT-FrequencyPriorityInformation ProtocolIE-ID ::= 108

id-ExecuteDuplication ProtocolIE-ID ::= 109

id-NRCGI ProtocolIE-ID ::= 111

id-PagingCell-Item ProtocolIE-ID ::= 112

id-PagingCell-List ProtocolIE-ID ::= 113

id-PagingDRX ProtocolIE-ID ::= 114

id-PagingPriority ProtocolIE-ID ::= 115

id-SItype-List ProtocolIE-ID ::= 116

id-UEIdentityIndexValue ProtocolIE-ID ::= 117

id-gNB-CUSystemInformation ProtocolIE-ID ::= 118

id-HandoverPreparationInformation ProtocolIE-ID ::= 119

id-GNB-CU-TNL-Association-To-Add-Item ProtocolIE-ID ::= 120

id-GNB-CU-TNL-Association-To-Add-List ProtocolIE-ID ::= 121

id-GNB-CU-TNL-Association-To-Remove-Item ProtocolIE-ID ::= 122

id-GNB-CU-TNL-Association-To-Remove-List ProtocolIE-ID ::= 123

id-GNB-CU-TNL-Association-To-Update-Item ProtocolIE-ID ::= 124

id-GNB-CU-TNL-Association-To-Update-List ProtocolIE-ID ::= 125

id-MaskedIMEISV ProtocolIE-ID ::= 126

id-PagingIdentity ProtocolIE-ID ::= 127

id-DUtoCURRCContainer ProtocolIE-ID ::= 128

id-Cells-to-be-Barred-List ProtocolIE-ID ::= 129

id-Cells-to-be-Barred-Item ProtocolIE-ID ::= 130

id-TAISliceSupportList ProtocolIE-ID ::= 131

id-GNB-CU-TNL-Association-Setup-List ProtocolIE-ID ::= 132

id-GNB-CU-TNL-Association-Setup-Item ProtocolIE-ID ::= 133

id-GNB-CU-TNL-Association-Failed-To-Setup-List ProtocolIE-ID ::= 134

id-GNB-CU-TNL-Association-Failed-To-Setup-Item ProtocolIE-ID ::= 135

id-DRB-Notify-Item ProtocolIE-ID ::= 136

id-DRB-Notify-List ProtocolIE-ID ::= 137

id-NotficationControl ProtocolIE-ID ::= 138

id-RANAC ProtocolIE-ID ::= 139

id-PWSSystemInformation ProtocolIE-ID ::= 140

id-RepetitionPeriod ProtocolIE-ID ::= 141

id-NumberofBroadcastRequest ProtocolIE-ID ::= 142

id-Cells-To-Be-Broadcast-List ProtocolIE-ID ::= 144

id-Cells-To-Be-Broadcast-Item ProtocolIE-ID ::= 145

id-Cells-Broadcast-Completed-List ProtocolIE-ID ::= 146

id-Cells-Broadcast-Completed-Item ProtocolIE-ID ::= 147

id-Broadcast-To-Be-Cancelled-List ProtocolIE-ID ::= 148

id-Broadcast-To-Be-Cancelled-Item ProtocolIE-ID ::= 149

id-Cells-Broadcast-Cancelled-List ProtocolIE-ID ::= 150

id-Cells-Broadcast-Cancelled-Item ProtocolIE-ID ::= 151

id-NR-CGI-List-For-Restart-List ProtocolIE-ID ::= 152

id-NR-CGI-List-For-Restart-Item ProtocolIE-ID ::= 153

id-PWS-Failed-NR-CGI-List ProtocolIE-ID ::= 154

id-PWS-Failed-NR-CGI-Item ProtocolIE-ID ::= 155

id-ConfirmedUEID ProtocolIE-ID ::= 156

id-Cancel-all-Warning-Messages-Indicator ProtocolIE-ID ::= 157

id-GNB-DU-UE-AMBR-UL ProtocolIE-ID ::= 158

id-DRXConfigurationIndicator ProtocolIE-ID ::= 159

id-RLC-Status ProtocolIE-ID ::= 160

id-DLPDCPSNLength ProtocolIE-ID ::= 161

id-GNB-DUConfigurationQuery ProtocolIE-ID ::= 162

id-MeasurementTimingConfiguration ProtocolIE-ID ::= 163

id-DRB-Information ProtocolIE-ID ::= 164

id-ServingPLMN ProtocolIE-ID ::= 165

id-Protected-EUTRA-Resources-Item ProtocolIE-ID ::= 168

id-GNB-CU-RRC-Version ProtocolIE-ID ::= 170

id-GNB-DU-RRC-Version ProtocolIE-ID ::= 171

id-GNBDUOverloadInformation ProtocolIE-ID ::= 172

id-CellGroupConfig ProtocolIE-ID ::= 173

id-RLCFailureIndication ProtocolIE-ID ::= 174

id-UplinkTxDirectCurrentListInformation ProtocolIE-ID ::= 175

id-DC-Based-Duplication-Configured ProtocolIE-ID ::= 176

id-DC-Based-Duplication-Activation ProtocolIE-ID ::= 177

id-SULAccessIndication ProtocolIE-ID ::= 178

id-AvailablePLMNList ProtocolIE-ID ::= 179

id-PDUSessionID ProtocolIE-ID ::= 180

id-ULPDUSessionAggregateMaximumBitRate ProtocolIE-ID ::= 181

id-ServingCellMO ProtocolIE-ID ::= 182

id-QoSFlowMappingIndication ProtocolIE-ID ::= 183

id-RRCDeliveryStatusRequest ProtocolIE-ID ::= 184

id-RRCDeliveryStatus ProtocolIE-ID ::= 185

id-BearerTypeChange ProtocolIE-ID ::= 186

id-RLCMode ProtocolIE-ID ::= 187

id-Duplication-Activation ProtocolIE-ID ::= 188

id-Dedicated-SIDelivery-NeededUE-List ProtocolIE-ID ::= 189

id-Dedicated-SIDelivery-NeededUE-Item ProtocolIE-ID ::= 190

id-DRX-LongCycleStartOffset ProtocolIE-ID ::= 191

id-ULPDCPSNLength ProtocolIE-ID ::= 192

id-SelectedBandCombinationIndex ProtocolIE-ID ::= 193

id-SelectedFeatureSetEntryIndex ProtocolIE-ID ::= 194

id-ResourceCoordinationTransferInformation ProtocolIE-ID ::= 195

id-ExtendedServedPLMNs-List ProtocolIE-ID ::= 196

id-ExtendedAvailablePLMN-List ProtocolIE-ID ::= 197

id-Associated-SCell-List ProtocolIE-ID ::= 198

id-latest-RRC-Version-Enhanced ProtocolIE-ID ::= 199

id-Associated-SCell-Item ProtocolIE-ID ::= 200

id-Cell-Direction ProtocolIE-ID ::= 201

id-SRBs-Setup-List ProtocolIE-ID ::= 202

id-SRBs-Setup-Item ProtocolIE-ID ::= 203

id-SRBs-SetupMod-List ProtocolIE-ID ::= 204

id-SRBs-SetupMod-Item ProtocolIE-ID ::= 205

id-SRBs-Modified-List ProtocolIE-ID ::= 206

id-SRBs-Modified-Item ProtocolIE-ID ::= 207

id-Ph-InfoSCG ProtocolIE-ID ::= 208

id-RequestedBandCombinationIndex ProtocolIE-ID ::= 209

id-RequestedFeatureSetEntryIndex ProtocolIE-ID ::= 210

id-RequestedP-MaxFR2 ProtocolIE-ID ::= 211

id-DRX-Config ProtocolIE-ID ::= 212

id-IgnoreResourceCoordinationContainer ProtocolIE-ID ::= 213

id-UEAssistanceInformation ProtocolIE-ID ::= 214

id-NeedforGap ProtocolIE-ID ::= 215

id-PagingOrigin ProtocolIE-ID ::= 216

id-new-gNB-CU-UE-F1AP-ID ProtocolIE-ID ::= 217

id-RedirectedRRCmessage ProtocolIE-ID ::= 218

id-new-gNB-DU-UE-F1AP-ID ProtocolIE-ID ::= 219

id-NotificationInformation ProtocolIE-ID ::= 220

id-PLMNAssistanceInfoForNetShar ProtocolIE-ID ::= 221

id-UEContextNotRetrievable ProtocolIE-ID ::= 222

id-BPLMN-ID-Info-List ProtocolIE-ID ::= 223

id-SelectedPLMNID ProtocolIE-ID ::= 224

id-UAC-Assistance-Info ProtocolIE-ID ::= 225

id-RANUEID ProtocolIE-ID ::= 226

id-GNB-DU-TNL-Association-To-Remove-Item ProtocolIE-ID ::= 227

id-GNB-DU-TNL-Association-To-Remove-List ProtocolIE-ID ::= 228

id-TNLAssociationTransportLayerAddressgNBDU ProtocolIE-ID ::= 229

id-portNumber ProtocolIE-ID ::= 230

id-AdditionalSIBMessageList ProtocolIE-ID ::= 231

id-Cell-Type ProtocolIE-ID ::= 232

id-IgnorePRACHConfiguration ProtocolIE-ID ::= 233

id-CG-Config ProtocolIE-ID ::= 234

id-PDCCH-BlindDetectionSCG ProtocolIE-ID ::= 235

id-Requested-PDCCH-BlindDetectionSCG ProtocolIE-ID ::= 236

id-Ph-InfoMCG ProtocolIE-ID ::= 237

id-MeasGapSharingConfig ProtocolIE-ID ::= 238

id-systemInformationAreaID ProtocolIE-ID ::= 239

id-areaScope ProtocolIE-ID ::= 240

id-RRCContainer-RRCSetupComplete ProtocolIE-ID ::= 241

id-TraceActivation ProtocolIE-ID ::= 242

id-TraceID ProtocolIE-ID ::= 243

id-Neighbour-Cell-Information-List ProtocolIE-ID ::= 244

id-SymbolAllocInSlot ProtocolIE-ID ::= 246

id-NumDLULSymbols ProtocolIE-ID ::= 247

id-AdditionalRRMPriorityIndex ProtocolIE-ID ::= 248

id-DUCURadioInformationType ProtocolIE-ID ::= 249

id-CUDURadioInformationType ProtocolIE-ID ::= 250

id-AggressorgNBSetID ProtocolIE-ID ::= 251

id-VictimgNBSetID ProtocolIE-ID ::= 252

id-LowerLayerPresenceStatusChange ProtocolIE-ID ::= 253

id-Transport-Layer-Address-Info ProtocolIE-ID ::= 254

id-Neighbour-Cell-Information-Item ProtocolIE-ID ::= 255

id-IntendedTDD-DL-ULConfig ProtocolIE-ID ::= 256

id-QosMonitoringRequest ProtocolIE-ID ::= 257

id-ServingNID ProtocolIE-ID ::= xxx

id-NPNBroadcastInformation ProtocolIE-ID ::= zzz

id-NPNSupportInfo ProtocolIE-ID ::= yyy

id-NID ProtocolIE-ID ::= mmm

id-AvailableSNPN-ID-List ProtocolIE-ID ::= ccc

id-SIB10-message ProtocolIE-ID ::= ddd

END

-- ASN1STOP

### 9.4.8 Container Definitions

-- ASN1START

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

--

-- Container definitions

--

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

F1AP-Containers {

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

ngran-access (22) modules (3) f1ap (3) version1 (1) f1ap-Containers (5) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

--

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

IMPORTS

Criticality,

Presence,

PrivateIE-ID,

ProtocolExtensionID,

ProtocolIE-ID

FROM F1AP-CommonDataTypes

maxPrivateIEs,

maxProtocolExtensions,

maxProtocolIEs

FROM F1AP-Constants;

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

--

-- Class Definition for Protocol IEs

--

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

F1AP-PROTOCOL-IES ::= CLASS {

&id ProtocolIE-ID UNIQUE,

&criticality Criticality,

&Value,

&presence Presence

}

WITH SYNTAX {

ID &id

CRITICALITY &criticality

TYPE &Value

PRESENCE &presence

}

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

--

-- Class Definition for Protocol IEs

--

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

F1AP-PROTOCOL-IES-PAIR ::= CLASS {

&id ProtocolIE-ID UNIQUE,

&firstCriticality Criticality,

&FirstValue,

&secondCriticality Criticality,

&SecondValue,

&presence Presence

}

WITH SYNTAX {

ID &id

FIRST CRITICALITY &firstCriticality

FIRST TYPE &FirstValue

SECOND CRITICALITY &secondCriticality

SECOND TYPE &SecondValue

PRESENCE &presence

}

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

--

-- Class Definition for Protocol Extensions

--

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

F1AP-PROTOCOL-EXTENSION ::= CLASS {

&id ProtocolExtensionID UNIQUE,

&criticality Criticality,

&Extension,

&presence Presence

}

WITH SYNTAX {

ID &id

CRITICALITY &criticality

EXTENSION &Extension

PRESENCE &presence

}

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

--

-- Class Definition for Private IEs

--

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

F1AP-PRIVATE-IES ::= CLASS {

&id PrivateIE-ID,

&criticality Criticality,

&Value,

&presence Presence

}

WITH SYNTAX {

ID &id

CRITICALITY &criticality

TYPE &Value

PRESENCE &presence

}

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

--

-- Container for Protocol IEs

--

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

ProtocolIE-Container {F1AP-PROTOCOL-IES : IEsSetParam} ::=

SEQUENCE (SIZE (0..maxProtocolIEs)) OF

ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-SingleContainer {F1AP-PROTOCOL-IES : IEsSetParam} ::=

ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Field {F1AP-PROTOCOL-IES : IEsSetParam} ::= SEQUENCE {

id F1AP-PROTOCOL-IES.&id ({IEsSetParam}),

criticality F1AP-PROTOCOL-IES.&criticality ({IEsSetParam}{@id}),

value F1AP-PROTOCOL-IES.&Value ({IEsSetParam}{@id})

}

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

--

-- Container for Protocol IE Pairs

--

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

ProtocolIE-ContainerPair {F1AP-PROTOCOL-IES-PAIR : IEsSetParam} ::=

SEQUENCE (SIZE (0..maxProtocolIEs)) OF

ProtocolIE-FieldPair {{IEsSetParam}}

ProtocolIE-FieldPair {F1AP-PROTOCOL-IES-PAIR : IEsSetParam} ::= SEQUENCE {

id F1AP-PROTOCOL-IES-PAIR.&id ({IEsSetParam}),

firstCriticality F1AP-PROTOCOL-IES-PAIR.&firstCriticality ({IEsSetParam}{@id}),

firstValue F1AP-PROTOCOL-IES-PAIR.&FirstValue ({IEsSetParam}{@id}),

secondCriticality F1AP-PROTOCOL-IES-PAIR.&secondCriticality ({IEsSetParam}{@id}),

secondValue F1AP-PROTOCOL-IES-PAIR.&SecondValue ({IEsSetParam}{@id})

}

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

--

-- Container for Protocol Extensions

--

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

ProtocolExtensionContainer {F1AP-PROTOCOL-EXTENSION : ExtensionSetParam} ::=

SEQUENCE (SIZE (1..maxProtocolExtensions)) OF

ProtocolExtensionField {{ExtensionSetParam}}

ProtocolExtensionField {F1AP-PROTOCOL-EXTENSION : ExtensionSetParam} ::= SEQUENCE {

id F1AP-PROTOCOL-EXTENSION.&id ({ExtensionSetParam}),

criticality F1AP-PROTOCOL-EXTENSION.&criticality ({ExtensionSetParam}{@id}),

extensionValue F1AP-PROTOCOL-EXTENSION.&Extension ({ExtensionSetParam}{@id})

}

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

--

-- Container for Private IEs

--

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

PrivateIE-Container {F1AP-PRIVATE-IES : IEsSetParam } ::=

SEQUENCE (SIZE (1.. maxPrivateIEs)) OF

PrivateIE-Field {{IEsSetParam}}

PrivateIE-Field {F1AP-PRIVATE-IES : IEsSetParam} ::= SEQUENCE {

id F1AP-PRIVATE-IES.&id ({IEsSetParam}),

criticality F1AP-PRIVATE-IES.&criticality ({IEsSetParam}{@id}),

value F1AP-PRIVATE-IES.&Value ({IEsSetParam}{@id})

}

END

-- ASN1STOP

<<<<<<<<<<<<<<<<<<<< Changes End >>>>>>>>>>>>>>>>>>>>