**3GPP TSG-RAN3 Meeting #108-e R3-204483**

**E-meeting, 1-11 June, 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.473** | **CR** | **0441** | **rev** | **12** | **Current version:** | **16.1.0** |  |
|  |
| *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:***  | Addition of SON features |
|  |  |
| ***Source to WG:*** | Huawei, CMCC, ZTE, Nokia, Nokia Shanghai Bell，CATT, Samsung, Ericsson, Qualcomm Incorporated, LG Electronics, NTT DOCOMO |
| ***Source to TSG:*** | RAN3 |
|  |  |
| ***Work item code:*** | NR\_SON\_MDT |  | ***Date:*** | 2020-06-18 |
|  |  |  |  |  |
| ***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 canbe 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:*** | Addition of SON features |
|  |  |
| ***Summary of change:*** | Adding Resource Status Reporting procedures and Access and Mobility Indication procedure. |
|  |  |
| ***Consequences if not approved:*** | SON features not supported |
|  |  |
| ***Clauses affected:*** | 2, 8.1, 8.2.X, 8.2.Y, 8.x, 8.x.z1, 9.2.1.x1-x5, 9.2.x, 9.3.1.10, 9.3.1.28, 9.3.1.17, 9.3.1.x1-x12, 9.4.3, 9.4.4, 9.4.5, 9.4.7 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 36.300 CR TS 36.413 CR 1710TS 36.423 CR 1373TS 38.300 CR TS 38.401 CR 0116TS 38.413 CR 0237TS 38.420 CR 0019TS 38.423 CR 0221TS 38.460 CR 0031TS 38.463 CR 0142TS 38.470 CR 0064 |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | Rev1: EditorialRev2: resubmitted to RAN3#105bRev3: includes the agreed TP in R3-196267 Rev4: Resubmitted to RAN3#106. Changed NG-RAN->DU-DU in 9.3.1.x7 in line with agreements in R3-196267Rev5: Modified according to online comment to remove text related to partial success in 9.2.1.X2Rev6: Includes the agreed R3-197765Rev7: Resubmitted to rAN3#107eRev8: Includes the agreed R3-201405Rev9: Updated towards latest spec versionRev10: includes the agreed TP in R3-202689, R3-202827, R3-202867Rev11: Resubmitted to RAN3#108eRev12: includes the agreed TP in R3-204336, R3-204139, R3-204326, Editorials |

*Start of the first change*

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 38.470: "NG-RAN; F1 general aspects and principles".

[3] 3GPP TS 38.413: "NG-RAN; NG Application Protocol (NGAP)".

[4] 3GPP TS 38.401: "NG-RAN; Architecture Description".

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

[6] 3GPP TS 38.300: "NR; Overall description; Stage-2".

[7] 3GPP TS 37.340: "NR; Multi-connectivity; Overall description; Stage-2".

[8] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol specification".

[9] 3GPP TS 36.423: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); X2 Application Protocol (X2AP)".

[10] 3GPP TS 23.401: "General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access".

[11] 3GPP TS 23.203: "Policy and charging control architecture".

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

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

[14] 3GPP TR 25.921: (version.7.0.0): "Guidelines and principles for protocol description and error".

[15] 3GPP TS 36.413: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); S1 Application Protocol (S1AP)".

[16] 3GPP TS 38.321: "NR; Medium Access Control (MAC) protocol specification".

[17] 3GPP TS 38.104: "NR; Base Station (BS) radio transmission and reception".

[18] 3GPP TS 29.281: "General Packet Radio System (GPRS); Tunnelling Protocol User Plane (GTPv1-U) ".

[19] 3GPP TS 38.414: "NG-RAN; NG data transport".

[20] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2".

[21] 3GPP TS 23.501: "System Architecture for the 5G System".

[22] 3GPP TS 38.472: "NG-RAN; F1 signalling transport".

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

[24] 3GPP TS 38.304: "NR; User Equipment (UE) procedures in Idle mode and RRC Inactive state ".

[25] 3GPP TS 36.104: "Base Station (BS) radio transmission and reception".

[26] 3GPP TS 38.101-1: "NR; User Equipment (UE) radio transmission and reception; Part 1: Range 1 Standalone".

[27] 3GPP TS 36.211: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical channels and modulation".

[28] 3GPP TS 38.423: "NG-RAN; Xn application protocol (XnAP)".

[29] 3GPP TS 32.422: "Trace control and configuration management".

[ref1] 3GPP TS 38.314: " NR; Layer 2 measurements".

[ref2] 3GPP TS 38.211: "NR; Physical channels and modulation".

[ref3] 3GPP TS 38.213: "NR; Physical layer procedures for control".

[ref4] 3GPP TS 38.214: "NR; Physical layer procedures for data".

# 8 F1AP procedures

## 8.1 List of F1AP Elementary procedures

In the following tables, all EPs are divided into Class 1 and Class 2 EPs (see subclause 3.1 for explanation of the different classes):

Table 1: Class 1 procedures

|  |  |  |  |
| --- | --- | --- | --- |
| Elementary Procedure | Initiating Message | Successful Outcome | Unsuccessful Outcome |
| Response message | Response message |
| Reset | RESET | RESET ACKNOWLEDGE |  |
| F1 Setup | F1 SETUP REQUEST | F1 SETUP RESPONSE | F1 SETUP FAILURE |
| gNB-DU Configuration Update | GNB-DU CONFIGURATION UPDATE | GNB-DU CONFIGURATION UPDATE ACKNOWLEDGE | GNB-DU CONFIGURATION UPDATE FAILURE |
| gNB-CU Configuration Update | GNB-CU CONFIGURATION UPDATE | GNB-CU CONFIGURATION UPDATE ACKNOWLEDGE | GNB-CU CONFIGURATION UPDATE FAILURE |
| UE Context Setup | UE CONTEXT SETUP REQUEST | UE CONTEXT SETUP RESPONSE | UE CONTEXT SETUP FAILURE |
| UE Context Release (gNB-CU initiated) | UE CONTEXT RELEASE COMMAND | UE CONTEXT RELEASE COMPLETE |  |
| UE Context Modification (gNB-CU initiated) | UE CONTEXT MODIFICATION REQUEST | UE CONTEXT MODIFICATION RESPONSE | UE CONTEXT MODIFICATION FAILURE |
| UE Context Modification Required (gNB-DU initiated) | UE CONTEXT MODIFICATION REQUIRED | UE CONTEXT MODIFICATION CONFIRM | UE CONTEXT MODIFICATION REFUSE |
| Write-Replace Warning  | WRITE-REPLACE WARNING REQUEST | WRITE-REPLACE WARNING RESPONSE |  |
| PWS Cancel | PWS CANCEL REQUEST | PWS CANCEL RESPONSE |  |
| gNB-DU Resource Coordination | GNB-DU RESOURCE COORDINATION REQUEST | GNB-DU RESOURCE COORDINATION RESPONSE |  |
| F1 Removal | F1 REMOVAL REQUEST | F1 REMOVAL RESPONSE | F1 REMOVAL FAILURE |
| Resource Status Reporting Initiation | RESOURCE STATUS REQUEST | RESOURCE STATUS RESPONSE | RESOURCE STATUS FAILURE |

Table 2: Class 2 procedures

|  |  |
| --- | --- |
| Elementary Procedure | Message |
| Error Indication | ERROR INDICATION |
| UE Context Release Request (gNB-DU initiated) | UE CONTEXT RELEASE REQUEST |
| Initial UL RRC Message Transfer | INITIAL UL RRC MESSAGE TRANSFER |
| DL RRC Message Transfer | DL RRC MESSAGE TRANSFER |
| UL RRC Message Transfer | UL RRC MESSAGE TRANSFER |
| UE Inactivity Notification  | UE INACTIVITY NOTIFICATION |
| System Information Delivery | SYSTEM INFORMATION DELIVERY COMMAND |
| Paging | PAGING |
| Notify | NOTIFY |
| PWS Restart Indication | PWS RESTART INDICATION |
| PWS Failure Indication | PWS FAILURE INDICATION |
| gNB-DU Status Indication | GNB-DU STATUS INDICATION |
| RRC Delivery Report | RRC DELIVERY REPORT |
| Network Access Rate Reduction | NETWORK ACCESS RATE REDUCTION |
| Trace Start | TRACE START |
| Deactivate Trace | DEACTIVATE TRACE |
| DU-CU Radio Information Transfer | DU-CU RADIO INFORMATION TRANSFER |
| CU-DU Radio Information Transfer | CU-DU RADIO INFORMATION TRANSFER |
| Resource Status Reporting | RESOURCE STATUS UPDATE |
| Access And Mobility Indication | ACCESS AND MOBILITY INDICATION |
|  |  |

## 8.2 Interface Management procedures

### 8.2.X Resource Status Reporting Initiation

#### 8.2.X.1 General

This procedure is used by an gNB-CU to request the reporting of load measurements to gNB-DU.

The procedure uses non UE-associated signalling.

#### 8.2.X.2 Successful Operation



Figure 8.2.X.2-1: Resource Status Reporting Initiation, successful operation

gNB-CU initiates the procedure by sending the RESOURCE STATUS REQUEST message to gNB-DU to start a measurement, stop a measurement, or add cells to report for a measurement. Upon receipt, gNB-DU:

- shall initiate the requested measurement according to the parameters given in the request in case the *Registration Request* IE set to "start"; or

- shall stop all cells measurements and terminate the reporting in case the *Registration Request* IE is set to "stop"; or

- shall add cells indicated in the *Cell To Report List* IE to the measurements initiated before for the given measurement IDs, in case the *Registration Request* IE is set to "add". If measurements are already initiated for a cell indicated in the *Cell To Report List* IE, this information shall be ignored.

If the *Registration Request* IE is set to "start" in the RESOURCE STATUS REQUEST message and the *Report Characteristics* IE indicates cell specific measurements, the *Cell To Report List* IE shall be included.

If *Registration Request* IE is set to "add" in the RESOURCE STATUS REQUEST message, the *Cell To Report List* IE shall be included.

If gNB-DU is capable to provide all requested resource status information, it shall initiate the measurement as requested by gNB-CU, and respond with the RESOURCE STATUS RESPONSE message.

**Interaction with other procedures**

When starting a measurement, the *Report Characteristics* IE in the RESOURCE STATUS REQUEST indicates the type of objects gNB-DU shall perform measurements on. For each cell, gNB-DU shall include in the RESOURCE STATUS UPDATE message:

- the *Radio* *Resource Status* IE, if the first bit, "PRB Periodic" of the *Report Characteristics* IE included in the RESOURCE STATUS REQUEST message is set to 1. If the cell for which *Radio* *Resource Status* IE is requested to be reported supports more than one SSB, the *Radio* *Resource Status* IE for such cell shall include the *SSB Area Radio Resource Status Item* IE for all SSB areas supported by the cell. If the *SSB To Report List* IE is included for a cell, the *Radio* *Resource Status* IE for such cell shall only include the *SSB Area Radio Resource Status List* IE;

- the *TNL Capacity Indicator* IE, if the second bit, "TNL Capacity Ind Periodic" of the *Report Characteristics* IE included in the RESOURCE STATUS REQUEST message is set to 1;

- the *Composite Available Capacity Group* IE, if the third bit, "Composite Available Capacity Periodic" of the *Report Characteristics* IE included in the RESOURCE STATUS REQUEST message is set to 1. If *Cell Capacity Class Value* IE is included within the *Composite* *Available Capacity Group* IE, this IE is used to assign weights to the available capacity indicated in the *Capacity Value* IE. If the cell for which *Composite Available Capacity Group* IE is requested to be reported supports more than one SSB the *Composite Available Capacity Group* IE for such cell shall include the *SSB Area Capacity Value List* IE for all SSB areas supported by the cell, providing the SSB area capacity with respect to the *Cell Capacity Class Value* IE.If the *SSB To Report List* IE is included for a cell, the *Composite Available Capacity Group* IE for such cell shall include the requested *SSB Area Capacity Value List* IE providing the SSB area capacity with respect to the Cell Capacity Class Value. If the cell for which *Composite Available Capacity Group* IE is requested to be reported supports more than one slice, and if the *Slice To Report List* IE is included for a cell, the *Slice Available Capacity* IE for such cell shall include the requested *Slice Available Capacity Value Downlink* IE and *Slice Available Capacity* *Value Uplink* IE, providing the slice capacity with respect to the Cell Capacity Class Value.

- the *Hardware Load Indicator* IE, if the fourth bit, " HW LoadInd Periodic " of the *Report Characteristics* IE included in the RESOURCE STATUS REQUEST message is set to 1;

- the *Number of Active UEs* IE, if the fifth bit, "Number of Active UEs" of the *Report Characteristics* IE included in the RESOURCE STATUS REQUEST message is set to 1;

If the Reporting Periodicity IE in the RESOURCE STATUS REQUEST is present, this indicates the periodicity for the reporting of periodic measurements. If the Reporting Periodicity IE is absent, the gNB-DU shall report once.

#### 8.2.X.3 Unsuccessful Operation



Figure 8.2.X.3-1: Resource Status Reporting Initiation, unsuccessful operation

If any of the requested measurements cannot be initiated, gNB-DU shall send the RESOURCE STATUS FAILURE message.

#### 8.2.X.4 Abnormal Conditions

Void

### 8.2.Y Resource Status Reporting

#### 8.2.Y.1 General

This procedure is initiated by gNB-DU to report the result of measurements admitted by gNB-DU following a successful Resource Status Reporting Initiation procedure.

The procedure uses non UE-associated signalling.

#### 8.2.Y.2 Successful Operation



Figure 8.2.Y.2-1: Resource Status Reporting, successful operation

The gNB-DU shall report the results of the admitted measurements in RESOURCE STATUS UPDATE message. The admitted measurements are the measurements that were successfully initiated during the preceding Resource Status Reporting Initiation procedure.

#### 8.4.Y.3 Unsuccessful Operation

Not applicable.

#### 8.4.Y.4 Abnormal Conditions

Void.

## 8.x Self Optimisation Support procedures

### 8.x.z1 Access and Mobility Indication

#### 8.x.z1.1 General

This procedure is initiated by gNB-CU to send the Access and Mobility related Information to gNB-DU.

The procedure uses non-UE-associated signalling.

#### 8.x.z1.2 Successful Operation



Figure 8.x.z1.2-1: Access and Mobility Indication procedure. Successful operation

The Access and Mobility Indication procedure is initiated by ACCESS AND MOBILITY INDICATION message sent from gNB-CU to gNB-DU.

If the ACCESS AND MOBILITY INDICATION message contains the *RACH Report Information List* IE the gNB-DU shall take it into account for optimisation of RACH access procedures.

If the ACCESS AND MOBILITY INDICATION message contains the *RLF Report Information List* IE the gNB-DU shall take it into account for optimisation of mobility parameters.

#### 8.x.z1.3 Abnormal Conditions

Not applicable.

*Start of the next change*

## 9.2 Message Functional Definition and Content

### 9.2.1 Interface Management messages

*Start of the next change*

#### 9.2.1.X1 RESOURCE STATUS REQUEST

This message is sent by gNB-CU to gNB-DU to initiate the requested measurement according to the parameters given in the message.

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 Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-CU | YES | reject |
| gNB-DU Measurement ID | C-ifRegistrationRequestStoporAdd |  | INTEGER (1..4095,...) | Allocated by gNB-DU | YES | ignore |
| Registration Request | M |  | ENUMERATED(start, stop,add, …) | Type of request for which the resource status is required. | YES | ignore |
| Report Characteristics | C-ifRegistrationRequestStart |  | BIT STRING(SIZE(32)) | Each position in the bitmap indicates measurement object the gNB-DU is requested to report.First Bit = PRB Periodic,Second Bit = TNL Capacity Ind Periodic,Third Bit = Composite Available Capacity Periodic, Fourth Bit = HW LoadInd Periodic, Fifth Bit = Number of Active UEs Other bits shall be ignored by the gNB-DU. | YES | ignore |
| **Cell To Report List** |  | *0..1* |  | Cell ID list to which the request applies. | YES | ignore |
| **>Cell To Report Item** |  | *1 .. <maxCellingNBDU>* |  |  |  |  |
| >>Cell ID | M |  | NR CGI9.3.1.12 |  | - |  |
| **>>SSB To Report List** |  | *0..1* |  | SSB list to which the request applies. | - |  |
| **>>>SSB To Report Item** |  | *1 .. < maxnoofSSBAreas>* |  |  | - |  |
| >>>>SSB index | M |  | INTEGER (0..63) |  |  |  |
| **>>Slice To Report List**  |  | *0..1* |  | S-NSSAI list to which the request applies.  | - |  |
| **>>>Slice To Report Item** |  | *1..< maxnoofBPLMNsNR>* |  |  |  |  |
| **>>>>PLMN Identity** | M |  | 9.3.1.14 | Broadcast PLMN |  |  |
| **>>>>S-NSSAI List**  |  | *1* |  |  | - |  |
| **>>>>>S-NSSAI Item**  |  | *1 .. < maxnoofSliceItems>* |  |  | - |  |
| >>>>>>S-NSSAI | M |  | 9.3.1.38 |  | - |  |
| Reporting Periodicity | O |  | ENUMERATED(500ms, 1000ms, 2000ms, 5000ms,10000ms, …) | Periodicity that can be used for reporting of PRB Periodic, TNL Capacity Ind Periodic, Composite Available Capacity Periodic. Also used as the averaging window length for all measurement object if supported. | YES | ignore |

|  |  |
| --- | --- |
| Condition | Explanation |
| ifRegistrationRequestStoporAdd | This IE shall be present if the *Registration Request* IE is set to the value "stop" or "add". |
| ifRegistrationRequestStart | This IE shall be present if the Registration Request IE is set to the value "start". |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxCellingNBDU | Maximum no. cells that can be served by a gNB-DU. Value is 512. |
| maxnoofSSBAreas | Maximum no. SSB Areas that can be served by a NG-RAN node cell. Value is 64. |
| maxnoofSliceItems  | Maximum no. of signalled slice support items. Value is 1024.  |
| maxnoofBPLMNsNR | Maximum no. of PLMN Ids.broadcast in a cell. Value is 12. |

#### 9.2.1.X2 RESOURCE STATUS RESPONSE

This message is sent by gNB-DU to gNB-CU to indicate that the requested measurement is successfully initiated.

Direction: gNB-DU → gNB-CU

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 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 Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-CU | YES | reject |
| gNB-DU Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-DU | YES | ignore |
| Criticality Diagnostics | O |  | 9.3.1.3 |  | YES | ignore |

#### 9.2.1.X3 RESOURCE STATUS FAILURE

This message is sent by gNB-DU to gNB-CU to indicate that for any of the requested measurement objects the measurement cannot be initiated.

Direction: gNB-DU → gNB-CU.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 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 Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-CU | YES | reject |
| gNB-DU Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-DU | YES | ignore |
| Cause | M |  | 9.3.1.2 | Ignored by the receiver when the Complete Failure Cause Information IE is included | YES | ignore |
| Criticality Diagnostics | O |  | 9.3.1.3 |  | YES | ignore |

#### 9.2.1.X4 RESOURCE STATUS UPDATE

This message is sent by gNB-DU to gNB-CU to report the results of the requested measurements.

Direction: gNB-DU → gNB-CU.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | ignore |
| Transaction ID | M |  | 9.3.1.23 |  | YES | reject |
| gNB-CU Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-CU | YES | reject |
| gNB-DU Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-DU | YES | ignore |
| Hardware Load Indicator  | O |  | 9.3.1.x9 |  | YES | ignore |
| TNL Capacity Indicator | O |  | 9.3.1.X1 |  | YES | ignore |
| **Cell Measurement Result** |  | *0..1* |  |  | YES | ignore |
| **>Cell Measurement Result Item** |  | *1 .. <maxCellingNBDU >* |  |  | - |  |
| >>Cell ID | M |  | NR CGI9.3.1.12 |  | - |  |
| >>Radio Resource Status  | O |  | 9.3.1.X2 |  | - |  |
| >>Composite Available Capacity Group | O |  | 9.3.1.X3 |  | - |  |
| >>Slice Available Capacity  | O |  | 9.3.1.X7 |  | - |  |
| >>Number of Active UEs  | O |  |  9.3.1.X8 |  | - |  |

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

### 9.2.x Self Optimisation Support Messages

#### 9.2.x.X5 ACCESS AND MOBILITY INDICATION

This message is sent by gNB-CU to gNB-DU to provide access and mobility information to the gNB-DU.

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 | ignore |
| Transaction ID | M |  | 9.3.1.23 |  | YES | reject |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **RACH Report Information List** |  | *0..1* |  |  | YES | ignore |
| **>RACH Report Information Item** |  | *1 .. <maxnoofRACHReports>* |  |  | - |  |
| >>RACH Report Container | M |  | OCTET STRING | RACH-ReportList-r16 IE as defined in subclause 6.2.2 in TS 38.331 [10]. | - |  |
| >>UE Assistant Identifier  | O |  | gNB-DU UE F1AP ID9.3.1.5 |  | - |  |
| **RLF Report Information List** |  | *0..1* |  |  | YES | ignore |
| **>RLF Report Information Item** |  | *1 .. <**maxnoofRLFReports>* |  |  | - |  |
| >>NR UE RLF Report Container | M |  | OCTET STRING | *nr-RLF-Report-r16* IE contained in the *UEInformationResponse* message defined in TS 38.331 [18]. | - |  |
| >>UE Assistant Identifier  | O |  | gNB-DU UE F1AP ID9.3.1.5 |  | - |  |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofRACHReports | Maximum no. of RACH Reports, the maximum value is 64. |
| maxnoofRLFReports | Maximum no. of RLF Reports, the maximum value is 64. |

|  |  |  |  |  |  |  |
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*Start of the next change*

## 9.3 Information Element Definitions

### 9.3.1Radio Network Layer Related IEs

*Start of the 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 List9.3.1.37 | Supported S-NSSAIs per TA.  | YES | ignore |
| CHOICE *NR-Mode-Info*  | M |  |  |  | - |  |
| *>FDD* |  |  |  |  | - |  |
| **>>FDD Info** |  | *1* |  |  | - |  |
| >>>UL FreqInfo | M |  | NR Frequency Info9.3.1.17 |  | - |  |
| >>>DL FreqInfo | M |  | NR Frequency Info9.3.1.17 |  | - |  |
| >>>UL Transmission Bandwidth | M |  | Transmission Bandwidth9.3.1.15 |  | - |  |
| >>>DL Transmission Bandwidth | M |  | Transmission Bandwidth9.3.1.15 |  | - |  |
| >>>UL Carrier List  | O |  | NR Carrier List9.3.1.x10 | If included, the UL Transmission Bandwidth IE shall be ignored. | YES | ignore |
|  |  |  |  |  |  |  |
| *>TDD* |  |  |  |  | - |  |
| **>>TDD Info** |  | *1* |  |  | - |  |
| >>> NR FreqInfo | M |  | NR Frequency Info9.3.1.17 |  | - |  |
| >>> Transmission Bandwidth | M |  | Transmission Bandwidth9.3.1.15 |  | - |  |
| >>>Intended TDD DL-UL Configuration | O |  | 9.3.1.89 |  | - |  |
| >>>TDD UL-DL Configuration Common NR | O |  | OCTET STRING | The *tdd-UL-DL-ConfigurationCommon* as defined in TS 38.331 [8] | YES | ignore |
| >>>Carrier List | O |  | NR Carrier List9.3.1.x10 | If included, the Transmission Bandwidth IE shall be ignored. | YES | ignore |
| Measurement Timing Configuration | M |  | OCTET STRING | Contains the *MeasurementTimingConfiguration* inter-node message defined in TS 38.331 [8]. | - |  |
| RANAC | O |  | RAN Area Code9.3.1.57 |  | 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 List9.3.1.37 | Supported S-NSSAIs per TA.  | - |  |
| 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 List9.3.1.65 |  | - |  |
| >Extended PLMN Identity List | O |  | Extended Available PLMN List9.3.1.76 |  | - |  |
| >5GS-TAC | O |  | OCTET STRING (3) |  | - |  |
| >NR Cell Identity | M |  | BIT STRING (36) |  | - |  |
| >RANAC | O |  | RAN Area Code9.3.1.57 |  | - |  |
| 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 |
| SSB Positions In Burst  | O |  | 9.3.1.x11 |  | YES | ignore |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| NR PRACH Configuration | O |  | 9.3.1.x11a |  | 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. |

#### 9.3.1.17 NR Frequency Info

The NR Frequency Info defines the carrier frequency used in a cell for a given direction (UL or DL) in FDD or for both UL and DL directions in TDD or for an SUL carrier.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** | **Criticality** | **Assigned Criticality** |
| NR ARFCN | M |  | INTEGER (0.. maxNRARFCN) | RF Reference Frequency as defined in TS 38.104 [17] section 5.4.2.1. The frequency provided in this IE identifies the absolute frequency position of the reference resource block (Common RB 0) of the carrier. Its lowest subcarrier is also known as Point A. | – |  |
| SUL Information | O |  | 9.3.1.28 |  | – |  |
| **Frequency Band List** |  | *1* |  |  | – |  |
| **>Frequency Band Item** |  | *1..<maxnoofNrCellBands>* |  |  | – |  |
| >>NR Frequency Band  | M |  | INTEGER (1.. 1024, ...) | Operating Band as defined in TS 38.104 [17] section 5.4.2.3.The value 1 corresponds to NR operating band n1, value 2 corresponds to NR operating band n2, etc. | – |  |
| >>Supported SUL band List |  | *0..<maxnoofNrCellBands>* |  |  | – |  |
| >>>Supported SUL band Item | M |  | INTEGER (1.. 1024, ...) | Supplementary NR Operating Band as defined in TS 38.104 [17] section 5.4.2.3 that can be used for SUL duplex mode as per TS 38.101-1 [26] table 5.2.-1.The value 80 corresponds to NR operating band n80, value 81 corresponds to NR operating band n81, etc. | – |  |
| Frequency Shift 7p5khz  | O |  | ENUMERATED (false, true, ...) | Indicate whether the value of Δshift is 0kHz or 7.5kHz when calculating FREF,shift as defined in Section 5.4.2.1 of TS 38.104 [17]. | YES | ignore |

#### 9.3.1.28 SUL Information

This IE provides information about the SUL carrier.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| SUL ARFCN | M |  | INTEGER (0.. maxNRARFCN) | RF Reference Frequency as defined in TS 38.104 [17] section 5.4.2.1. The frequency provided in this IE identifies the absolute frequency position of the reference resource block (Common RB 0) of the SUL carrier. Its lowest subcarrier is also known as Point A. | – | – |
| SUL Transmission Bandwidth | M |  | Transmission Bandwidth9.3.1.15 |  | – | – |
| Carrier List  | O |  | NR Carrier List9.3.1.x10 | If included, the SUL Transmission Bandwidth IE shall be ignored. | YES | ignore |
| Frequency Shift 7p5khz  | O |  | ENUMERATED (false, true, ...) | Indicate whether the value of Δshift is 0kHz or 7.5kHz when calculating FREF,shift as defined in Section 5.4.2.1 of TS 38.104 [17]. | YES | ignore |

#### 9.3.1.x1 TNL Capacity Load Indicator

The *TNL Capacity Indicator* IE indicates the offered and available capacity of the Transport Network experienced by the gNB-DU.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| DL TNL Offered Capacity | M |  | INTEGER (1.. 16777216,...) | Maximum capacity offered by the transport portion of the gNB-DU – gNB-CU in kbps |
| DL TNL Available Capacity | M |  | INTEGER (0.. 100,...) | Available capacity over the transport portion serving the node in percentage. Value 100 corresponds to the offered capacity |
| UL TNL Offered Capacity | M |  | INTEGER (1.. 16777216,...) | Maximum capacity offered by the transport portion of the gNB-DU – gNB-CU in kbps |
| UL TNL Available Capacity | M |  | INTEGER (0.. 100,...) | Available capacity over the transport portion serving the node in percentage. Value 100 corresponds to the offered capacity |

#### 9.3.1.x2 Radio Resource Status

The *Radio* *Resource Status* IE indicates the usage of the PRBs per cell and per SSB area for all traffic in Downlink and Uplink.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| **SSB Area Radio Resource Status List** |  | *1* |  |  |
| **>SSB Area Radio Resource Status Item** |  | *1..<maxnoofSSBAreas>* |  |  |
| >>SSB Index | M |  | INTEGER (0..63) |  |
| >>SSB Area DL GBR PRB usage | M |  | INTEGER (0..100) | Per SSB area DL GBR PRB usage |
| >>SSB Area UL GBR PRB usage | M |  | INTEGER (0..100) | Per SSB area UL GBR PRB usage |
| >>SSB Area DL non-GBR PRB usage | M |  | INTEGER (0..100) | Per SSB area DL non-GBR PRB usage |
| >>SSB Area UL non-GBR PRB usage | M |  | INTEGER (0..100) | Per SSB area UL non-GBR PRB usage |
| >>SSB Area DL Total PRB usage | M |  | INTEGER (0..100) | Per SSB area DL Total PRB usage |
| >>SSB Area UL Total PRB usage | M |  | INTEGER (0..100) | Per SSB area UL Total PRB usage |
| >>DL scheduling PDCCH CCE usage | O |  | INTEGER (0..100) |  |
| >>UL scheduling PDCCH CCE usage | O |  | INTEGER (0..100) |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| *maxnoofSSBAreas* | Maximum no. SSB Areas that can be served by a cell. Value is 64. |

#### 9.3.1.x3 Composite Available Capacity Group

The *Composite Available Capacity Group* IE indicates the overall available resource level per cell and per SSB area in the cell in Downlink and Uplink.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| Composite Available Capacity Downlink | M |  | Composite Available Capacity 9.3.1.x4 | For the Downlink  |
| Composite Available Capacity Uplink | M |  | Composite Available Capacity 9.3.1.x4 | For the Uplink  |

#### 9.3.1.x4 Composite Available Capacity

The *Composite Available Capacity* IE indicates the overall available resource level in the cell in either Downlink or Uplink.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| Cell Capacity Class Value | O |  | 9.3.1.x5 |  |
| Capacity Value  | M |  | 9.3.1.x6 | ‘0’ indicates no resource is available, Measured on a linear scale.  |

#### 9.3.1.x5 Cell Capacity Class Value

The *Cell Capacity Class Value* IE indicates the value that classifies the cell capacity with regards to the other cells. The *Cell Capacity Class Value* IEonly indicates resources that are configured for traffic purposes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| Capacity Class Value | M |  | INTEGER (1..100,...) | Value 1 shall indicate the minimum cell capacity, and 100 shall indicate the maximum cell capacity. There should be a linear relation between cell capacity and Cell Capacity Class Value. |

#### 9.3.1.x6 Capacity Value

The *Capacity Value* IE indicates the amount of resources per cell and per SSB area that are available relative to the total gNB-DU resources. The capacity value should be measured and reported so that the minimum gNB-DU resource usage of existing services is reserved according to implementation. The *Capacity Value* IE can be weighted according to the ratio of cell capacity class values, if available.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| Capacity Value | M |  | INTEGER (0..100) | Value 0 shall indicate no available capacity, and 100 shall indicate maximum available capacity with respect to the whole cell. Capacity Value should be measured on a linear scale. |
| **SSB Area Capacity Value List** |  | *0..1* |  |  |
| **>SSB Area Capacity Value Item** |  | *1..<maxnoofSSBAreas>* |  |  |
| >>SSB Index | M |  | INTEGER (0..63) |  |
| >>SSB Area Capacity Value | M |  | INTEGER (0..100) | Value 0 shall indicate no available capacity, and 100 shall indicate maximum available capacity . SSB Area Capacity Value should be measured on a linear scale. |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| *maxnoofSSBAreas* | Maximum no. SSB Areas that can be served by a cell. Value is 64. |

#### 9.3.1.x7 Slice Available Capacity

The *Slice Available Capacity* IE indicates the amount of resources per network slice that are available per cell relative to the total gNB-DU resources per cell. The *Slice Capacity Value Downlink* IE and the *Slice Capacity Value Uplink* IE can be weighted according to the ratio of the corresponding cell capacity class values contained in the *Composite Available Capacity Group* IE, if available.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| **Slice Available Capacity List** |  | *1* |  |  |
| **Slice Available Capacity Item** |  | *1..<* maxnoofBPLMNsNR *>* |  |  |
| >PLMN Identity | M |  | 9.3.1.14 | Broadcast PLMN |
| **>S-NSSAI Available Capacity List** |  | *1* |  |  |
| **>>S-NSSAI Available Capacity Item** | M | *1 .. < maxnoofSliceItems>* |  |  |
| >>>S-NSSAI |  |  | 9.3.1.38 |  |
| >>>Slice Available Capacity Value Downlink | O |  | INTEGER (0..100) | Value 0 shall indicate no available capacity, and 100 shall indicate maximum available capacity . Slice Capacity Value should be measured on a linear scale. |
| >>>Slice Available Capacity Value Uplink | O |  | INTEGER (0..100) | Value 0 shall indicate no available capacity, and 100 shall indicate maximum available capacity . Slice Capacity Value should be measured on a linear scale. |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofSliceItems | Maximum no. of signalled slice support items. Value is 1024.  |
| maxnoofBPLMNsNR | Maximum no. of PLMN Ids.broadcast in a cell. Value is 12. |

9.3.1.x8 Number of Active UEs

The *Number of Active UEs* IE indicates the mean number of active UEs as defined in TS 38.314 [ref1].

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| Mean number of Active UEs  | M |  | v | As defined in TS 38.314 [ref1] and where value "1" is equivalent to 0.1 Active  UEs, value "2" is equivalent to 0.2 Active UEs, value *n* is equivalent to n/10 Active UEs. |
|  |  |  |  |  |

#### 9.3.1.x9 Hardware Load Indicator

The *Hardware Load Indicator* IE indicates the status of the Hardware Load.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| DL Hardware Load Indicator | M |  | INTEGER (0..100) | This indicates the load in percent |
| UL Hardware Load Indicator | M |  | INTEGER (0..100) | This indicates the load in percent |

#### 9.3.1.x10 NR Carrier List

This IE indicates the SCS-specific carriers per TDD, per DL, per UL or per SUL of an NR cell.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
| **NR Carrier Item** |  | *1..<maxnoofNRSCSs>* |  |  |
| >NR SCS | M |  | ENUMERATED (scs15, scs30, scs60, scs120, …) | SCS for the corresponding carrier. |
| >Offset to Carrier | M |  | INTEGER (0.. 2199, ...) | Offset in frequency domain between Point A (lowest subcarrier of common RB 0) and the lowest usable subcarrier on this carrier in number of PRBs (using the *NR SCS* IE defined for this carrier). The maximum value corresponds to 275×8−1. See TS 38.211 [ref2], clause 4.4.2. |
| >Carrier Bandwidth | M |  | INTEGER (1.. maxnoofPhysicalResourceBlocks, ...) | Width of this carrier in number of PRBs (using the *NR SCS* IE defined for this carrier). See TS 38.211 [ref2], clause 4.4.2. |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofNRSCSs | Maximum no. of SCS-specific carriers per TDD, per DL, per UL or per SUL of an NR cell. Value is 5. |
| maxnoofPhysicalResourceBlocks | Maximum no. of Physical Resource Blocks. Value is 275. |

#### 9.3.1.x11 SSB Positions In Burst

Indicates the time domain positions of the transmitted SS-blocks in a half frame with SS/PBCH blocks as defined in TS 38.213 [ref3], clause 4.1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
| CHOICE *ssb-PositionsInBurst* | M |  |  | The first/ leftmost bit corresponds to SS/PBCH block index 0, the second bit corresponds to SS/PBCH block index 1, and so on. Value 0 in the bitmap indicates that the corresponding SS/PBCH block is not transmitted while value 1 indicates that the corresponding SS/PBCH block is transmitted. |
| >*ShortBitmap* |  |  |  |  |
| >>ShortBitmap | M |  | BIT STRING (SIZE(4)) |  |
| >*MediumBitmap* |  |  |  |  |
| >>MediumBitmap | M |  | BIT STRING (SIZE(8)) |  |
| >*LongBitmap* |  |  |  |  |
| >>LongBitmap | M |  | BIT STRING (SIZE(64)) |  |

#### 9.3.1.x11a NR PRACH Configuration

This IE indicates the PRACH resources by a NR cell.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
| UL PRACH Configuration | M |  | NR PRACH Configuration List9.3.1.x12 |  |
| SUL PRACH Configuration | O |  | NR PRACH Configuration List9.3.1.x12 |  |

#### 9.3.1.x12 NR PRACH Configuration List

This IE indicates the PRACH resources used or reserved in the UL carrier(s) or SUL carrier(s) of the current NR cell.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
| **NR PRACH Configuration Item** |  | *0..< maxnoofPrachConfiguration >* |  | Length=0 means releasing of all NR PRACH Configuration Items for this UL or SUL. |
| >NR SCS | M |  | ENUMERATED (scs15, scs30, scs60, scs120, …) | The SCS of the carrier to which this *PRACH Configuration Item* relates, i.e. in Section 5.3.2 in TS 38.211 [ref2]. The values scs15, scs30, scs60 and scs120 corresponds to the sub carrier spacing in TS 38.104 [24].NOTE: Its value may not be identical to the SCS of MSG1. |
| > PRACH Frequency Start from Carrier  | M |  | INTEGER (0.. maxNrofPhysicalResourceBlocks-1, …) | Lowest number of resource blocks which can be used to deliver MSG1, counting from the start number of the corresponding carrier.Identical to  in Section 5.1.2.2.2 in TS 38.214 [ref4] plus *msg1-FrequencyStart* in TS 38.331 [10]. |
| >MSG1-FDM | M |  | ENUMERATED (one, two, four, eight, …) |  in Section 6.3.3.2 in TS 38.211 [ref2]. |
| >PRACH Configuration Index | M |  | INTEGER (0.. 255, …) | See Section 6.3.3.2 in TS 38.211 [ref2]. |
| >SSB per RACH Occasion  | M |  | ENUMERATED (oneEighth, oneFourth, oneHalf, one, two, four, eight, sixteen, ...) | Number of SSBs per RACH occasion. Value *oneEight* corresponds to one SSB associated with 8 RACH occasions, value *oneFourth* corresponds to one SSB associated with 4 RACH occasions, and so on. |
| >CHOICE *FreqDomainLength* | M |  |  | For the case of PRACH resources reserved for BFR or MSG1-based SI Request, *L139* is always used. |
| >>*L839* |  |  |  |  |
| >>>**L839 Info** |  | *1* |  |  |
| >>>>Root Sequence Index | M |  | INTEGER (0..837) | See Section 6.3.3.1 in TS 38.211 [ref2]. |
|  |  |  |  |  |
| >>>>Restricted Set Config | M |  | ENUMERATED (unrestrictedSet, restrictedSetTypeA, restrictedSetTypeB, …) | See Section 6.3.3.1 in TS 38.211 [ref2]. |
| >>*L139* |  |  |  |  |
| >>>**L139 Info** |  | *1* |  |  |
| >>>>MSG1 SCS | M |  | ENUMERATED (scs15, scs30, scs60, scs120, …) | Subcarrier Spacing used in sending MSG1, i.e. in Section 5.3.2 in TS 38.211 [ref2]. |
| >>>>Root Sequence Index  | M |  | INTEGER (0..137) | See Section 6.3.3.1 in TS 38.211 [ref2]. |
| >Zero Correlation Zone Config | M |  | INTEGER (0..15) | See Section 6.3.3.1 in TS 38.211 [ref2]. |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofPhysicalResourceBlocks-1 | Maximum no. of Physical Resource Blocks minus 1. Value is 274. |
| maxnoofPrachConfiguration | Maximum no. of PRACH Configuration. Value is 16. |

## 9.4 Message and Information Element Abstract Syntax (with ASN.1)

### 9.4.1 General

F1AP ASN.1 definition conforms to ITU-T Recommendation X.691 [5], ITU-T Recommendation X.680 [12] and ITU-T Recommendation X.681 [13].

The ASN.1 definition specifies the structure and content of F1AP messages. F1AP messages can contain any IEs specified in the object set definitions for that message without the order or number of occurrence being restricted by ASN.1. However, for this version of the standard, a sending entity shall construct an F1AP message according to the PDU definitions module and with the following additional rules:

- IEs shall be ordered (in an IE container) in the order they appear in object set definitions.

- Object set definitions specify how many times IEs may appear. An IE shall appear exactly once if the presence field in an object has value "mandatory". An IE may appear at most once if the presence field in an object has value "optional" or "conditional". If in a tabular format there is multiplicity specified for an IE (i.e., an IE list) then in the corresponding ASN.1 definition the list definition is separated into two parts. The first part defines an IE container list where the list elements reside. The second part defines list elements. The IE container list appears as an IE of its own. For this version of the standard an IE container list may contain only one kind of list elements.

NOTE: In the above "IE" means an IE in the object set with an explicit ID. If one IE needs to appear more than once in one object set, then the different occurrences will have different IE IDs.

If an F1AP message that is not constructed as defined above is received, this shall be considered as Abstract Syntax Error, and the message shall be handled as defined for Abstract Syntax Error in clause 10.

### 9.4.2 Usage of private message mechanism for non-standard use

The private message mechanism for non-standard use may be used:

- for special operator- (and/or vendor) specific features considered not to be part of the basic functionality, i.e., the functionality required for a complete and high-quality specification in order to guarantee multivendor interoperability;

- by vendors for research purposes, e.g., to implement and evaluate new algorithms/features before such features are proposed for standardisation.

The private message mechanism shall not be used for basic functionality. Such functionality shall be standardised.

### 9.4.3 Elementary Procedure Definitions

-- ASN1START

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

--

-- Elementary Procedure definitions

--

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

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,

 ResourceStatusRequest,

 ResourceStatusResponse,

 ResourceStatusFailure,

 ResourceStatusUpdate,

 AccessAndMobilityIndication

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,

 id-resourceStatusReportingInitiation,

 id-resourceStatusReporting,

 id-accessAndMobilityIndication

FROM F1AP-Constants

 ProtocolIE-SingleContainer{},

 F1AP-PROTOCOL-IES

FROM F1AP-Containers;

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

--

-- 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 |

 resourceStatusReportingInitiation,

 ...

}

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 |

 resourceStatusReporting |

 accessAndMobilityIndication ,

 ...

}

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

--

-- 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

}

resourceStatusReportingInitiation F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE ResourceStatusRequest

 SUCCESSFUL OUTCOME ResourceStatusResponse

 UNSUCCESSFUL OUTCOME ResourceStatusFailure

 PROCEDURE CODE id-resourceStatusReportingInitiation

 CRITICALITY reject

}

resourceStatusReporting F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE ResourceStatusUpdate

 PROCEDURE CODE id-resourceStatusReporting

 CRITICALITY ignore

}

accessAndMobilityIndication F1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE AccessAndMobilityIndication

 PROCEDURE CODE id-accessAndMobilityIndication

 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,

 GNBCUMeasurementID,

 GNBDUMeasurementID,

 RegistrationRequest,

 ReportCharacteristics,

 CellToReportList,

 HardwareLoadIndicator,

 CellMeasurementResultList,

 ReportingPeriodicity,

 TNLCapacityIndicator,

 RACHReportInformationList,

 RLFReportInformationList

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-gNBCUMeasurementID,

 id-gNBDUMeasurementID,

 id-RegistrationRequest,

 id-ReportCharacteristics,

 id-CellToReportList,

 id-CellMeasurementResultList,

 id-HardwareLoadIndicator,

 id-ReportingPeriodicity,

 id-TNLCapacityIndicator,

 id-RACHReportInformationList,

 id-RLFReportInformationList,

 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

--

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

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

--

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

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

--

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

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

--

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

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

--

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

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

--

-- GNB-CU CONFIGURATION UPDATE

--

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

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

--

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

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 },

 ...

}

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},

 ...

}

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

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

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

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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 },

 ...

}

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

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-- UE Context Modification ELEMENTARY PROCEDURE

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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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-- 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},

 ...

}

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

--

-- UE CONTEXT MODIFICATION CONFIRM

--

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

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 },

 ...

}

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

--

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

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

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--

-- DL RRC Message Transfer

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

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

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

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

--

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

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

--

-- 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

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

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

--

-- 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

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

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

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

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

--

-- 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

--

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

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

--

-- 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 },

 ...

}

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

--

-- Resource Status Reporting Initiation ELEMENTARY PROCEDURE

--

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

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

--

-- Resource Status Request

--

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

ResourceStatusRequest::= SEQUENCE {

 protocolIEs ProtocolIE-Container { {ResourceStatusRequestIEs} },

 ...

}

ResourceStatusRequestIEs F1AP-PROTOCOL-IES ::= {

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

 { ID id-gNBCUMeasurementID CRITICALITY reject TYPE GNBCUMeasurementID PRESENCE mandatory }|

 { ID id-gNBDUMeasurementID CRITICALITY ignore TYPE GNBDUMeasurementID PRESENCE conditional }|

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

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

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

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

 ...

}

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

--

-- Resource Status Response

--

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

ResourceStatusResponse ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { { ResourceStatusResponseIEs} },

 ...

}

ResourceStatusResponseIEs F1AP-PROTOCOL-IES ::= {

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

 { ID id-gNBCUMeasurementID CRITICALITY reject TYPE GNBCUMeasurementID PRESENCE mandatory }|

 { ID id-gNBDUMeasurementID CRITICALITY ignore TYPE GNBDUMeasurementID PRESENCE mandatory }|

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

 ...

}

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

--

-- Resource Status Failure

--

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

ResourceStatusFailure ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { { ResourceStatusFailureIEs} },

 ...

}

ResourceStatusFailureIEs F1AP-PROTOCOL-IES ::= {

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

 { ID id-gNBCUMeasurementID CRITICALITY reject TYPE GNBCUMeasurementID PRESENCE mandatory }|

 { ID id-gNBDUMeasurementID CRITICALITY ignore TYPE GNBDUMeasurementID PRESENCE mandatory }|

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

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

 ...

}

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

--

-- Resource Status Reporting ELEMENTARY PROCEDURE

--

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

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

--

-- Resource Status Update

--

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

ResourceStatusUpdate ::= SEQUENCE {

 protocolIEs ProtocolIE-Container {{ ResourceStatusUpdateIEs}},

 ...

}

ResourceStatusUpdateIEs F1AP-PROTOCOL-IES ::= {

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

 { ID id-gNBCUMeasurementID CRITICALITY reject TYPE GNBCUMeasurementID PRESENCE mandatory }|

 { ID id-gNBDUMeasurementID CRITICALITY ignore TYPE GNBDUMeasurementID PRESENCE mandatory }|

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

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

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

 ...

}

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

--

-- Access And Mobility Indication ELEMENTARY PROCEDURE

--

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

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

--

-- Access And Mobility Indication

--

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

AccessAndMobilityIndication ::= SEQUENCE {

 protocolIEs ProtocolIE-Container { { AccessAndMobilityIndicationIEs} },

 ...

}

AccessAndMobilityIndicationIEs F1AP-PROTOCOL-IES ::= {

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

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

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

 ...

}

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-IntendedTDD-DL-ULConfig,

 id-QosMonitoringRequest,

 id-CarrierList,

 id-ULCarrierList,

 id-FrequencyShift7p5khz,

 id-SSB-PositionsInBurst,

 id-NRPRACHConfig,

 id-TDD-UL-DLConfigCommonNR,

 maxNRARFCN,

 maxnoofErrors,

 maxnoofBPLMNs,

 maxnoofBPLMNsNRminus1,

 maxnoofDLUPTNLInformation,

 maxnoofNrCellBands,

 maxnoofULUPTNLInformation,

 maxnoofQoSFlows,

 maxnoofSliceItems,

 maxnoofSIBTypes,

 maxnoofSITypes,

 maxCellineNB,

 maxnoofExtendedBPLMNs,

 maxnoofAdditionalSIBs,

 maxnoofUACPLMNs,

 maxnoofUACperPLMN,

 maxCellingNBDU,

 maxnoofTLAs,

 maxnoofGTPTLAs,

 maxnoofslots,

 maxnoofSSBAreas,

 maxnoofBPLMNsNR,

 maxnoofNRSCSs,

 maxnoofPhysicalResourceBlocks,

 maxnoofPhysicalResourceBlocks-1,

 maxnoofPRACHconfigs,

 maxnoofRACHReports,

 maxnoofRLFReports

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 ::= {

 ...

}

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 ::= {

 ...

}

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 },

 ...

}

-- C

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 ::= {

 ...

}

CapacityValue::= SEQUENCE {

 capacityValue INTEGER (0..100),

 sSBAreaCapacityValueList SSBAreaCapacityValueList OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { CapacityValue-ExtIEs} } OPTIONAL

}

CapacityValue-ExtIEs 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

}

CauseTransport ::= ENUMERATED {

 unspecified,

 transport-resource-unavailable,

 ...

}

CellGroupConfig ::= OCTET STRING

CellCapacityClassValue ::= INTEGER (1..100,...)

Cell-Direction ::= ENUMERATED {dl-only, ul-only}

CellMeasurementResultList ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF CellMeasurementResultItem

CellMeasurementResultItem ::= SEQUENCE {

 cellID NRCGI,

 radioResourceStatus RadioResourceStatus OPTIONAL,

 compositeAvailableCapacityGroup CompositeAvailableCapacityGroup OPTIONAL,

 sliceAvailableCapacity SliceAvailableCapacity OPTIONAL,

 numberofActiveUEs NumberofActiveUEs OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { CellMeasurementResultItem-ExtIEs} } OPTIONAL

}

CellMeasurementResultItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

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 },

 ...

}

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, ...}

CellToReportList ::= SEQUENCE (SIZE(1.. maxCellingNBDU)) OF CellToReportItem

CellToReportItem ::= SEQUENCE {

 cellID NRCGI,

 sSBToReportList SSBToReportList OPTIONAL,

 sliceToReportList SliceToReportList OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { CellToReportItem-ExtIEs} } OPTIONAL

}

CellToReportItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

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 ::= {

 ...

}

CompositeAvailableCapacityGroup ::= SEQUENCE {

 compositeAvailableCapacityDownlink CompositeAvailableCapacity,

 compositeAvailableCapacityUplink CompositeAvailableCapacity,

 iE-Extensions ProtocolExtensionContainer { { CompositeAvailableCapacityGroup-ExtIEs} } OPTIONAL

}

CompositeAvailableCapacityGroup-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

CompositeAvailableCapacity ::= SEQUENCE {

 cellCapacityClassValue CellCapacityClassValue OPTIONAL,

 capacityValue CapacityValue,

 iE-Extensions ProtocolExtensionContainer { { CompositeAvailableCapacity-ExtIEs} } OPTIONAL

}

CompositeAvailableCapacity-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

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 ::= {

 ...

}

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 ::= {

 { ID id-ULCarrierList CRITICALITY ignore EXTENSION NRCarrierList PRESENCE optional },

 ...

}

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 ::= {

 ...

}

FreqDomainLength ::= CHOICE {

 l839 L839Info,

 l139 L139Info,

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

}

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

 ...

}

FrequencyShift7p5khz ::= ENUMERATED {false, true, ...}

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

GNBCUMeasurementID ::= INTEGER (0.. 4095, ...)

GNBDUMeasurementID ::= INTEGER (0.. 4095, ...)

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 ::= {

 ...

}

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

HardwareLoadIndicator ::= SEQUENCE {

 dLHardwareLoadIndicator INTEGER (0..100, ...),

 uLHardwareLoadIndicator INTEGER (0..100, ...),

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

 ...

}

HardwareLoadIndicator-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

-- 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

L139Info ::= SEQUENCE {

 msg1SCS ENUMERATED {scs15, scs30, scs60, scs120, ...},

 rootSequenceIndex INTEGER (0..137) OPTIONAL,

 iE-Extension ProtocolExtensionContainer { {L139Info-ExtIEs} } OPTIONAL,

 ...

}

L139Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

L839Info ::= SEQUENCE {

 rootSequenceIndex INTEGER (0..837),

 restrictedSetConfig ENUMERATED {unrestrictedSet, restrictedSetTypeA,

 restrictedSetTypeB, ...},

 iE-Extension ProtocolExtensionContainer { {L839Info-ExtIEs} } OPTIONAL,

 ...

}

L839Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

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 ::= {

 ...

}

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 ::= {

 ...

}

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 ::= {

 { ID id-FrequencyShift7p5khz CRITICALITY ignore EXTENSION FrequencyShift7p5khz PRESENCE optional },

 ...

}

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 ::= {

 ...

}

NRCarrierList ::= SEQUENCE (SIZE(1..maxnoofNRSCSs)) OF NRCarrierItem

NRCarrierItem ::= SEQUENCE {

 carrierSCS NRSCS,

 offsetToCarrier INTEGER (0..2199, ...),

 carrierBandwidth INTEGER (0..maxnoofPhysicalResourceBlocks, ...),

 iE-Extension ProtocolExtensionContainer { {NRCarrierItem-ExtIEs} } OPTIONAL,

 ...

}

NRCarrierItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NRPRACHConfig ::= SEQUENCE {

 ulPRACHConfigList NRPRACHConfigList OPTIONAL,

 sulPRACHConfigList NRPRACHConfigList OPTIONAL,

 iE-Extension ProtocolExtensionContainer { {NRPRACHConfig-ExtIEs} } OPTIONAL,

 ...

}

NRPRACHConfig-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

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)

NRPRACHConfigList ::= SEQUENCE (SIZE(0..maxnoofPRACHconfigs)) OF NRPRACHConfigItem

NRPRACHConfigItem ::= SEQUENCE {

 nRSCS NRSCS,

 prachFreqStartfromCarrier INTEGER (0..maxnoofPhysicalResourceBlocks-1, ...),

 msg1FDM ENUMERATED {one, two, four, eight, ...},

 parchConfigIndex INTEGER (0..255, ...),

 ssb-perRACH-Occasion ENUMERATED {oneEighth, oneFourth, oneHalf, one,

 two, four, eight, sixteen, ...},

 freqDomainLength FreqDomainLength,

 zeroCorrelZoneConfig INTEGER (0..15),

 iE-Extension ProtocolExtensionContainer { { NRPRACHConfigItem-ExtIEs} } OPTIONAL,

 ...

}

NRPRACHConfigItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NRSCS ::= ENUMERATED { scs15, scs30, scs60, scs120, ...}

NRUERLFReportContainer ::= OCTET STRING

NumberofActiveUEs ::= INTEGER(0..16777215, ...)

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

RACHReportContainer::= OCTET STRING

RACHReportInformationList ::= SEQUENCE (SIZE(1.. maxnoofRACHReports)) OF RACHReportInformationItem

RACHReportInformationItem ::= SEQUENCE {

 rACHReportContainer RACHReportContainer,

 uEAssitantIdentifier GNB-DU-UE-F1AP-ID OPTIONAL,

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

 ...

}

RACHReportInformationItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

RadioResourceStatus ::= SEQUENCE {

 sSBAreaRadioResourceStatusList SSBAreaRadioResourceStatusList,

 iE-Extensions ProtocolExtensionContainer { { RadioResourceStatus-ExtIEs} } OPTIONAL

}

RadioResourceStatus-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

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,

 ...

}

RegistrationRequest ::= ENUMERATED{start, stop, add, ...}

ReportCharacteristics ::= BIT STRING (SIZE(32))

ReportingPeriodicity ::= ENUMERATED{ms500, ms1000, ms2000, ms5000, ms10000, ...}

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 ::= {

 ...

}

RLFReportInformationList ::= SEQUENCE (SIZE(1.. maxnoofRLFReports)) OF RLFReportInformationItem

RLFReportInformationItem ::= SEQUENCE {

 nRUERLFReportContainer NRUERLFReportContainer,

 uEAssitantIdentifier GNB-DU-UE-F1AP-ID OPTIONAL,

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

 ...

}

RLFReportInformationItem-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}|

 { ID id-SSB-PositionsInBurst CRITICALITY ignore EXTENSION SSB-PositionsInBurst PRESENCE optional }|

 { ID id-NRPRACHConfig CRITICALITY ignore EXTENSION NRPRACHConfig 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

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},

 ...

}

SliceAvailableCapacity ::= SEQUENCE {

 sliceAvailableCapacityList SliceAvailableCapacityList,

 iE-Extensions ProtocolExtensionContainer { { SliceAvailableCapacity-ExtIEs} } OPTIONAL

}

SliceAvailableCapacity-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SliceAvailableCapacityList ::= SEQUENCE (SIZE(1.. maxnoofBPLMNsNR)) OF SliceAvailableCapacityItem

SliceAvailableCapacityItem ::= SEQUENCE {

 pLMNIdentity PLMN-Identity,

 sNSSAIAvailableCapacity-List SNSSAIAvailableCapacity-List,

 iE-Extensions ProtocolExtensionContainer { { SliceAvailableCapacityItem-ExtIEs} } OPTIONAL

}

SliceAvailableCapacityItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SNSSAIAvailableCapacity-List ::= SEQUENCE (SIZE(1.. maxnoofSliceItems)) OF SNSSAIAvailableCapacity-Item

SNSSAIAvailableCapacity-Item ::= SEQUENCE {

 sNSSAI SNSSAI,

 sliceAvailableCapacityValueDownlink INTEGER (0..100) OPTIONAL,

 sliceAvailableCapacityValueUplink INTEGER (0..100) OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { SNSSAIAvailableCapacity-Item-ExtIEs } } OPTIONAL

}

SNSSAIAvailableCapacity-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SliceSupportList ::= SEQUENCE (SIZE(1.. maxnoofSliceItems)) OF SliceSupportItem

SliceSupportItem ::= SEQUENCE {

 sNSSAI SNSSAI,

 iE-Extensions ProtocolExtensionContainer { { SliceSupportItem-ExtIEs } } OPTIONAL

}

SliceSupportItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SliceToReportList ::= SEQUENCE (SIZE(1.. maxnoofBPLMNsNR)) OF SliceToReportItem

SliceToReportItem ::= SEQUENCE {

 pLMNIdentity PLMN-Identity,

 sNSSAIlist SNSSAI-list,

 iE-Extensions ProtocolExtensionContainer { { SliceToReportItem-ExtIEs} } OPTIONAL

}

SliceToReportItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SNSSAI-list ::= SEQUENCE (SIZE(1.. maxnoofSliceItems)) OF SNSSAI-Item

SNSSAI-Item ::= SEQUENCE {

 sNSSAI SNSSAI,

 iE-Extensions ProtocolExtensionContainer { { SNSSAI-Item-ExtIEs } } OPTIONAL

}

SNSSAI-Item-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 ::= {

 ...

}

SSBAreaCapacityValueList ::= SEQUENCE (SIZE(1.. maxnoofSSBAreas)) OF SSBAreaCapacityValueItem

SSBAreaCapacityValueItem ::= SEQUENCE {

 sSBIndex INTEGER(0..63),

 sSBAreaCapacityValue INTEGER (0..100),

 iE-Extensions ProtocolExtensionContainer { { SSBAreaCapacityValueItem-ExtIEs} } OPTIONAL

}

SSBAreaCapacityValueItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SSBAreaRadioResourceStatusList::= SEQUENCE (SIZE(1.. maxnoofSSBAreas)) OF SSBAreaRadioResourceStatusItem

SSBAreaRadioResourceStatusItem::= SEQUENCE {

 sSBIndex INTEGER(0..63),

 sSBAreaDLGBRPRBusage INTEGER (0..100),

 sSBAreaULGBRPRBusage INTEGER (0..100),

 sSBAreaDLnon-GBRPRBusage INTEGER (0..100),

 sSBAreaULnon-GBRPRBusage INTEGER (0..100),

 sSBAreaDLTotalPRBusage INTEGER (0..100),

 sSBAreaULTotalPRBusage INTEGER (0..100),

 dLschedulingPDCCHCCEusage INTEGER (0..100) OPTIONAL,

 uLschedulingPDCCHCCEusage INTEGER (0..100) OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { SSBAreaRadioResourceStatusItem-ExtIEs} } OPTIONAL

}

SSBAreaRadioResourceStatusItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

SSB-PositionsInBurst ::= CHOICE {

 shortBitmap BIT STRING (SIZE (4)),

 mediumBitmap BIT STRING (SIZE (8)),

 longBitmap BIT STRING (SIZE (64)),

 choice-extension ProtocolIE-SingleContainer { {SSB-PositionsInBurst-ExtIEs} }

}

SSB-PositionsInBurst-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

SSBToReportList ::= SEQUENCE (SIZE(1.. maxnoofSSBAreas)) OF SSBToReportItem

SSBToReportItem ::= SEQUENCE {

 sSBIndex INTEGER(0..63),

 iE-Extensions ProtocolExtensionContainer { { SSBToReportItem-ExtIEs} } OPTIONAL

}

SSBToReportItem-ExtIEs 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 ::= {

 { ID id-CarrierList CRITICALITY ignore EXTENSION NRCarrierList PRESENCE optional }|

 { ID id-FrequencyShift7p5khz CRITICALITY ignore EXTENSION FrequencyShift7p5khz PRESENCE optional },

 ...

}

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}|

 {ID id-TDD-UL-DLConfigCommonNR CRITICALITY ignore EXTENSION TDD-UL-DLConfigCommonNR PRESENCE optional }|

 {ID id-CarrierList CRITICALITY ignore EXTENSION NRCarrierList PRESENCE optional },

 ...

}

TDD-UL-DLConfigCommonNR ::= OCTET STRING

TimeToWait ::= ENUMERATED {v1s, v2s, v5s, v10s, v20s, v60s, ...}

TNLAssociationUsage ::= ENUMERATED {

 ue,

 non-ue,

 both,

 ...

}

TNLCapacityIndicator::= SEQUENCE {

 dLTNLOfferedCapacity INTEGER (1.. 16777216,...),

 dLTNLAvailableCapacity INTEGER (0.. 100,...),

 uLTNLOfferedCapacity INTEGER (1.. 16777216,...),

 uLTNLAvailableCapacity INTEGER (0.. 100,...),

 iE-Extensions ProtocolExtensionContainer { { TNLCapacityIndicator-ExtIEs} } OPTIONAL

}

TNLCapacityIndicator-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

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 ::= {

 ...

}

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

id-resourceStatusReportingInitiation ProcedureCode ::= 999

id-resourceStatusReporting ProcedureCode ::= 998

id-accessAndMobilityIndication ProcedureCode ::= 997

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

--

-- 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

maxnoofSSBAreas INTEGER ::= 64

maxnoofBPLMNsNR INTEGER ::= 12

maxnoofNRSCSs INTEGER ::= 5

maxnoofPhysicalResourceBlocks INTEGER ::= 275

maxnoofPhysicalResourceBlocks-1 INTEGER ::= 274

maxnoofPRACHconfigs INTEGER ::= 16

maxnoofRACHReports INTEGER ::= 64

maxnoofRLFReports INTEGER ::= 64

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

--

-- 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-gNBCUMeasurementID ProtocolIE-ID ::= 999

id-gNBDUMeasurementID ProtocolIE-ID ::= 998

id-RegistrationRequest ProtocolIE-ID ::= 997

id-ReportCharacteristics ProtocolIE-ID ::= 996

id-CellToReportList ProtocolIE-ID ::= 995

id-CellMeasurementResultList ProtocolIE-ID ::= 994

id-HardwareLoadIndicator ProtocolIE-ID ::= 993

id-ReportingPeriodicity ProtocolIE-ID ::= 992

id-TNLCapacityIndicator ProtocolIE-ID ::= 991

id-CarrierList ProtocolIE-ID ::= 990

id-ULCarrierList ProtocolIE-ID ::= 988

id-FrequencyShift7p5khz ProtocolIE-ID ::= 987

id-SSB-PositionsInBurst ProtocolIE-ID ::= 986

id-NRPRACHConfig ProtocolIE-ID ::= 985

id-RACHReportInformationList ProtocolIE-ID ::= 984

id-RLFReportInformationList ProtocolIE-ID ::= 983

id-TDD-UL-DLConfigCommonNR ProtocolIE-ID ::= 982

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