**3GPP TSG-RAN WG3 Meeting #109-e *R3-205595***

**E-Meeting, August 17-28, 2020**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.463** | **CR** | **0513** | **rev** | **2** | **Current version:** | **15.7.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Correction for SN Terminated (option 3x) GBR bearer establishment | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_CPUP\_Split | | | | |  | | ***Date:*** | | 2020-08-06 |
|  |  | | | |  | | |  | |  |
| ***Category:*** | **F** |  | | | | | | ***Release:*** | | Rel-15 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In NR-DC scenarios with SN terminated split bearer, the MN indicates to the SN the Offered GBR QoS Flow Information at the MN within the S-Node Addition request message over Xn interface. However, this information is missing to be signaled to the gNB-CU-UP over the E1 interface when the Bearer Context is setup. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Introduce Offered GBR QoS Flow Info IE to the QoS Flow QoS Parameters List.  Impact assessment towards the previous version of the specification (same release):  This CR has an impact under functional and protocol point of view.  The impact can be considered isolated because the change is limited to GBR Bearer Context Setup scenarios.  The CR is ASN.1 backwards compatible. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | GBR for NR-DC for SN terminated split bearers cannot be implemented correctly. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.3.1, 9.3.1.25, 9.4 (ASN.1) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | |  | | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | TS/TR ... CR ... | | | |
| ***affected:*** | |  | **x** | Test specifications | | | TS/TR ... CR ... | | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | TS/TR ... CR ... | | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |

|  |  |
| --- | --- |
| ***This CR's revision history:*** | Rev.1: Baseline updated  Rev.2: Procedural text and ASN.1 updated |

*Beginning of Text Proposal to TS 38.463*

### 8.3.1 Bearer Context Setup

#### 8.3.1.1 General

The purpose of the Bearer Context Setup procedure is to allow the gNB-CU-CP to establish a bearer context in the gNB-CU-UP. The procedure uses UE-associated signalling.

#### 8.3.1.2 Successful Operation



Figure 8.3.1.2-1: Bearer Context Setup procedure: Successful Operation.

The gNB-CU-CP initiates the procedure by sending the BEARER CONTEXT SETUP REQUEST message to the gNB-CU-UP. If the gNB-CU-UP succeeds to establish the requested resources, it replies to the gNB-CU-CP with the BEARER CONTEXT SETUP RESPONSE message.

The gNB-CU-UP shall report to the gNB-CU-CP, in the BEARER CONTEXT SETUP RESPONSE message, the result for all the requested resources in the following way:

For E-UTRAN:

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

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

For NG-RAN:

- A list of PDU Session Resources which are successfully established shall be included in the *PDU Session Resource Setup List* IE;

- A list of PDU Session Resources which failed to be established shall be included in the *PDU Session Resource Failed List* IE;

- For each established PDU Session Resource, a list of DRBs which are successfully established shall be included in the *DRB Setup List* IE;

- For each established PDU Session Resource, a list of DRBs which failed to be established shall be included in the *DRB Failed List* IE;

- For each established DRB, a list of QoS Flows which are successfully established shall be included in the *Flow Setup List* IE;

- For each established DRB, a list of QoS Flows which failed to be established shall be included in the *Flow Failed List* IE;

When the gNB-CU-UP reports the unsuccessful establishment of a PDU Session Resource, DRB or QoS Flow the cause value should be precise enough to enable the gNB-CU-CP to know the reason for the unsuccessful establishment.

If the *Existing Allocated S1 DL UP Transport Layer Information* IE or the *Existing Allocated NG DL UP Transport Layer Information* IE is contained in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP may re-use the indicated resources already allocated for this bearer context. If the gNB-CU-UP decides to re-use the indicated resources, it shall include the *S1 DL UP Unchanged* IE or the *NG DL UP Unchanged* IE in the BEARER CONTEXT SETUP RESPONSE message.

If the *PDU Session Resource DL Aggregate Maximum Bit Rate* IE is contained in the *PDU Session Resource To Setup List* IE in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall store and use the information for the down link traffic policing for the Non-GBR QoS flows for the concerned UE as specified in TS 23.501 [20].

If the *Data Forwarding Information Request* IE, *PDU Session Data Forwarding Information Request* IE or the *DRB Data Forwarding Information Request* IE are included in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall include the requested forwarding information in the *Data Forwarding Information Response* IE, *PDU Session Data Forwarding Information Response* IE or the *DRB Data Forwarding Information Response* IE in the BEARER CONTEXT SETUP RESPONSE message.

If the *DL UP Parameters* IE is contained in the *DRB To Setup List* IE in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall configure the corresponding information.

For each PDU session for which the *Security Indication* IE is included in the *PDU Session Resource To Setup List* IE of the BEARER CONTEXT SETUP REQUEST message, and the *Integrity Protection Indication* IE or *Confidentiality Protection Indication* IE is set to "preferred", then the gNB-CU-UP should, if supported, perform user plane integrity protection or ciphering, respectively, for the concerned PDU session and shall notify whether it performed the user plane integrity protection or ciphering by including the *Integrity Protection Result* IE or *Confidentiality Protection Result* IE, respectively, in the *PDU Session Resource Setup List* IE of the BEARER CONTEXT SETUP RESPONSE message.

For each PDU session for which the *Security Indication* IE is included in the *PDU Session Resource To Setup List* IE of the BEARER CONTEXT SETUP REQUEST message, and the *Integrity Protection Indication* IE or *Confidentiality Protection Indication* IE is set to "required", then the gNB-CU-UP shall perform user plane integrity protection or ciphering, respectively, for the concerned PDU Session. If the gNB-CU-UP cannot perform the user plane integrity protection or ciphering, it shall reject the setup of the PDU Session Resources with an appropriate cause value.

For each PDU session for which the *Security Indication* IE is included in the *PDU Session Resource To Setup List* IE of the BEARER CONTEXT SETUP REQUEST message:

- if the *Integrity Protection Indication* IE is set to "not needed", then the gNB-CU-UP shall not perform user plane integrity protection for the concerned PDU session;

-if the *Confidentiality Protection Indication* IE is set to "not needed", then the gNB-CU-UP shall not perform user plane ciphering for the concerned PDU session.

If the *UE DL Maximum Integrity Protected Data Rate* IE is contained in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall use this value when enforcing the maximum integrity protected data rate for the UE.

If the *Bearer Context Status Change* IE is contained in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall consider the UE RRC state and act as specified in TS 38.401 [2].

For each requested DRB, if the *PDCP Duplication* IE is included in the *PDCP Configuration* IE contained in the BEARER CONTEXT SETUP REQUEST message, and one cell group is included in *Cell Group Information* IE, then the gNB-CU-UP shall include two *UP Transport Layer Information* IEs in the BEARER CONTEXT SETUP RESPONSE message to support packet duplication for intra-gNB-DU CA. The first *UP Transport Layer Information* IE of the two *UP Transport Layer Information* IEs is for the primary path.

If the *PDCP SN Status Information* IE is contained within the *DRB To Setup List* IE in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall take it into account and act as specified in TS 38.401 [2].

If the *QoS Flow Mapping Indication* IE is contained in the *QoS Flows Information To Be Setup* IE within the *DRB To Setup List* IE in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP may take it into account that only the uplink or downlink QoS flow is mapped to the DRB.

For each PDU Session Resource, if the *Network Instance* IE is included in the *PDU Session Resource To Setup List* IE in the BEARER CONTEXT SETUP REQUEST message and the *Common Network Instance* IE is not included, the gNB-CU-UP shall, if supported, use it when selecting transport network resource as specified in TS 23.501 [20].

For each PDU session, if the *Common Network Instance* IE is included in the *PDU Session Resource To Setup List* IE in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall, if supported, use it when selecting transport network resource as specified in TS 23.501 [20].

If *UE Inactivity Timer* IE or *PDU session Inactivity Timer* IE or *DRB Inactivity Timer* IE is contained in BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall take it into account when perform inactivity monitoring.

If the *DRB QoS* IE is contained within the *DRB To Setup List* IE in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall, if supported, take it into account as specified in TS 28.552 [22].

If the *gNB-DU-ID* IE is contained in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall store the information received.

If the *RAN UE ID* IE is contained in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall store the information received.

For each successfully established DRB, the gNB-CU-UP shall provide, in the respective *UL UP Parameters* IE of the BEARER CONTEXT SETUP RESPONSE, one UL UP Transport Layer Information Item per cell group entry contained in the respective *Cell Group Information* IE of the BEARER CONTEXT SETUP REQUEST message.

For MR-DC, if the *Offered GBR QoS Flow Information* IE is contained in the *QoS Flows Information To Be Setup* IE within the *DRB To Setup List* IE in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall, if supported, take it into account when splitting the data of SN terminated GBR bearers.

#### 8.3.1.3 Unsuccessful Operation



Figure 8.3.1.3-1: Bearer Context Setup procedure: Unsuccessful Operation.

If the gNB-CU-UP cannot establish the requested bearer context, or cannot even establish one bearer it shall consider the procedure as failed and respond with a BEARER CONTEXT SETUP FAILURE message and appropriate cause value.

#### 8.3.1.4 Abnormal Conditions

If the gNB-CU-UP receives a BEARER CONTEXT SETUP REQUEST message containing a *E-UTRAN QoS* IE in the *DRB To Setup List* IE for a GBR QoS DRB but where the *GBR QoS Information* IE is not present, the gNB-CU-UP shall report the establishment of the corresponding DRB as failed in the *DRB Failed List* IE of the BEARER CONTEXT SETUP RESPONSE message with an appropriate cause value.

If the gNB-CU-UP receives a BEARER CONTEXT SETUP REQUEST message containing a *QoS Flow Level QoS Parameters* IE in the *PDU Session Resource To Setup List* IE for a GBR QoS Flow but where the *GBR QoS Flow Information* IE is not present, the gNB-CU-UP shall report the establishment of the corresponding QoS Flow as failed in the corresponding *Flow Failed List* IE of the BEARER CONTEXT SETUP RESPONSE message with an appropriate cause value.

**<< unchanged parts omitted >>**

#### 9.3.1.25 QoS Flow QoS Parameters List

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| **QoS Flow List** |  | *1* |  |  | - | - |
| **>QoS Flow Item** |  | *1..<maxnoofflows>* |  |  | - | - |
| >>QoS Flow Identifier | M |  | 9.3.1.24 |  | - | - |
| >>QoS Flow Level QoS Parameters | M |  | 9.3.1.26 |  | - | - |
| >>QoS Flow Mapping Indication | O |  | 9.3.1.60 | Indicates that only the uplink or downlink QoS flow is mapped to the DRB | - | - |
| >>Offered GBR QoS Flow Information | O |  | 9.3.1.30 | This IE contains M-Node offered GBR QoS Flow Information. | YES | ignore |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofQoSFlows | Maximum no. of QoS flows in a PDU Session. Value is 64. |

**<< unchanged parts omitted >>**

9.4.3 Elementary Procedure Definitions

-- ASN1START

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

--

-- Elementary Procedure definitions

--

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

E1AP-PDU-Descriptions {

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

ngran-access (22) modules (3) e1ap (5) version1 (1) e1ap-PDU-Descriptions (0) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules

--

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

IMPORTS

Criticality,

ProcedureCode

FROM E1AP-CommonDataTypes

Reset,

ResetAcknowledge,

ErrorIndication,

GNB-CU-UP-E1SetupRequest,

GNB-CU-UP-E1SetupResponse,

GNB-CU-UP-E1SetupFailure,

GNB-CU-CP-E1SetupRequest,

GNB-CU-CP-E1SetupResponse,

GNB-CU-CP-E1SetupFailure,

GNB-CU-UP-ConfigurationUpdate,

GNB-CU-UP-ConfigurationUpdateAcknowledge,

GNB-CU-UP-ConfigurationUpdateFailure,

GNB-CU-CP-ConfigurationUpdate,

GNB-CU-CP-ConfigurationUpdateAcknowledge,

GNB-CU-CP-ConfigurationUpdateFailure,

BearerContextSetupRequest,

BearerContextSetupResponse,

BearerContextSetupFailure,

BearerContextModificationRequest,

BearerContextModificationResponse,

BearerContextModificationFailure,

BearerContextModificationRequired,

BearerContextModificationConfirm,

BearerContextReleaseCommand,

BearerContextReleaseComplete,

BearerContextReleaseRequest,

BearerContextInactivityNotification,

DLDataNotification,

ULDataNotification,

DataUsageReport,

E1ReleaseRequest,

E1ReleaseResponse,

GNB-CU-UP-CounterCheckRequest,

GNB-CU-UP-StatusIndication,

MRDC-DataUsageReport,

PrivateMessage

FROM E1AP-PDU-Contents

id-reset,

id-errorIndication,

id-gNB-CU-UP-E1Setup,

id-gNB-CU-CP-E1Setup,

id-gNB-CU-UP-ConfigurationUpdate,

id-gNB-CU-CP-ConfigurationUpdate,

id-e1Release,

id-bearerContextSetup,

id-bearerContextModification,

id-bearerContextModificationRequired,

id-bearerContextRelease,

id-bearerContextReleaseRequest,

id-bearerContextInactivityNotification,

id-dLDataNotification,

id-uLDataNotification,

id-dataUsageReport,

id-gNB-CU-UP-CounterCheck,

id-gNB-CU-UP-StatusIndication,

id-mRDC-DataUsageReport,

id-privateMessage

FROM E1AP-Constants;

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

--

-- Interface Elementary Procedure Class

--

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

E1AP-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

--

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

E1AP-PDU ::= CHOICE {

initiatingMessage InitiatingMessage,

successfulOutcome SuccessfulOutcome,

unsuccessfulOutcome UnsuccessfulOutcome,

...

}

InitiatingMessage ::= SEQUENCE {

procedureCode E1AP-ELEMENTARY-PROCEDURE.&procedureCode ({E1AP-ELEMENTARY-PROCEDURES}),

criticality E1AP-ELEMENTARY-PROCEDURE.&criticality ({E1AP-ELEMENTARY-PROCEDURES}{@procedureCode}),

value E1AP-ELEMENTARY-PROCEDURE.&InitiatingMessage ({E1AP-ELEMENTARY-PROCEDURES}{@procedureCode})

}

SuccessfulOutcome ::= SEQUENCE {

procedureCode E1AP-ELEMENTARY-PROCEDURE.&procedureCode ({E1AP-ELEMENTARY-PROCEDURES}),

criticality E1AP-ELEMENTARY-PROCEDURE.&criticality ({E1AP-ELEMENTARY-PROCEDURES}{@procedureCode}),

value E1AP-ELEMENTARY-PROCEDURE.&SuccessfulOutcome ({E1AP-ELEMENTARY-PROCEDURES}{@procedureCode})

}

UnsuccessfulOutcome ::= SEQUENCE {

procedureCode E1AP-ELEMENTARY-PROCEDURE.&procedureCode ({E1AP-ELEMENTARY-PROCEDURES}),

criticality E1AP-ELEMENTARY-PROCEDURE.&criticality ({E1AP-ELEMENTARY-PROCEDURES}{@procedureCode}),

value E1AP-ELEMENTARY-PROCEDURE.&UnsuccessfulOutcome ({E1AP-ELEMENTARY-PROCEDURES}{@procedureCode})

}

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

--

-- Interface Elementary Procedure List

--

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

E1AP-ELEMENTARY-PROCEDURES E1AP-ELEMENTARY-PROCEDURE ::= {

E1AP-ELEMENTARY-PROCEDURES-CLASS-1 |

E1AP-ELEMENTARY-PROCEDURES-CLASS-2 ,

...

}

E1AP-ELEMENTARY-PROCEDURES-CLASS-1 E1AP-ELEMENTARY-PROCEDURE ::= {

reset |

gNB-CU-UP-E1Setup |

gNB-CU-CP-E1Setup |

gNB-CU-UP-ConfigurationUpdate |

gNB-CU-CP-ConfigurationUpdate |

e1Release |

bearerContextSetup |

bearerContextModification |

bearerContextModificationRequired |

bearerContextRelease ,

...

}

E1AP-ELEMENTARY-PROCEDURES-CLASS-2 E1AP-ELEMENTARY-PROCEDURE ::= {

errorIndication |

bearerContextReleaseRequest |

bearerContextInactivityNotification |

dLDataNotification |

uLDataNotification |

dataUsageReport |

gNB-CU-UP-CounterCheck |

gNB-CU-UP-StatusIndication |

mRDC-DataUsageReport |

privateMessage ,

...

}

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

--

-- Interface Elementary Procedures

--

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

reset E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE Reset

SUCCESSFUL OUTCOME ResetAcknowledge

PROCEDURE CODE id-reset

CRITICALITY reject

}

errorIndication E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE ErrorIndication

PROCEDURE CODE id-errorIndication

CRITICALITY ignore

}

gNB-CU-UP-E1Setup E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE GNB-CU-UP-E1SetupRequest

SUCCESSFUL OUTCOME GNB-CU-UP-E1SetupResponse

UNSUCCESSFUL OUTCOME GNB-CU-UP-E1SetupFailure

PROCEDURE CODE id-gNB-CU-UP-E1Setup

CRITICALITY reject

}

gNB-CU-CP-E1Setup E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE GNB-CU-CP-E1SetupRequest

SUCCESSFUL OUTCOME GNB-CU-CP-E1SetupResponse

UNSUCCESSFUL OUTCOME GNB-CU-CP-E1SetupFailure

PROCEDURE CODE id-gNB-CU-CP-E1Setup

CRITICALITY reject

}

gNB-CU-UP-ConfigurationUpdate E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE GNB-CU-UP-ConfigurationUpdate

SUCCESSFUL OUTCOME GNB-CU-UP-ConfigurationUpdateAcknowledge

UNSUCCESSFUL OUTCOME GNB-CU-UP-ConfigurationUpdateFailure

PROCEDURE CODE id-gNB-CU-UP-ConfigurationUpdate

CRITICALITY reject

}

gNB-CU-CP-ConfigurationUpdate E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE GNB-CU-CP-ConfigurationUpdate

SUCCESSFUL OUTCOME GNB-CU-CP-ConfigurationUpdateAcknowledge

UNSUCCESSFUL OUTCOME GNB-CU-CP-ConfigurationUpdateFailure

PROCEDURE CODE id-gNB-CU-CP-ConfigurationUpdate

CRITICALITY reject

}

e1Release E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE E1ReleaseRequest

SUCCESSFUL OUTCOME E1ReleaseResponse

PROCEDURE CODE id-e1Release

CRITICALITY reject

}

bearerContextSetup E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE BearerContextSetupRequest

SUCCESSFUL OUTCOME BearerContextSetupResponse

UNSUCCESSFUL OUTCOME BearerContextSetupFailure

PROCEDURE CODE id-bearerContextSetup

CRITICALITY reject

}

bearerContextModification E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE BearerContextModificationRequest

SUCCESSFUL OUTCOME BearerContextModificationResponse

UNSUCCESSFUL OUTCOME BearerContextModificationFailure

PROCEDURE CODE id-bearerContextModification

CRITICALITY reject

}

bearerContextModificationRequired E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE BearerContextModificationRequired

SUCCESSFUL OUTCOME BearerContextModificationConfirm

PROCEDURE CODE id-bearerContextModificationRequired

CRITICALITY reject

}

bearerContextRelease E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE BearerContextReleaseCommand

SUCCESSFUL OUTCOME BearerContextReleaseComplete

PROCEDURE CODE id-bearerContextRelease

CRITICALITY reject

}

bearerContextReleaseRequest E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE BearerContextReleaseRequest

PROCEDURE CODE id-bearerContextReleaseRequest

CRITICALITY ignore

}

bearerContextInactivityNotification E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE BearerContextInactivityNotification

PROCEDURE CODE id-bearerContextInactivityNotification

CRITICALITY ignore

}

dLDataNotification E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE DLDataNotification

PROCEDURE CODE id-dLDataNotification

CRITICALITY ignore

}

uLDataNotification E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE ULDataNotification

PROCEDURE CODE id-uLDataNotification

CRITICALITY ignore

}

dataUsageReport E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE DataUsageReport

PROCEDURE CODE id-dataUsageReport

CRITICALITY ignore

}

gNB-CU-UP-CounterCheck E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE GNB-CU-UP-CounterCheckRequest

PROCEDURE CODE id-gNB-CU-UP-CounterCheck

CRITICALITY ignore

}

gNB-CU-UP-StatusIndication E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE GNB-CU-UP-StatusIndication

PROCEDURE CODE id-gNB-CU-UP-StatusIndication

CRITICALITY ignore

}

privateMessage E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE PrivateMessage

PROCEDURE CODE id-privateMessage

CRITICALITY ignore

}

mRDC-DataUsageReport E1AP-ELEMENTARY-PROCEDURE ::= {

INITIATING MESSAGE MRDC-DataUsageReport

PROCEDURE CODE id-mRDC-DataUsageReport

CRITICALITY ignore

}

END

-- ASN1STOP

### 9.4.4 PDU Definitions

-- ASN1START

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

--

-- PDU definitions for E1AP

--

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

E1AP-PDU-Contents {

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

ngran-access (22) modules (3) e1ap (5) version1 (1) e1ap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules

--

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

IMPORTS

Cause,

CriticalityDiagnostics,

GNB-CU-CP-UE-E1AP-ID,

GNB-CU-UP-UE-E1AP-ID,

UE-associatedLogicalE1-ConnectionItem,

GNB-CU-UP-ID,

GNB-CU-UP-Name,

GNB-CU-CP-Name,

CNSupport,

PLMN-Identity,

Slice-Support-List,

NR-CGI-Support-List,

QoS-Parameters-Support-List,

SecurityInformation,

BitRate,

BearerContextStatusChange,

DRB-To-Setup-List-EUTRAN,

DRB-Setup-List-EUTRAN,

DRB-Failed-List-EUTRAN,

DRB-To-Modify-List-EUTRAN,

DRB-Modified-List-EUTRAN,

DRB-Failed-To-Modify-List-EUTRAN,

DRB-To-Remove-List-EUTRAN,

DRB-Required-To-Remove-List-EUTRAN,

DRB-Required-To-Modify-List-EUTRAN,

DRB-Confirm-Modified-List-EUTRAN,

DRB-To-Setup-Mod-List-EUTRAN,

DRB-Setup-Mod-List-EUTRAN,

DRB-Failed-Mod-List-EUTRAN,

PDU-Session-Resource-To-Setup-List,

PDU-Session-Resource-Setup-List,

PDU-Session-Resource-Failed-List,

PDU-Session-Resource-To-Modify-List,

PDU-Session-Resource-Modified-List,

PDU-Session-Resource-Failed-To-Modify-List,

PDU-Session-Resource-To-Remove-List,

PDU-Session-Resource-Required-To-Modify-List,

PDU-Session-Resource-Confirm-Modified-List,

PDU-Session-Resource-To-Setup-Mod-List,

PDU-Session-Resource-Setup-Mod-List,

PDU-Session-Resource-Failed-Mod-List,

PDU-Session-To-Notify-List,

DRB-Status-Item,

DRB-Activity-Item,

Data-Usage-Report-List,

TimeToWait,

ActivityNotificationLevel,

ActivityInformation,

New-UL-TNL-Information-Required,

GNB-CU-CP-TNLA-Setup-Item,

GNB-CU-CP-TNLA-Failed-To-Setup-Item,

GNB-CU-CP-TNLA-To-Add-Item,

GNB-CU-CP-TNLA-To-Remove-Item,

GNB-CU-CP-TNLA-To-Update-Item,

GNB-CU-UP-TNLA-To-Remove-Item,

TransactionID,

Inactivity-Timer,

DRBs-Subject-To-Counter-Check-List-EUTRAN,

DRBs-Subject-To-Counter-Check-List-NG-RAN,

PPI,

GNB-CU-UP-Capacity,

GNB-CU-UP-OverloadInformation,

DataDiscardRequired,

PDU-Session-Resource-Data-Usage-List,

RANUEID,

GNB-DU-ID

FROM E1AP-IEs

PrivateIE-Container{},

ProtocolExtensionContainer{},

ProtocolIE-Container{},

ProtocolIE-ContainerList{},

ProtocolIE-SingleContainer{},

E1AP-PRIVATE-IES,

E1AP-PROTOCOL-EXTENSION,

E1AP-PROTOCOL-IES

FROM E1AP-Containers

id-Cause,

id-CriticalityDiagnostics,

id-gNB-CU-CP-UE-E1AP-ID,

id-gNB-CU-UP-UE-E1AP-ID,

id-ResetType,

id-UE-associatedLogicalE1-ConnectionItem,

id-UE-associatedLogicalE1-ConnectionListResAck,

id-gNB-CU-UP-ID,

id-gNB-CU-UP-Name,

id-gNB-CU-CP-Name,

id-CNSupport,

id-SupportedPLMNs,

id-SecurityInformation,

id-UEDLAggregateMaximumBitRate,

id-BearerContextStatusChange,

id-System-BearerContextSetupRequest,

id-System-BearerContextSetupResponse,

id-System-BearerContextModificationRequest,

id-System-BearerContextModificationResponse,

id-System-BearerContextModificationConfirm,

id-System-BearerContextModificationRequired,

id-DRB-Status-List,

id-Data-Usage-Report-List,

id-TimeToWait,

id-ActivityNotificationLevel,

id-ActivityInformation,

id-New-UL-TNL-Information-Required,

id-GNB-CU-CP-TNLA-Setup-List,

id-GNB-CU-CP-TNLA-Failed-To-Setup-List,

id-GNB-CU-CP-TNLA-To-Add-List,

id-GNB-CU-CP-TNLA-To-Remove-List,

id-GNB-CU-CP-TNLA-To-Update-List,

id-GNB-CU-UP-TNLA-To-Remove-List,

id-DRB-To-Setup-List-EUTRAN,

id-DRB-To-Modify-List-EUTRAN,

id-DRB-To-Remove-List-EUTRAN,

id-DRB-Required-To-Modify-List-EUTRAN,

id-DRB-Required-To-Remove-List-EUTRAN,

id-DRB-Setup-List-EUTRAN,

id-DRB-Failed-List-EUTRAN,

id-DRB-Modified-List-EUTRAN,

id-DRB-Failed-To-Modify-List-EUTRAN,

id-DRB-Confirm-Modified-List-EUTRAN,

id-DRB-To-Setup-Mod-List-EUTRAN,

id-DRB-Setup-Mod-List-EUTRAN,

id-DRB-Failed-Mod-List-EUTRAN,

id-PDU-Session-Resource-To-Setup-List,

id-PDU-Session-Resource-To-Modify-List,

id-PDU-Session-Resource-To-Remove-List,

id-PDU-Session-Resource-Required-To-Modify-List,

id-PDU-Session-Resource-Setup-List,

id-PDU-Session-Resource-Failed-List,

id-PDU-Session-Resource-Modified-List,

id-PDU-Session-Resource-Failed-To-Modify-List,

id-PDU-Session-Resource-Confirm-Modified-List,

id-PDU-Session-Resource-Setup-Mod-List,

id-PDU-Session-Resource-Failed-Mod-List,

id-PDU-Session-Resource-To-Setup-Mod-List,

id-PDU-Session-To-Notify-List,

id-TransactionID,

id-Serving-PLMN,

id-UE-Inactivity-Timer,

id-System-GNB-CU-UP-CounterCheckRequest,

id-DRBs-Subject-To-Counter-Check-List-EUTRAN,

id-DRBs-Subject-To-Counter-Check-List-NG-RAN,

id-PPI,

id-gNB-CU-UP-Capacity,

id-GNB-CU-UP-OverloadInformation,

id-UEDLMaximumIntegrityProtectedDataRate,

id-DataDiscardRequired,

id-PDU-Session-Resource-Data-Usage-List,

id-RANUEID,

id-GNB-DU-ID,

id-offeredGBRQoSFlowInfo,

maxnoofErrors,

maxnoofSPLMNs,

maxnoofDRBs,

maxnoofTNLAssociations,

maxnoofIndividualE1ConnectionsToReset

FROM E1AP-Constants;

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

--

-- RESET

--

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

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

--

-- Reset

--

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

Reset ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {ResetIEs} },

...

}

ResetIEs E1AP-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 {

e1-Interface ResetAll,

partOfE1-Interface UE-associatedLogicalE1-ConnectionListRes,

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

}

ResetType-ExtIEs E1AP-PROTOCOL-IES ::= {

...

}

ResetAll ::= ENUMERATED {

reset-all,

...

}

UE-associatedLogicalE1-ConnectionListRes ::= SEQUENCE (SIZE(1.. maxnoofIndividualE1ConnectionsToReset)) OF ProtocolIE-SingleContainer { { UE-associatedLogicalE1-ConnectionItemRes } }

UE-associatedLogicalE1-ConnectionItemRes E1AP-PROTOCOL-IES ::= {

{ ID id-UE-associatedLogicalE1-ConnectionItem CRITICALITY reject TYPE UE-associatedLogicalE1-ConnectionItem PRESENCE mandatory},

...

}

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

--

-- Reset Acknowledge

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

ResetAcknowledge ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {ResetAcknowledgeIEs} },

...

}

ResetAcknowledgeIEs E1AP-PROTOCOL-IES ::= {

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

{ ID id-UE-associatedLogicalE1-ConnectionListResAck CRITICALITY ignore TYPE UE-associatedLogicalE1-ConnectionListResAck PRESENCE optional }|

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

...

}

UE-associatedLogicalE1-ConnectionListResAck ::= SEQUENCE (SIZE(1.. maxnoofIndividualE1ConnectionsToReset)) OF ProtocolIE-SingleContainer { { UE-associatedLogicalE1-ConnectionItemResAck } }

UE-associatedLogicalE1-ConnectionItemResAck E1AP-PROTOCOL-IES ::= {

{ ID id-UE-associatedLogicalE1-ConnectionItem CRITICALITY ignore TYPE UE-associatedLogicalE1-ConnectionItem PRESENCE mandatory },

...

}

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

--

-- ERROR INDICATION

--

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

ErrorIndication ::= SEQUENCE {

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

...

}

ErrorIndication-IEs E1AP-PROTOCOL-IES ::= {

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

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY ignore TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE optional}|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY ignore TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE optional}|

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

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

...

}

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

--

-- GNB-CU-UP E1 SETUP

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

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

--

-- GNB-CU-UP E1 Setup Request

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

GNB-CU-UP-E1SetupRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-UP-E1SetupRequestIEs} },

...

}

GNB-CU-UP-E1SetupRequestIEs E1AP-PROTOCOL-IES ::= {

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

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

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

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

{ ID id-SupportedPLMNs CRITICALITY reject TYPE SupportedPLMNs-List PRESENCE mandatory }|

{ ID id-gNB-CU-UP-Capacity CRITICALITY ignore TYPE GNB-CU-UP-Capacity PRESENCE optional },

...

}

SupportedPLMNs-List ::= SEQUENCE (SIZE (1..maxnoofSPLMNs)) OF SupportedPLMNs-Item

SupportedPLMNs-Item ::= SEQUENCE {

pLMN-Identity PLMN-Identity,

slice-Support-List Slice-Support-List OPTIONAL,

nR-CGI-Support-List NR-CGI-Support-List OPTIONAL,

qoS-Parameters-Support-List QoS-Parameters-Support-List OPTIONAL,

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

...

}

SupportedPLMNs-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

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

--

-- GNB-CU-UP E1 Setup Response

--

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

GNB-CU-UP-E1SetupResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-UP-E1SetupResponseIEs} },

...

}

GNB-CU-UP-E1SetupResponseIEs

E1AP-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- GNB-CU-UP E1 Setup Failure

--

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

GNB-CU-UP-E1SetupFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-UP-E1SetupFailureIEs} },

...

}

GNB-CU-UP-E1SetupFailureIEs E1AP-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-CP E1 SETUP

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

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

--

-- GNB-CU-CP E1 Setup Request

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

GNB-CU-CP-E1SetupRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-CP-E1SetupRequestIEs} },

...

}

GNB-CU-CP-E1SetupRequestIEs E1AP-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- GNB-CU-CP E1 Setup Response

--

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

GNB-CU-CP-E1SetupResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-CP-E1SetupResponseIEs} },

...

}

GNB-CU-CP-E1SetupResponseIEs

E1AP-PROTOCOL-IES ::= {

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

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

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

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

{ ID id-SupportedPLMNs CRITICALITY reject TYPE SupportedPLMNs-List PRESENCE mandatory }|

{ ID id-gNB-CU-UP-Capacity CRITICALITY ignore TYPE GNB-CU-UP-Capacity PRESENCE optional },

...

}

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

--

-- GNB-CU-CP E1 Setup Failure

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

GNB-CU-CP-E1SetupFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-CP-E1SetupFailureIEs} },

...

}

GNB-CU-CP-E1SetupFailureIEs E1AP-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-UP CONFIGURATION UPDATE

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

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

--

-- GNB-CU-UP Configuration Update

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

GNB-CU-UP-ConfigurationUpdate ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-UP-ConfigurationUpdateIEs} },

...

}

GNB-CU-UP-ConfigurationUpdateIEs E1AP-PROTOCOL-IES ::= {

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

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

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

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

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

{ ID id-GNB-CU-UP-TNLA-To-Remove-List CRITICALITY reject TYPE GNB-CU-UP-TNLA-To-Remove-List PRESENCE optional },

...

}

GNB-CU-UP-TNLA-To-Remove-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF GNB-CU-UP-TNLA-To-Remove-Item

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

--

-- GNB-CU-UP Configuration Update Acknowledge

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

GNB-CU-UP-ConfigurationUpdateAcknowledge ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-UP-ConfigurationUpdateAcknowledgeIEs} },

...

}

GNB-CU-UP-ConfigurationUpdateAcknowledgeIEs

E1AP-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- GNB-CU-UP Configuration Update Failure

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

GNB-CU-UP-ConfigurationUpdateFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-UP-ConfigurationUpdateFailureIEs} },

...

}

GNB-CU-UP-ConfigurationUpdateFailureIEs E1AP-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-CP CONFIGURATION UPDATE

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

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

--

-- GNB-CU-CP Configuration Update

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

GNB-CU-CP-ConfigurationUpdate ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-CP-ConfigurationUpdateIEs} },

...

}

GNB-CU-CP-ConfigurationUpdateIEs E1AP-PROTOCOL-IES ::= {

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

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

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

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

{ ID id-GNB-CU-CP-TNLA-To-Update-List CRITICALITY ignore TYPE GNB-CU-CP-TNLA-To-Update-List PRESENCE optional },

...

}

GNB-CU-CP-TNLA-To-Add-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF GNB-CU-CP-TNLA-To-Add-Item

GNB-CU-CP-TNLA-To-Remove-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF GNB-CU-CP-TNLA-To-Remove-Item

GNB-CU-CP-TNLA-To-Update-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF GNB-CU-CP-TNLA-To-Update-Item

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

--

-- GNB-CU-CP Configuration Update Acknowledge

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

GNB-CU-CP-ConfigurationUpdateAcknowledge ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-CP-ConfigurationUpdateAcknowledgeIEs} },

...

}

GNB-CU-CP-ConfigurationUpdateAcknowledgeIEs

E1AP-PROTOCOL-IES ::= {

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

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

{ ID id-GNB-CU-CP-TNLA-Setup-List CRITICALITY ignore TYPE GNB-CU-CP-TNLA-Setup-List PRESENCE optional }|

{ ID id-GNB-CU-CP-TNLA-Failed-To-Setup-List CRITICALITY ignore TYPE GNB-CU-CP-TNLA-Failed-To-Setup-List PRESENCE optional },

...

}

GNB-CU-CP-TNLA-Setup-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF GNB-CU-CP-TNLA-Setup-Item

GNB-CU-CP-TNLA-Failed-To-Setup-List ::= SEQUENCE (SIZE(1.. maxnoofTNLAssociations)) OF GNB-CU-CP-TNLA-Failed-To-Setup-Item

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

--

-- GNB-CU-CP Configuration Update Failure

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

GNB-CU-CP-ConfigurationUpdateFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {GNB-CU-CP-ConfigurationUpdateFailureIEs} },

...

}

GNB-CU-CP-ConfigurationUpdateFailureIEs E1AP-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 },

...

}

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

--

-- E1 RELEASE

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

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

--

-- E1 Release Request

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

E1ReleaseRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {E1ReleaseRequestIEs} },

...

}

E1ReleaseRequestIEs E1AP-PROTOCOL-IES ::= {

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

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

...

}

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

--

-- E1 Release Response

--

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

E1ReleaseResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container { {E1ReleaseResponseIEs} },

...

}

E1ReleaseResponseIEs E1AP-PROTOCOL-IES ::= {

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

...

}

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

--

-- BEARER CONTEXT SETUP

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

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

--

-- Bearer Context Setup Request

--

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

BearerContextSetupRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextSetupRequestIEs} },

...

}

BearerContextSetupRequestIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

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

{ ID id-UEDLAggregateMaximumBitRate CRITICALITY reject TYPE BitRate PRESENCE mandatory }|

{ ID id-UEDLMaximumIntegrityProtectedDataRate CRITICALITY reject TYPE BitRate PRESENCE optional }|

{ ID id-Serving-PLMN CRITICALITY ignore TYPE PLMN-Identity PRESENCE mandatory }|

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

{ ID id-UE-Inactivity-Timer CRITICALITY reject TYPE Inactivity-Timer PRESENCE optional }|

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

{ ID id-System-BearerContextSetupRequest CRITICALITY reject TYPE System-BearerContextSetupRequest PRESENCE mandatory }|

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

{ ID id-GNB-DU-ID CRITICALITY ignore TYPE GNB-DU-ID PRESENCE optional },

...

}

System-BearerContextSetupRequest ::= CHOICE {

e-UTRAN-BearerContextSetupRequest ProtocolIE-Container {{EUTRAN-BearerContextSetupRequest}},

nG-RAN-BearerContextSetupRequest ProtocolIE-Container {{NG-RAN-BearerContextSetupRequest}},

choice-extension ProtocolIE-SingleContainer {{System-BearerContextSetupRequest-ExtIEs}}

}

System-BearerContextSetupRequest-ExtIEs E1AP-PROTOCOL-IES::= {

...

}

EUTRAN-BearerContextSetupRequest E1AP-PROTOCOL-IES ::= {

{ ID id-DRB-To-Setup-List-EUTRAN CRITICALITY reject TYPE DRB-To-Setup-List-EUTRAN PRESENCE mandatory },

...

}

NG-RAN-BearerContextSetupRequest E1AP-PROTOCOL-IES ::= {

{ ID id-PDU-Session-Resource-To-Setup-List CRITICALITY reject TYPE PDU-Session-Resource-To-Setup-List PRESENCE mandatory },

...

}

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

--

-- Bearer Context Setup Response

--

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

BearerContextSetupResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextSetupResponseIEs} },

...

}

BearerContextSetupResponseIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-System-BearerContextSetupResponse CRITICALITY ignore TYPE System-BearerContextSetupResponse PRESENCE mandatory },

...

}

System-BearerContextSetupResponse::= CHOICE {

e-UTRAN-BearerContextSetupResponse ProtocolIE-Container {{EUTRAN-BearerContextSetupResponse}},

nG-RAN-BearerContextSetupResponse ProtocolIE-Container {{NG-RAN-BearerContextSetupResponse}},

choice-extension ProtocolIE-SingleContainer {{System-BearerContextSetupResponse-ExtIEs}}

}

System-BearerContextSetupResponse-ExtIEs E1AP-PROTOCOL-IES ::= {

...

}

EUTRAN-BearerContextSetupResponse E1AP-PROTOCOL-IES ::= {

{ ID id-DRB-Setup-List-EUTRAN CRITICALITY ignore TYPE DRB-Setup-List-EUTRAN PRESENCE mandatory }|

{ ID id-DRB-Failed-List-EUTRAN CRITICALITY ignore TYPE DRB-Failed-List-EUTRAN PRESENCE optional },

...

}

NG-RAN-BearerContextSetupResponse E1AP-PROTOCOL-IES ::= {

{ ID id-PDU-Session-Resource-Setup-List CRITICALITY ignore TYPE PDU-Session-Resource-Setup-List PRESENCE mandatory }|

{ ID id-PDU-Session-Resource-Failed-List CRITICALITY ignore TYPE PDU-Session-Resource-Failed-List PRESENCE optional },

...

}

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

--

-- Bearer Context Setup Failure

--

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

BearerContextSetupFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextSetupFailureIEs} },

...

}

BearerContextSetupFailureIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY ignore TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE optional }|

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

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

...

}

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

--

-- BEARER CONTEXT MODIFICATION

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

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

--

-- Bearer Context Modification Request

--

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

BearerContextModificationRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextModificationRequestIEs} },

...

}

BearerContextModificationRequestIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

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

{ ID id-UEDLAggregateMaximumBitRate CRITICALITY reject TYPE BitRate PRESENCE optional }|

{ ID id-UEDLMaximumIntegrityProtectedDataRate CRITICALITY reject TYPE BitRate PRESENCE optional }|

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

{ ID id-New-UL-TNL-Information-Required CRITICALITY reject TYPE New-UL-TNL-Information-Required PRESENCE optional }|

{ ID id-UE-Inactivity-Timer CRITICALITY reject TYPE Inactivity-Timer PRESENCE optional }|

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

{ ID id-System-BearerContextModificationRequest CRITICALITY reject TYPE System-BearerContextModificationRequest PRESENCE optional }|

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

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

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

...

}

System-BearerContextModificationRequest ::= CHOICE {

e-UTRAN-BearerContextModificationRequest ProtocolIE-Container {{EUTRAN-BearerContextModificationRequest}},

nG-RAN-BearerContextModificationRequest ProtocolIE-Container {{NG-RAN-BearerContextModificationRequest}},

choice-extension ProtocolIE-SingleContainer {{System-BearerContextModificationRequest-ExtIEs}}

}

System-BearerContextModificationRequest-ExtIEs E1AP-PROTOCOL-IES ::= {

...

}

EUTRAN-BearerContextModificationRequest E1AP-PROTOCOL-IES ::= {

{ ID id-DRB-To-Setup-Mod-List-EUTRAN CRITICALITY reject TYPE DRB-To-Setup-Mod-List-EUTRAN PRESENCE optional }|

{ ID id-DRB-To-Modify-List-EUTRAN CRITICALITY reject TYPE DRB-To-Modify-List-EUTRAN PRESENCE optional }|

{ ID id-DRB-To-Remove-List-EUTRAN CRITICALITY reject TYPE DRB-To-Remove-List-EUTRAN PRESENCE optional },

...

}

NG-RAN-BearerContextModificationRequest E1AP-PROTOCOL-IES ::= {

{ ID id-PDU-Session-Resource-To-Setup-Mod-List CRITICALITY reject TYPE PDU-Session-Resource-To-Setup-Mod-List PRESENCE optional }|

{ ID id-PDU-Session-Resource-To-Modify-List CRITICALITY reject TYPE PDU-Session-Resource-To-Modify-List PRESENCE optional }|

{ ID id-PDU-Session-Resource-To-Remove-List CRITICALITY reject TYPE PDU-Session-Resource-To-Remove-List PRESENCE optional },

...

}

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

--

-- Bearer Context Modification Response

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

BearerContextModificationResponse ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextModificationResponseIEs} },

...

}

BearerContextModificationResponseIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-System-BearerContextModificationResponse CRITICALITY ignore TYPE System-BearerContextModificationResponse PRESENCE optional },

...

}

System-BearerContextModificationResponse ::= CHOICE {

e-UTRAN-BearerContextModificationResponse ProtocolIE-Container {{EUTRAN-BearerContextModificationResponse}},

nG-RAN-BearerContextModificationResponse ProtocolIE-Container {{NG-RAN-BearerContextModificationResponse}},

choice-extension ProtocolIE-SingleContainer {{System-BearerContextModificationResponse-ExtIEs}}

}

System-BearerContextModificationResponse-ExtIEs E1AP-PROTOCOL-IES ::= {

...

}

EUTRAN-BearerContextModificationResponse E1AP-PROTOCOL-IES ::= {

{ ID id-DRB-Setup-Mod-List-EUTRAN CRITICALITY ignore TYPE DRB-Setup-Mod-List-EUTRAN PRESENCE optional }|

{ ID id-DRB-Failed-Mod-List-EUTRAN CRITICALITY ignore TYPE DRB-Failed-Mod-List-EUTRAN PRESENCE optional }|

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

{ ID id-DRB-Failed-To-Modify-List-EUTRAN CRITICALITY ignore TYPE DRB-Failed-To-Modify-List-EUTRAN PRESENCE optional },

...

}

NG-RAN-BearerContextModificationResponse E1AP-PROTOCOL-IES ::= {

{ ID id-PDU-Session-Resource-Setup-Mod-List CRITICALITY reject TYPE PDU-Session-Resource-Setup-Mod-List PRESENCE optional }|

{ ID id-PDU-Session-Resource-Failed-Mod-List CRITICALITY reject TYPE PDU-Session-Resource-Failed-Mod-List PRESENCE optional }|

{ ID id-PDU-Session-Resource-Modified-List CRITICALITY reject TYPE PDU-Session-Resource-Modified-List PRESENCE optional }|

{ ID id-PDU-Session-Resource-Failed-To-Modify-List CRITICALITY reject TYPE PDU-Session-Resource-Failed-To-Modify-List PRESENCE optional },

...

}

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

--

-- Bearer Context Modification Failure

--

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

BearerContextModificationFailure ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextModificationFailureIEs} },

...

}

BearerContextModificationFailureIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

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

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

...

}

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

--

-- BEARER CONTEXT MODIFICATION REQUIRED

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

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

--

-- Bearer Context Modification Required

--

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

BearerContextModificationRequired ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextModificationRequiredIEs} },

...

}

BearerContextModificationRequiredIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-System-BearerContextModificationRequired CRITICALITY reject TYPE System-BearerContextModificationRequired PRESENCE mandatory },

...

}

System-BearerContextModificationRequired ::= CHOICE {

e-UTRAN-BearerContextModificationRequired ProtocolIE-Container {{EUTRAN-BearerContextModificationRequired}},

nG-RAN-BearerContextModificationRequired ProtocolIE-Container {{NG-RAN-BearerContextModificationRequired}},

choice-extension ProtocolIE-SingleContainer {{System-BearerContextModificationRequired-ExtIEs}}

}

System-BearerContextModificationRequired-ExtIEs E1AP-PROTOCOL-IES ::= {

...

}

EUTRAN-BearerContextModificationRequired E1AP-PROTOCOL-IES ::= {

{ ID id-DRB-Required-To-Modify-List-EUTRAN CRITICALITY reject TYPE DRB-Required-To-Modify-List-EUTRAN PRESENCE optional }|

{ ID id-DRB-Required-To-Remove-List-EUTRAN CRITICALITY reject TYPE DRB-Required-To-Remove-List-EUTRAN PRESENCE optional },

...

}

NG-RAN-BearerContextModificationRequired E1AP-PROTOCOL-IES ::= {

{ ID id-PDU-Session-Resource-Required-To-Modify-List CRITICALITY reject TYPE PDU-Session-Resource-Required-To-Modify-List PRESENCE optional }|

{ ID id-PDU-Session-Resource-To-Remove-List CRITICALITY reject TYPE PDU-Session-Resource-To-Remove-List PRESENCE optional },

...

}

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

--

-- Bearer Context Modification Confirm

--

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

BearerContextModificationConfirm ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextModificationConfirmIEs} },

...

}

BearerContextModificationConfirmIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-System-BearerContextModificationConfirm CRITICALITY ignore TYPE System-BearerContextModificationConfirm PRESENCE optional },

...

}

System-BearerContextModificationConfirm ::= CHOICE {

e-UTRAN-BearerContextModificationConfirm ProtocolIE-Container {{EUTRAN-BearerContextModificationConfirm}},

nG-RAN-BearerContextModificationConfirm ProtocolIE-Container {{NG-RAN-BearerContextModificationConfirm}},

choice-extension ProtocolIE-SingleContainer {{System-BearerContextModificationConfirm-ExtIEs}}

}

System-BearerContextModificationConfirm-ExtIEs E1AP-PROTOCOL-IES ::= {

...

}

EUTRAN-BearerContextModificationConfirm E1AP-PROTOCOL-IES ::= {

{ ID id-DRB-Confirm-Modified-List-EUTRAN CRITICALITY ignore TYPE DRB-Confirm-Modified-List-EUTRAN PRESENCE optional },

...

}

NG-RAN-BearerContextModificationConfirm E1AP-PROTOCOL-IES ::= {

{ ID id-PDU-Session-Resource-Confirm-Modified-List CRITICALITY ignore TYPE PDU-Session-Resource-Confirm-Modified-List PRESENCE optional },

...

}

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

--

-- BEARER CONTEXT RELEASE

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

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

--

-- Bearer Context Release Command

--

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

BearerContextReleaseCommand ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextReleaseCommandIEs} },

...

}

BearerContextReleaseCommandIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

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

...

}

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

--

-- Bearer Context Release Complete

--

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

BearerContextReleaseComplete ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextReleaseCompleteIEs} },

...

}

BearerContextReleaseCompleteIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

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

...

}

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

--

-- BEARER CONTEXT RELEASE REQUEST

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

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

--

-- Bearer Context Release Request

--

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

BearerContextReleaseRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextReleaseRequestIEs} },

...

}

BearerContextReleaseRequestIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-DRB-Status-List CRITICALITY ignore TYPE DRB-Status-List PRESENCE optional }|

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

...

}

DRB-Status-List ::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF DRB-Status-Item

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

--

-- BEARER CONTEXT INACTIVITY NOTIFICATION

--

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

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

--

-- Bearer Context Inactivity Notification

--

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

BearerContextInactivityNotification ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextInactivityNotificationIEs } },

...

}

BearerContextInactivityNotificationIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

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

...

}

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

--

-- DL DATA NOTIFICATION

--

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

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

--

-- DL Data Notification

--

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

DLDataNotification ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { DLDataNotificationIEs } },

...

}

DLDataNotificationIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

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

...

}

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

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

--

-- UL Data Notification

--

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

ULDataNotification ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { ULDataNotificationIEs } },

...

}

ULDataNotificationIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-PDU-Session-To-Notify-List CRITICALITY reject TYPE PDU-Session-To-Notify-List PRESENCE mandatory },

...

}

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

--

-- DATA USAGE REPORT

--

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

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

--

-- Data Usage Report

--

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

DataUsageReport ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { DataUsageReportIEs } },

...

}

DataUsageReportIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-Data-Usage-Report-List CRITICALITY ignore TYPE Data-Usage-Report-List PRESENCE mandatory },

...

}

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

--

-- GNB-CU-UP COUNTER CHECK

--

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

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

--

-- gNB-CU-UP Counter Check Request

--

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

GNB-CU-UP-CounterCheckRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { GNB-CU-UP-CounterCheckRequestIEs } },

...

}

GNB-CU-UP-CounterCheckRequestIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-System-GNB-CU-UP-CounterCheckRequest CRITICALITY reject TYPE System-GNB-CU-UP-CounterCheckRequest PRESENCE mandatory },

...

}

System-GNB-CU-UP-CounterCheckRequest ::= CHOICE {

e-UTRAN-GNB-CU-UP-CounterCheckRequest ProtocolIE-Container {{EUTRAN-GNB-CU-UP-CounterCheckRequest}},

nG-RAN-GNB-CU-UP-CounterCheckRequest ProtocolIE-Container {{NG-RAN-GNB-CU-UP-CounterCheckRequest}},

choice-extension ProtocolIE-SingleContainer {{System-GNB-CU-UP-CounterCheckRequest-ExtIEs}}

}

System-GNB-CU-UP-CounterCheckRequest-ExtIEs E1AP-PROTOCOL-IES::= {

...

}

EUTRAN-GNB-CU-UP-CounterCheckRequest E1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-Subject-To-Counter-Check-List-EUTRAN CRITICALITY ignore TYPE DRBs-Subject-To-Counter-Check-List-EUTRAN PRESENCE mandatory },

...

}

NG-RAN-GNB-CU-UP-CounterCheckRequest E1AP-PROTOCOL-IES ::= {

{ ID id-DRBs-Subject-To-Counter-Check-List-NG-RAN CRITICALITY ignore TYPE DRBs-Subject-To-Counter-Check-List-NG-RAN PRESENCE mandatory },

...

}

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

--

-- gNB-CU-UP STATUS INDICATION ELEMENTARY PROCEDURE

--

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

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

--

-- gNB-CU-UP Status Indication

--

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

GNB-CU-UP-StatusIndication ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { GNB-CU-UP-StatusIndicationIEs} },

...

}

GNB-CU-UP-StatusIndicationIEs E1AP-PROTOCOL-IES ::= {

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

{ ID id-GNB-CU-UP-OverloadInformation CRITICALITY reject TYPE GNB-CU-UP-OverloadInformation PRESENCE mandatory },

...

}

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

--

-- MR-DC DATA USAGE REPORT

--

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

MRDC-DataUsageReport ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { MRDC-DataUsageReportIEs } },

...

}

MRDC-DataUsageReportIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory}|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory}|

{ ID id-PDU-Session-Resource-Data-Usage-List CRITICALITY ignore TYPE PDU-Session-Resource-Data-Usage-List PRESENCE mandatory},

...

}

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

--

-- PRIVATE MESSAGE

--

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

PrivateMessage ::= SEQUENCE {

privateIEs PrivateIE-Container {{PrivateMessage-IEs}},

...

}

PrivateMessage-IEs E1AP-PRIVATE-IES ::= {

...

}

END

-- ASN1STOP

### 9.4.5 Information Element Definitions

-- ASN1START

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

--

-- Information Element Definitions

--

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

E1AP-IEs {

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

ngran-access (22) modules (3) e1ap (5) version1 (1) e1ap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

id-CommonNetworkInstance,

id-SNSSAI,

id-OldQoSFlowMap-ULendmarkerexpected,

id-DRB-QoS,

id-endpoint-IP-Address-and-Port,

id-NetworkInstance,

id-QoSFlowMappingIndication,

id-TNLAssociationTransportLayerAddressgNBCUUP,

id-Cause,

id-PDCP-StatusReportIndication,

maxnoofErrors,

maxnoofSliceItems,

maxnoofEUTRANQOSParameters,

maxnoofNGRANQOSParameters,

maxnoofDRBs,

maxnoofPDUSessionResource,

maxnoofQoSFlows,

maxnoofUPParameters,

maxnoofCellGroups,

maxnooftimeperiods,

maxnoofNRCGI

FROM E1AP-Constants

Criticality,

ProcedureCode,

ProtocolIE-ID,

TriggeringMessage

FROM E1AP-CommonDataTypes

ProtocolExtensionContainer{},

ProtocolIE-SingleContainer{},

E1AP-PROTOCOL-EXTENSION,

E1AP-PROTOCOL-IES

FROM E1AP-Containers;

-- A

ActivityInformation ::= CHOICE {

dRB-Activity-List DRB-Activity-List,

pDU-Session-Resource-Activity-List PDU-Session-Resource-Activity-List,

uE-Activity UE-Activity,

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

}

ActivityInformation-ExtIEs E1AP-PROTOCOL-IES ::= {

...

}

ActivityNotificationLevel ::= ENUMERATED {

drb,

pdu-session,

ue,

...

}

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

-- B

BearerContextStatusChange ::= ENUMERATED {

suspend,

resume,

...

}

BitRate ::= INTEGER (0..4000000000000,...)

-- C

Cause ::= CHOICE {

radioNetwork CauseRadioNetwork,

transport CauseTransport,

protocol CauseProtocol,

misc CauseMisc,

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

}

Cause-ExtIEs E1AP-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,

unknown-or-already-allocated-gnb-cu-cp-ue-e1ap-id,

unknown-or-already-allocated-gnb-cu-up-ue-e1ap-id,

unknown-or-inconsistent-pair-of-ue-e1ap-id,

interaction-with-other-procedure,

pPDCP-Count-wrap-around,

not-supported-QCI-value,

not-supported-5QI-value,

encryption-algorithms-not-supported,

integrity-protection-algorithms-not-supported,

uP-integrity-protection-not-possible,

uP-confidentiality-protection-not-possible,

multiple-PDU-Session-ID-Instances,

unknown-PDU-Session-ID,

multiple-QoS-Flow-ID-Instances,

unknown-QoS-Flow-ID,

multiple-DRB-ID-Instances,

unknown-DRB-ID,

invalid-QoS-combination,

procedure-cancelled,

normal-release,

no-radio-resources-available,

action-desirable-for-radio-reasons,

resources-not-available-for-the-slice,

pDCP-configuration-not-supported,

...,

ue-dl-max-IP-data-rate-reason,

uP-integrity-protection-failure,

release-due-to-pre-emption

}

CauseTransport ::= ENUMERATED {

unspecified,

transport-resource-unavailable,

...

}

Cell-Group-Information ::= SEQUENCE (SIZE(1.. maxnoofCellGroups)) OF Cell-Group-Information-Item

Cell-Group-Information-Item ::= SEQUENCE {

cell-Group-ID Cell-Group-ID,

uL-Configuration UL-Configuration OPTIONAL,

dL-TX-Stop DL-TX-Stop OPTIONAL,

rAT-Type RAT-Type OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Cell-Group-Information-Item-ExtIEs } } OPTIONAL,

...

}

Cell-Group-Information-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

Cell-Group-ID ::= INTEGER (0..3, ...)

CipheringAlgorithm ::= ENUMERATED {

nEA0,

c-128-NEA1,

c-128-NEA2,

c-128-NEA3,

...

}

CNSupport ::= ENUMERATED {

c-epc,

c-5gc,

both,

...

}

CommonNetworkInstance ::= OCTET STRING

ConfidentialityProtectionIndication ::= ENUMERATED {

required,

preferred,

not-needed,

...

}

ConfidentialityProtectionResult ::= ENUMERATED {

performed,

not-performed,

...

}

CP-TNL-Information ::= CHOICE {

endpoint-IP-Address TransportLayerAddress,

choice-extension ProtocolIE-SingleContainer {{CP-TNL-Information-ExtIEs}}

}

CP-TNL-Information-ExtIEs E1AP-PROTOCOL-IES ::= {

{ ID id-endpoint-IP-Address-and-Port CRITICALITY reject TYPE Endpoint-IP-address-and-port PRESENCE mandatory},

...

}

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 E1AP-PROTOCOL-EXTENSION ::= {

...

}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxnoofErrors)) OF

SEQUENCE {

iECriticality Criticality,

iE-ID ProtocolIE-ID,

typeOfError TypeOfError,

iE-Extensions ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} } OPTIONAL,

...

}

CriticalityDiagnostics-IE-List-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

-- D

Data-Forwarding-Information-Request ::= SEQUENCE {

data-Forwarding-Request Data-Forwarding-Request,

qoS-Flows-Forwarded-On-Fwd-Tunnels QoS-Flow-Mapping-List OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Data-Forwarding-Information-Request-ExtIEs } } OPTIONAL,

...

}

Data-Forwarding-Information-Request-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

Data-Forwarding-Information ::= SEQUENCE {

uL-Data-Forwarding UP-TNL-Information OPTIONAL,

dL-Data-Forwarding UP-TNL-Information OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Data-Forwarding-Information-ExtIEs } } OPTIONAL,

...

}

Data-Forwarding-Information-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

Data-Forwarding-Request ::= ENUMERATED {

uL,

dL,

both,

...

}

Data-Usage-per-PDU-Session-Report ::= SEQUENCE {

secondaryRATType ENUMERATED {nR, e-UTRA, ...},

pDU-session-Timed-Report-List SEQUENCE (SIZE(1..maxnooftimeperiods)) OF MRDC-Data-Usage-Report-Item,

iE-Extensions ProtocolExtensionContainer { { Data-Usage-per-PDU-Session-Report-ExtIEs} } OPTIONAL,

...

}

Data-Usage-per-PDU-Session-Report-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

Data-Usage-per-QoS-Flow-List ::= SEQUENCE (SIZE(1..maxnoofQoSFlows)) OF Data-Usage-per-QoS-Flow-Item

Data-Usage-per-QoS-Flow-Item ::= SEQUENCE {

qoS-Flow-Identifier QoS-Flow-Identifier,

secondaryRATType ENUMERATED {nR, e-UTRA, ...},

qoS-Flow-Timed-Report-List SEQUENCE (SIZE(1..maxnooftimeperiods)) OF MRDC-Data-Usage-Report-Item,

iE-Extensions ProtocolExtensionContainer { { Data-Usage-per-QoS-Flow-Item-ExtIEs} } OPTIONAL,

...

}

Data-Usage-per-QoS-Flow-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

Data-Usage-Report-List ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF Data-Usage-Report-Item

Data-Usage-Report-Item ::= SEQUENCE {

dRB-ID DRB-ID,

rAT-Type RAT-Type,

dRB-Usage-Report-List DRB-Usage-Report-List,

iE-Extensions ProtocolExtensionContainer { { Data-Usage-Report-ItemExtIEs } } OPTIONAL,

...

}

Data-Usage-Report-ItemExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DefaultDRB ::= ENUMERATED {

true,

false,

...

}

DiscardTimer ::= ENUMERATED {ms10, ms20, ms30, ms40, ms50, ms60, ms75, ms100, ms150, ms200, ms250, ms300, ms500, ms750, ms1500, infinity}

DL-TX-Stop ::= ENUMERATED {

stop,

resume,

...

}

DRB-Activity ::= ENUMERATED {

active,

not-active,

...

}

DRB-Activity-List ::= SEQUENCE (SIZE(1..maxnoofDRBs)) OF DRB-Activity-Item

DRB-Activity-Item ::= SEQUENCE {

dRB-ID DRB-ID,

dRB-Activity DRB-Activity,

iE-Extensions ProtocolExtensionContainer { { DRB-Activity-ItemExtIEs } } OPTIONAL,

...

}

DRB-Activity-ItemExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Confirm-Modified-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Confirm-Modified-Item-EUTRAN

DRB-Confirm-Modified-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

cell-Group-Information Cell-Group-Information OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-Confirm-Modified-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-Confirm-Modified-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Confirm-Modified-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Confirm-Modified-Item-NG-RAN

DRB-Confirm-Modified-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

cell-Group-Information Cell-Group-Information OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-Confirm-Modified-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-Confirm-Modified-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Failed-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Failed-Item-EUTRAN

DRB-Failed-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { DRB-Failed-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-Failed-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Failed-Mod-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Failed-Mod-Item-EUTRAN

DRB-Failed-Mod-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { DRB-Failed-Mod-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-Failed-Mod-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Failed-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Failed-Item-NG-RAN

DRB-Failed-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { DRB-Failed-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-Failed-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Failed-Mod-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Failed-Mod-Item-NG-RAN

DRB-Failed-Mod-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { DRB-Failed-Mod-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-Failed-Mod-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Failed-To-Modify-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Failed-To-Modify-Item-EUTRAN

DRB-Failed-To-Modify-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { DRB-Failed-To-Modify-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-Failed-To-Modify-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Failed-To-Modify-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Failed-To-Modify-Item-NG-RAN

DRB-Failed-To-Modify-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { DRB-Failed-To-Modify-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-Failed-To-Modify-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-ID ::= INTEGER (1..32, ...)

DRB-Modified-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Modified-Item-EUTRAN

DRB-Modified-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

s1-DL-UP-TNL-Information UP-TNL-Information OPTIONAL,

pDCP-SN-Status-Information PDCP-SN-Status-Information OPTIONAL,

uL-UP-Transport-Parameters UP-Parameters OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-Modified-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-Modified-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Modified-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Modified-Item-NG-RAN

DRB-Modified-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

uL-UP-Transport-Parameters UP-Parameters OPTIONAL,

pDCP-SN-Status-Information PDCP-SN-Status-Information OPTIONAL,

flow-Setup-List QoS-Flow-List OPTIONAL,

flow-Failed-List QoS-Flow-Failed-List OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-Modified-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-Modified-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ID id-OldQoSFlowMap-ULendmarkerexpected CRITICALITY ignore EXTENSION QoS-Flow-List PRESENCE optional},

...

}

DRB-Required-To-Modify-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Required-To-Modify-Item-EUTRAN

DRB-Required-To-Modify-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

s1-DL-UP-TNL-Information UP-TNL-Information OPTIONAL,

gNB-CU-UP-CellGroupRelatedConfiguration GNB-CU-UP-CellGroupRelatedConfiguration OPTIONAL,

cause Cause OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-Required-To-Modify-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-Required-To-Modify-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Required-To-Modify-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Required-To-Modify-Item-NG-RAN

DRB-Required-To-Modify-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

gNB-CU-UP-CellGroupRelatedConfiguration GNB-CU-UP-CellGroupRelatedConfiguration OPTIONAL,

flow-To-Remove QoS-Flow-List OPTIONAL,

cause Cause OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-Required-To-Modify-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-Required-To-Modify-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Setup-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Setup-Item-EUTRAN

DRB-Setup-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

s1-DL-UP-TNL-Information UP-TNL-Information,

data-Forwarding-Information-Response Data-Forwarding-Information OPTIONAL,

uL-UP-Transport-Parameters UP-Parameters,

s1-DL-UP-Unchanged ENUMERATED {true, ...} OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-Setup-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-Setup-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Setup-Mod-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Setup-Mod-Item-EUTRAN

DRB-Setup-Mod-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

s1-DL-UP-TNL-Information UP-TNL-Information,

data-Forwarding-Information-Response Data-Forwarding-Information OPTIONAL,

uL-UP-Transport-Parameters UP-Parameters,

iE-Extensions ProtocolExtensionContainer { { DRB-Setup-Mod-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-Setup-Mod-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Setup-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Setup-Item-NG-RAN

DRB-Setup-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

dRB-data-Forwarding-Information-Response Data-Forwarding-Information OPTIONAL,

uL-UP-Transport-Parameters UP-Parameters,

flow-Setup-List QoS-Flow-List,

flow-Failed-List QoS-Flow-Failed-List OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-Setup-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-Setup-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Setup-Mod-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Setup-Mod-Item-NG-RAN

DRB-Setup-Mod-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

dRB-data-Forwarding-Information-Response Data-Forwarding-Information OPTIONAL,

uL-UP-Transport-Parameters UP-Parameters,

flow-Setup-List QoS-Flow-List,

flow-Failed-List QoS-Flow-Failed-List OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-Setup-Mod-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-Setup-Mod-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Status-Item ::= SEQUENCE {

dRB-ID DRB-ID,

pDCP-DL-Count PDCP-Count OPTIONAL,

pDCP-UL-Count PDCP-Count OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-Status-ItemExtIEs } } OPTIONAL,

...

}

DRB-Status-ItemExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRBs-Subject-To-Counter-Check-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRBs-Subject-To-Counter-Check-Item-EUTRAN

DRBs-Subject-To-Counter-Check-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

pDCP-UL-Count PDCP-Count,

pDCP-DL-Count PDCP-Count,

iE-Extensions ProtocolExtensionContainer { { DRBs-Subject-To-Counter-Check-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRBs-Subject-To-Counter-Check-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRBs-Subject-To-Counter-Check-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRBs-Subject-To-Counter-Check-Item-NG-RAN

DRBs-Subject-To-Counter-Check-Item-NG-RAN ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

dRB-ID DRB-ID,

pDCP-UL-Count PDCP-Count,

pDCP-DL-Count PDCP-Count,

iE-Extensions ProtocolExtensionContainer { { DRBs-Subject-To-Counter-Check-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRBs-Subject-To-Counter-Check-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-To-Modify-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-To-Modify-Item-EUTRAN

DRB-To-Modify-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

pDCP-Configuration PDCP-Configuration OPTIONAL,

eUTRAN-QoS EUTRAN-QoS OPTIONAL,

s1-UL-UP-TNL-Information UP-TNL-Information OPTIONAL,

data-Forwarding-Information Data-Forwarding-Information OPTIONAL,

pDCP-SN-Status-Request PDCP-SN-Status-Request OPTIONAL,

pDCP-SN-Status-Information PDCP-SN-Status-Information OPTIONAL,

dL-UP-Parameters UP-Parameters OPTIONAL,

cell-Group-To-Add Cell-Group-Information OPTIONAL,

cell-Group-To-Modify Cell-Group-Information OPTIONAL,

cell-Group-To-Remove Cell-Group-Information OPTIONAL,

dRB-Inactivity-Timer Inactivity-Timer OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-To-Modify-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-To-Modify-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-To-Modify-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-To-Modify-Item-NG-RAN

DRB-To-Modify-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

sDAP-Configuration SDAP-Configuration OPTIONAL,

pDCP-Configuration PDCP-Configuration OPTIONAL,

dRB-Data-Forwarding-Information Data-Forwarding-Information OPTIONAL,

pDCP-SN-Status-Request PDCP-SN-Status-Request OPTIONAL,

pdcp-SN-Status-Information PDCP-SN-Status-Information OPTIONAL,

dL-UP-Parameters UP-Parameters OPTIONAL,

cell-Group-To-Add Cell-Group-Information OPTIONAL,

cell-Group-To-Modify Cell-Group-Information OPTIONAL,

cell-Group-To-Remove Cell-Group-Information OPTIONAL,

flow-Mapping-Information QoS-Flow-QoS-Parameter-List OPTIONAL,

dRB-Inactivity-Timer Inactivity-Timer OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-To-Modify-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-To-Modify-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ID id-OldQoSFlowMap-ULendmarkerexpected CRITICALITY reject EXTENSION QoS-Flow-List PRESENCE optional}|

{ID id-DRB-QoS CRITICALITY ignore EXTENSION QoSFlowLevelQoSParameters PRESENCE optional},

...

}

DRB-To-Remove-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-To-Remove-Item-EUTRAN

DRB-To-Remove-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

iE-Extensions ProtocolExtensionContainer { { DRB-To-Remove-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-To-Remove-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Required-To-Remove-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Required-To-Remove-Item-EUTRAN

DRB-Required-To-Remove-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { DRB-Required-To-Remove-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-Required-To-Remove-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-To-Remove-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-To-Remove-Item-NG-RAN

DRB-To-Remove-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

iE-Extensions ProtocolExtensionContainer { { DRB-To-Remove-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-To-Remove-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-Required-To-Remove-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Required-To-Remove-Item-NG-RAN

DRB-Required-To-Remove-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { DRB-Required-To-Remove-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-Required-To-Remove-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-To-Setup-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-To-Setup-Item-EUTRAN

DRB-To-Setup-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

pDCP-Configuration PDCP-Configuration,

eUTRAN-QoS EUTRAN-QoS,

s1-UL-UP-TNL-Information UP-TNL-Information,

data-Forwarding-Information-Request Data-Forwarding-Information-Request OPTIONAL,

cell-Group-Information Cell-Group-Information,

dL-UP-Parameters UP-Parameters OPTIONAL,

dRB-Inactivity-Timer Inactivity-Timer OPTIONAL,

existing-Allocated-S1-DL-UP-TNL-Info UP-TNL-Information OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-To-Setup-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-To-Setup-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-To-Setup-Mod-List-EUTRAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-To-Setup-Mod-Item-EUTRAN

DRB-To-Setup-Mod-Item-EUTRAN ::= SEQUENCE {

dRB-ID DRB-ID,

pDCP-Configuration PDCP-Configuration,

eUTRAN-QoS EUTRAN-QoS,

s1-UL-UP-TNL-Information UP-TNL-Information,

data-Forwarding-Information-Request Data-Forwarding-Information-Request OPTIONAL,

cell-Group-Information Cell-Group-Information,

dL-UP-Parameters UP-Parameters OPTIONAL,

dRB-Inactivity-Timer Inactivity-Timer OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-To-Setup-Mod-Item-EUTRAN-ExtIEs } } OPTIONAL,

...

}

DRB-To-Setup-Mod-Item-EUTRAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRB-To-Setup-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-To-Setup-Item-NG-RAN

DRB-To-Setup-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

sDAP-Configuration SDAP-Configuration,

pDCP-Configuration PDCP-Configuration,

cell-Group-Information Cell-Group-Information,

qos-flow-Information-To-Be-Setup QoS-Flow-QoS-Parameter-List,

dRB-Data-Forwarding-Information-Request Data-Forwarding-Information-Request OPTIONAL,

dRB-Inactivity-Timer Inactivity-Timer OPTIONAL,

pDCP-SN-Status-Information PDCP-SN-Status-Information OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-To-Setup-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-To-Setup-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ID id-DRB-QoS CRITICALITY ignore EXTENSION QoSFlowLevelQoSParameters PRESENCE optional},

...

}

DRB-To-Setup-Mod-List-NG-RAN ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-To-Setup-Mod-Item-NG-RAN

DRB-To-Setup-Mod-Item-NG-RAN ::= SEQUENCE {

dRB-ID DRB-ID,

sDAP-Configuration SDAP-Configuration,

pDCP-Configuration PDCP-Configuration,

cell-Group-Information Cell-Group-Information,

flow-Mapping-Information QoS-Flow-QoS-Parameter-List,

dRB-Data-Forwarding-Information-Request Data-Forwarding-Information-Request OPTIONAL,

dRB-Inactivity-Timer Inactivity-Timer OPTIONAL,

pDCP-SN-Status-Information PDCP-SN-Status-Information OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { DRB-To-Setup-Mod-Item-NG-RAN-ExtIEs } } OPTIONAL,

...

}

DRB-To-Setup-Mod-Item-NG-RAN-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ID id-DRB-QoS CRITICALITY ignore EXTENSION QoSFlowLevelQoSParameters PRESENCE optional},

...

}

DRB-Usage-Report-List ::= SEQUENCE (SIZE(1..maxnooftimeperiods)) OF DRB-Usage-Report-Item

DRB-Usage-Report-Item ::= SEQUENCE {

startTimeStamp OCTET STRING (SIZE(4)),

endTimeStamp OCTET STRING (SIZE(4)),

usageCountUL INTEGER (0..18446744073709551615),

usageCountDL INTEGER (0..18446744073709551615),

iE-Extensions ProtocolExtensionContainer { { DRB-Usage-Report-Item-ExtIEs} } OPTIONAL,

...

}

DRB-Usage-Report-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

Duplication-Activation ::= ENUMERATED {

active,

inactive,

...

}

Dynamic5QIDescriptor ::= SEQUENCE {

qoSPriorityLevel QoSPriorityLevel,

packetDelayBudget PacketDelayBudget,

packetErrorRate PacketErrorRate,

fiveQI INTEGER (0..255, ...) OPTIONAL,

delayCritical ENUMERATED {delay-critical, non-delay-critical} OPTIONAL,

averagingWindow AveragingWindow OPTIONAL,

maxDataBurstVolume MaxDataBurstVolume OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Dynamic5QIDescriptor-ExtIEs } } OPTIONAL

}

Dynamic5QIDescriptor-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DataDiscardRequired ::= ENUMERATED {

required,

...

}

-- E

EncryptionKey ::= OCTET STRING

Endpoint-IP-address-and-port::= SEQUENCE {

endpoint-IP-Address TransportLayerAddress,

portNumber PortNumber,

iE-Extensions ProtocolExtensionContainer { { Endpoint-IP-address-and-port-ExtIEs} } OPTIONAL

}

Endpoint-IP-address-and-port-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

EUTRANAllocationAndRetentionPriority ::= SEQUENCE {

priorityLevel PriorityLevel,

pre-emptionCapability Pre-emptionCapability,

pre-emptionVulnerability Pre-emptionVulnerability,

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

...

}

EUTRANAllocationAndRetentionPriority-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

EUTRAN-QoS-Support-List ::= SEQUENCE (SIZE(1.. maxnoofEUTRANQOSParameters)) OF EUTRAN-QoS-Support-Item

EUTRAN-QoS-Support-Item ::= SEQUENCE {

eUTRAN-QoS EUTRAN-QoS,

iE-Extensions ProtocolExtensionContainer { { EUTRAN-QoS-Support-Item-ExtIEs } } OPTIONAL

}

EUTRAN-QoS-Support-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

EUTRAN-QoS ::= SEQUENCE {

qCI QCI,

eUTRANallocationAndRetentionPriority EUTRANAllocationAndRetentionPriority,

gbrQosInformation GBR-QosInformation OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { EUTRAN-QoS-ExtIEs } } OPTIONAL,

...

}

EUTRAN-QoS-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

-- F

-- G

GNB-CU-CP-Name ::= PrintableString(SIZE(1..150,...))

GNB-CU-CP-UE-E1AP-ID ::= INTEGER (0..4294967295)

GNB-CU-UP-Capacity ::= INTEGER (0..255)

GNB-CU-UP-CellGroupRelatedConfiguration ::= SEQUENCE (SIZE(1.. maxnoofUPParameters)) OF GNB-CU-UP-CellGroupRelatedConfiguration-Item

GNB-CU-UP-CellGroupRelatedConfiguration-Item ::= SEQUENCE {

cell-Group-ID Cell-Group-ID,

uP-TNL-Information UP-TNL-Information,

uL-Configuration UL-Configuration OPTIONAL,

iE-Extensions ProtocolExtensionContainer { {GNB-CU-UP-CellGroupRelatedConfiguration-Item-ExtIEs } } OPTIONAL

}

GNB-CU-UP-CellGroupRelatedConfiguration-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

GNB-CU-UP-ID ::= INTEGER (0..68719476735)

GNB-CU-UP-Name ::= PrintableString(SIZE(1..150,...))

GNB-CU-UP-UE-E1AP-ID ::= INTEGER (0..4294967295)

GNB-CU-CP-TNLA-Setup-Item::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TNL-Information,

iE-Extensions ProtocolExtensionContainer { { GNB-CU-CP-TNLA-Setup-Item-ExtIEs} } OPTIONAL,

...

}

GNB-CU-CP-TNLA-Setup-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

GNB-CU-CP-TNLA-Failed-To-Setup-Item ::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TNL-Information,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { GNB-CU-CP-TNLA-Failed-To-Setup-Item-ExtIEs} } OPTIONAL

}

GNB-CU-CP-TNLA-Failed-To-Setup-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

GNB-CU-CP-TNLA-To-Add-Item ::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TNL-Information,

tNLAssociationUsage TNLAssociationUsage,

iE-Extensions ProtocolExtensionContainer { { GNB-CU-CP-TNLA-To-Add-Item-ExtIEs} } OPTIONAL

}

GNB-CU-CP-TNLA-To-Add-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

GNB-CU-CP-TNLA-To-Remove-Item::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TNL-Information,

iE-Extensions ProtocolExtensionContainer { { GNB-CU-CP-TNLA-To-Remove-Item-ExtIEs} } OPTIONAL

}

GNB-CU-CP-TNLA-To-Remove-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ID id-TNLAssociationTransportLayerAddressgNBCUUP CRITICALITY reject EXTENSION CP-TNL-Information PRESENCE optional},

...

}

GNB-CU-CP-TNLA-To-Update-Item::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TNL-Information,

tNLAssociationUsage TNLAssociationUsage OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { GNB-CU-CP-TNLA-To-Update-Item-ExtIEs} } OPTIONAL

}

GNB-CU-CP-TNLA-To-Update-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

GNB-CU-UP-TNLA-To-Remove-Item::= SEQUENCE {

tNLAssociationTransportLayerAddress CP-TNL-Information,

tNLAssociationTransportLayerAddressgNBCUCP CP-TNL-Information OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { GNB-CU-UP-TNLA-To-Remove-Item-ExtIEs} } OPTIONAL

}

GNB-CU-UP-TNLA-To-Remove-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

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 E1AP-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 E1AP-PROTOCOL-EXTENSION ::= {

...

}

GTP-TEID ::= OCTET STRING (SIZE (4))

GTPTunnel ::= SEQUENCE {

transportLayerAddress TransportLayerAddress,

gTP-TEID GTP-TEID,

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

...

}

GTPTunnel-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

GNB-CU-UP-OverloadInformation ::= ENUMERATED {overloaded, not-overloaded}

GNB-DU-ID ::= INTEGER (0..68719476735)

-- H

HFN ::= INTEGER (0..4294967295)

-- I

IntegrityProtectionIndication ::= ENUMERATED {

required,

preferred,

not-needed,

...

}

IntegrityProtectionAlgorithm ::= ENUMERATED {

nIA0,

i-128-NIA1,

i-128-NIA2,

i-128-NIA3,

...

}

IntegrityProtectionKey ::= OCTET STRING

IntegrityProtectionResult ::= ENUMERATED {

performed,

not-performed,

...

}

Inactivity-Timer ::= INTEGER (1..7200, ...)

-- J

-- K

-- L

-- M

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

MaximumIPdatarate ::= SEQUENCE {

maxIPrate MaxIPrate,

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

...

}

MaximumIPdatarate-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

MaxIPrate ::= ENUMERATED {

bitrate64kbs,

max-UErate,

...

}

MaxPacketLossRate ::= INTEGER (0..1000, ...)

MRDC-Data-Usage-Report-Item ::= SEQUENCE {

startTimeStamp OCTET STRING (SIZE(4)),

endTimeStamp OCTET STRING (SIZE(4)),

usageCountUL INTEGER (0..18446744073709551615),

usageCountDL INTEGER (0..18446744073709551615),

iE-Extensions ProtocolExtensionContainer { { MRDC-Data-Usage-Report-Item-ExtIEs} } OPTIONAL,

...

}

MRDC-Data-Usage-Report-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

MRDC-Usage-Information ::= SEQUENCE {

data-Usage-per-PDU-Session-Report Data-Usage-per-PDU-Session-Report OPTIONAL,

data-Usage-per-QoS-Flow-List Data-Usage-per-QoS-Flow-List OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { MRDC-Usage-Information-ExtIEs} } OPTIONAL,

...

}

MRDC-Usage-Information-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

-- N

NetworkInstance ::= INTEGER (1..256, ...)

New-UL-TNL-Information-Required::= ENUMERATED {

required,

...

}

NGRANAllocationAndRetentionPriority ::= SEQUENCE {

priorityLevel PriorityLevel,

pre-emptionCapability Pre-emptionCapability,

pre-emptionVulnerability Pre-emptionVulnerability,

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

}

NGRANAllocationAndRetentionPriority-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

NG-RAN-QoS-Support-List ::= SEQUENCE (SIZE(1.. maxnoofNGRANQOSParameters)) OF NG-RAN-QoS-Support-Item

NG-RAN-QoS-Support-Item ::= SEQUENCE {

non-Dynamic5QIDescriptor Non-Dynamic5QIDescriptor,

iE-Extensions ProtocolExtensionContainer { { NG-RAN-QoS-Support-Item-ExtIEs } } OPTIONAL

}

NG-RAN-QoS-Support-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

Non-Dynamic5QIDescriptor ::= SEQUENCE {

fiveQI INTEGER (0..255, ...),

qoSPriorityLevel QoSPriorityLevel OPTIONAL,

averagingWindow AveragingWindow OPTIONAL,

maxDataBurstVolume MaxDataBurstVolume OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { Non-Dynamic5QIDescriptor-ExtIEs } } OPTIONAL

}

Non-Dynamic5QIDescriptor-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

NR-Cell-Identity ::= BIT STRING (SIZE(36))

NR-CGI ::= SEQUENCE {

pLMN-Identity PLMN-Identity,

nR-Cell-Identity NR-Cell-Identity,

iE-Extensions ProtocolExtensionContainer { { NR-CGI-ExtIEs } } OPTIONAL

}

NR-CGI-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

NR-CGI-Support-List ::= SEQUENCE (SIZE(1.. maxnoofNRCGI)) OF NR-CGI-Support-Item

NR-CGI-Support-Item ::= SEQUENCE {

nR-CGI NR-CGI,

iE-Extensions ProtocolExtensionContainer { { NR-CGI-Support-Item-ExtIEs } } OPTIONAL

}

NR-CGI-Support-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

-- O

OutOfOrderDelivery ::= ENUMERATED {

true,

...

}

-- P

PacketDelayBudget ::= INTEGER (0..1023, ...)

PacketErrorRate ::= SEQUENCE {

pER-Scalar PER-Scalar,

pER-Exponent PER-Exponent,

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

...

}

PacketErrorRate-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PER-Scalar ::= INTEGER (0..9, ...)

PER-Exponent ::= INTEGER (0..9, ...)

PDCP-Configuration ::= SEQUENCE {

pDCP-SN-Size-UL PDCP-SN-Size,

pDCP-SN-Size-DL PDCP-SN-Size,

rLC-Mode RLC-Mode,

rOHC-Parameters ROHC-Parameters OPTIONAL,

t-ReorderingTimer T-ReorderingTimer OPTIONAL,

discardTimer DiscardTimer OPTIONAL,

uLDataSplitThreshold ULDataSplitThreshold OPTIONAL,

pDCP-Duplication PDCP-Duplication OPTIONAL,

pDCP-Reestablishment PDCP-Reestablishment OPTIONAL,

pDCP-DataRecovery PDCP-DataRecovery OPTIONAL,

duplication-Activation Duplication-Activation OPTIONAL,

outOfOrderDelivery OutOfOrderDelivery OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { PDCP-Configuration-ExtIEs } } OPTIONAL,

...

}

PDCP-Configuration-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ID id-PDCP-StatusReportIndication CRITICALITY ignore EXTENSION PDCP-StatusReportIndication PRESENCE optional},

...

}

PDCP-Count ::= SEQUENCE {

pDCP-SN PDCP-SN,

hFN HFN,

iE-Extensions ProtocolExtensionContainer { { PDCP-Count-ExtIEs } } OPTIONAL,

...

}

PDCP-Count-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDCP-SN-Status-Request ::= ENUMERATED {

requested,

...

}

PDCP-DataRecovery ::= ENUMERATED {

true,

...

}

PDCP-Duplication ::= ENUMERATED {

true,

...

}

PDCP-Reestablishment ::= ENUMERATED {

true,

...

}

PDU-Session-Resource-Data-Usage-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Data-Usage-Item

PDU-Session-Resource-Data-Usage-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

mRDC-Usage-Information MRDC-Usage-Information,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Data-Usage-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-Data-Usage-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDCP-SN ::= INTEGER (0..262143)

PDCP-SN-Size ::= ENUMERATED {

s-12,

s-18,

...

}

PDCP-SN-Status-Information ::= SEQUENCE {

pdcpStatusTransfer-UL DRBBStatusTransfer,

pdcpStatusTransfer-DL PDCP-Count,

iE-Extension ProtocolExtensionContainer { {DRBsSubjectToStatusTransfer-Item-ExtIEs} } OPTIONAL,

...

}

PDCP-StatusReportIndication ::= ENUMERATED {

downlink,

uplink,

both,

...

}

DRBsSubjectToStatusTransfer-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

DRBBStatusTransfer ::= SEQUENCE {

receiveStatusofPDCPSDU BIT STRING (SIZE(1..131072)) OPTIONAL,

countValue PDCP-Count,

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

...

}

DRBBStatusTransfer-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDU-Session-ID ::= INTEGER (0..255)

PDU-Session-Resource-Activity ::= ENUMERATED {

active,

not-active,

...

}

PDU-Session-Resource-Activity-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Activity-Item

PDU-Session-Resource-Activity-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

pDU-Session-Resource-Activity PDU-Session-Resource-Activity,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Activity-ItemExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-Activity-ItemExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDU-Session-Resource-Confirm-Modified-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Confirm-Modified-Item

PDU-Session-Resource-Confirm-Modified-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

dRB-Confirm-Modified-List-NG-RAN DRB-Confirm-Modified-List-NG-RAN OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Confirm-Modified-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-Confirm-Modified-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDU-Session-Resource-Failed-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Failed-Item

PDU-Session-Resource-Failed-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Failed-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-Failed-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDU-Session-Resource-Failed-Mod-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Failed-Mod-Item

PDU-Session-Resource-Failed-Mod-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Failed-Mod-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-Failed-Mod-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDU-Session-Resource-Failed-To-Modify-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Failed-To-Modify-Item

PDU-Session-Resource-Failed-To-Modify-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Failed-To-Modify-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-Failed-To-Modify-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDU-Session-Resource-Modified-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Modified-Item

PDU-Session-Resource-Modified-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

nG-DL-UP-TNL-Information UP-TNL-Information OPTIONAL,

securityResult SecurityResult OPTIONAL,

pDU-Session-Data-Forwarding-Information-Response Data-Forwarding-Information OPTIONAL,

dRB-Setup-List-NG-RAN DRB-Setup-List-NG-RAN OPTIONAL,

dRB-Failed-List-NG-RAN DRB-Failed-List-NG-RAN OPTIONAL,

dRB-Modified-List-NG-RAN DRB-Modified-List-NG-RAN OPTIONAL,

dRB-Failed-To-Modify-List-NG-RAN DRB-Failed-To-Modify-List-NG-RAN OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Modified-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-Modified-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDU-Session-Resource-Required-To-Modify-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Required-To-Modify-Item

PDU-Session-Resource-Required-To-Modify-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

nG-DL-UP-TNL-Information UP-TNL-Information OPTIONAL,

dRB-Required-To-Modify-List-NG-RAN DRB-Required-To-Modify-List-NG-RAN OPTIONAL,

dRB-Required-To-Remove-List-NG-RAN DRB-Required-To-Remove-List-NG-RAN OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Required-To-Modify-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-Required-To-Modify-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDU-Session-Resource-Setup-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Setup-Item

PDU-Session-Resource-Setup-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

securityResult SecurityResult OPTIONAL,

nG-DL-UP-TNL-Information UP-TNL-Information,

pDU-Session-Data-Forwarding-Information-Response Data-Forwarding-Information OPTIONAL,

nG-DL-UP-Unchanged ENUMERATED {true, ...} OPTIONAL,

dRB-Setup-List-NG-RAN DRB-Setup-List-NG-RAN,

dRB-Failed-List-NG-RAN DRB-Failed-List-NG-RAN OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Setup-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-Setup-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDU-Session-Resource-Setup-Mod-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Setup-Mod-Item

PDU-Session-Resource-Setup-Mod-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

securityResult SecurityResult OPTIONAL,

nG-DL-UP-TNL-Information UP-TNL-Information,

pDU-Session-Data-Forwarding-Information-Response Data-Forwarding-Information OPTIONAL,

dRB-Setup-Mod-List-NG-RAN DRB-Setup-Mod-List-NG-RAN,

dRB-Failed-Mod-List-NG-RAN DRB-Failed-Mod-List-NG-RAN OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Setup-Mod-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-Setup-Mod-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDU-Session-Resource-To-Modify-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-To-Modify-Item

PDU-Session-Resource-To-Modify-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

securityIndication SecurityIndication OPTIONAL,

pDU-Session-Resource-DL-AMBR BitRate OPTIONAL,

nG-UL-UP-TNL-Information UP-TNL-Information OPTIONAL,

pDU-Session-Data-Forwarding-Information-Request Data-Forwarding-Information-Request OPTIONAL,

pDU-Session-Data-Forwarding-Information Data-Forwarding-Information OPTIONAL,

pDU-Session-Inactivity-Timer Inactivity-Timer OPTIONAL,

networkInstance NetworkInstance OPTIONAL,

dRB-To-Setup-List-NG-RAN DRB-To-Setup-List-NG-RAN OPTIONAL,

dRB-To-Modify-List-NG-RAN DRB-To-Modify-List-NG-RAN OPTIONAL,

dRB-To-Remove-List-NG-RAN DRB-To-Remove-List-NG-RAN OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-To-Modify-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-To-Modify-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ID id-SNSSAI CRITICALITY reject EXTENSION SNSSAI PRESENCE optional}|

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

...

}

PDU-Session-Resource-To-Remove-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-To-Remove-Item

PDU-Session-Resource-To-Remove-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-To-Remove-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-To-Remove-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

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

...

}

PDU-Session-Resource-To-Setup-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-To-Setup-Item

PDU-Session-Resource-To-Setup-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

pDU-Session-Type PDU-Session-Type,

sNSSAI SNSSAI,

securityIndication SecurityIndication,

pDU-Session-Resource-DL-AMBR BitRate OPTIONAL,

nG-UL-UP-TNL-Information UP-TNL-Information,

pDU-Session-Data-Forwarding-Information-Request Data-Forwarding-Information-Request OPTIONAL,

pDU-Session-Inactivity-Timer Inactivity-Timer OPTIONAL,

existing-Allocated-NG-DL-UP-TNL-Info UP-TNL-Information OPTIONAL,

networkInstance NetworkInstance OPTIONAL,

dRB-To-Setup-List-NG-RAN DRB-To-Setup-List-NG-RAN,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-To-Setup-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-To-Setup-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

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

...

}

PDU-Session-Resource-To-Setup-Mod-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-To-Setup-Mod-Item

PDU-Session-Resource-To-Setup-Mod-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

pDU-Session-Type PDU-Session-Type,

sNSSAI SNSSAI,

securityIndication SecurityIndication,

pDU-Session-Resource-AMBR BitRate OPTIONAL,

nG-UL-UP-TNL-Information UP-TNL-Information,

pDU-Session-Data-Forwarding-Information-Request Data-Forwarding-Information-Request OPTIONAL,

pDU-Session-Inactivity-Timer Inactivity-Timer OPTIONAL,

dRB-To-Setup-Mod-List-NG-RAN DRB-To-Setup-Mod-List-NG-RAN,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-To-Setup-Mod-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-Resource-To-Setup-Mod-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ID id-NetworkInstance CRITICALITY ignore EXTENSION NetworkInstance PRESENCE optional}|

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

...

}

PDU-Session-To-Notify-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-To-Notify-Item

PDU-Session-To-Notify-Item ::= SEQUENCE {

pDU-Session-ID PDU-Session-ID,

qoS-Flow-List QoS-Flow-List,

iE-Extensions ProtocolExtensionContainer { { PDU-Session-To-Notify-Item-ExtIEs } } OPTIONAL,

...

}

PDU-Session-To-Notify-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

PDU-Session-Type ::= ENUMERATED {

ipv4,

ipv6,

ipv4v6,

ethernet,

unstructured,

...

}

PLMN-Identity ::= OCTET STRING (SIZE(3))

PortNumber ::= BIT STRING (SIZE(16))

PPI ::= INTEGER (0..7, ...)

PriorityLevel ::= INTEGER { spare (0), highest (1), lowest (14), no-priority (15) } (0..15)

Pre-emptionCapability ::= ENUMERATED {

shall-not-trigger-pre-emption,

may-trigger-pre-emption

}

Pre-emptionVulnerability ::= ENUMERATED {

not-pre-emptable,

pre-emptable

}

-- Q

QCI ::= INTEGER (0..255)

QoS-Characteristics ::= CHOICE {

non-Dynamic-5QI Non-Dynamic5QIDescriptor,

dynamic-5QI Dynamic5QIDescriptor,

choice-extension ProtocolIE-SingleContainer {{QoS-Characteristics-ExtIEs}}

}

QoS-Characteristics-ExtIEs E1AP-PROTOCOL-IES ::= {

...

}

QoS-Flow-Identifier ::= INTEGER (0..63)

QoS-Flow-List ::= SEQUENCE (SIZE(1.. maxnoofQoSFlows)) OF QoS-Flow-Item

QoS-Flow-Item ::= SEQUENCE {

qoS-Flow-Identifier QoS-Flow-Identifier,

iE-Extensions ProtocolExtensionContainer { { QoS-Flow-Item-ExtIEs } } OPTIONAL,

...

}

QoS-Flow-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ID id-QoSFlowMappingIndication CRITICALITY ignore EXTENSION QoS-Flow-Mapping-Indication PRESENCE optional},

...

}

QoS-Flow-Failed-List ::= SEQUENCE (SIZE(1.. maxnoofQoSFlows)) OF QoS-Flow-Failed-Item

QoS-Flow-Failed-Item ::= SEQUENCE {

qoS-Flow-Identifier QoS-Flow-Identifier,

cause Cause,

iE-Extensions ProtocolExtensionContainer { { QoS-Flow-Failed-Item-ExtIEs } } OPTIONAL,

...

}

QoS-Flow-Failed-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

QoS-Flow-Mapping-List ::= SEQUENCE (SIZE(1.. maxnoofQoSFlows)) OF QoS-Flow-Mapping-Item

QoS-Flow-Mapping-Item ::= SEQUENCE {

qoS-Flow-Identifier QoS-Flow-Identifier,

qoSFlowMappingIndication QoS-Flow-Mapping-Indication OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { QoS-Flow-Mapping-Item-ExtIEs } } OPTIONAL,

...

}

QoS-Flow-Mapping-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

QoS-Flow-Mapping-Indication ::= ENUMERATED {ul, dl, ...}

QoS-Parameters-Support-List ::= SEQUENCE {

eUTRAN-QoS-Support-List EUTRAN-QoS-Support-List OPTIONAL,

nG-RAN-QoS-Support-List NG-RAN-QoS-Support-List OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { QoS-Parameters-Support-List-ItemExtIEs} } OPTIONAL,

...

}

QoS-Parameters-Support-List-ItemExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

QoSPriorityLevel ::= INTEGER (0..127, ...)

QoS-Flow-QoS-Parameter-List ::= SEQUENCE (SIZE(1.. maxnoofQoSFlows)) OF QoS-Flow-QoS-Parameter-Item

QoS-Flow-QoS-Parameter-Item ::= SEQUENCE {

qoS-Flow-Identifier QoS-Flow-Identifier,

qoSFlowLevelQoSParameters QoSFlowLevelQoSParameters,

qoSFlowMappingIndication QoS-Flow-Mapping-Indication OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { QoS-Flow-QoS-Parameter-Item-ExtIEs } } OPTIONAL,

...

}

QoS-Flow-QoS-Parameter-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

{ID id-offeredGBRQoSFlowInfo CRITICALITY ignore EXTENSION GBR-QoSFlowInformation PRESENCE optional},

...

}

QoSFlowLevelQoSParameters ::= SEQUENCE {

qoS-Characteristics QoS-Characteristics,

nGRANallocationRetentionPriority NGRANAllocationAndRetentionPriority,

gBR-QoS-Flow-Information GBR-QoSFlowInformation OPTIONAL,

reflective-QoS-Attribute ENUMERATED {subject-to, ...} OPTIONAL,

additional-QoS-Information ENUMERATED {more-likely, ...} OPTIONAL,

paging-Policy-Indicator INTEGER (1..8, ...) OPTIONAL,

reflective-QoS-Indicator ENUMERATED {enabled, ...} OPTIONAL,

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

}

QoSFlowLevelQoSParameters-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

-- R

RANUEID ::= OCTET STRING (SIZE (8))

RAT-Type ::= ENUMERATED {

e-UTRA,

nR,

...

}

RLC-Mode ::= ENUMERATED {

rlc-tm,

rlc-am,

rlc-um-bidirectional,

rlc-um-unidirectional-ul,

rlc-um-unidirectional-dl,

...

}

ROHC-Parameters ::= CHOICE {

rOHC ROHC,

uPlinkOnlyROHC UplinkOnlyROHC,

choice-Extension ProtocolIE-SingleContainer { { ROHC-Parameters-ExtIEs} }

}

ROHC-Parameters-ExtIEs E1AP-PROTOCOL-IES ::= {

...

}

ROHC ::= SEQUENCE {

maxCID INTEGER (0..16383, ...),

rOHC-Profiles INTEGER (0..511, ...),

continueROHC ENUMERATED {true, ...} OPTIONAL,

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

}

ROHC-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

-- S

SecurityAlgorithm ::= SEQUENCE {

cipheringAlgorithm CipheringAlgorithm,

integrityProtectionAlgorithm IntegrityProtectionAlgorithm OPTIONAL,

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

...

}

SecurityAlgorithm-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

SecurityIndication ::= SEQUENCE {

integrityProtectionIndication IntegrityProtectionIndication,

confidentialityProtectionIndication ConfidentialityProtectionIndication,

maximumIPdatarate MaximumIPdatarate OPTIONAL,

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

...

}

SecurityIndication-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

SecurityInformation ::= SEQUENCE {

securityAlgorithm SecurityAlgorithm,

uPSecuritykey UPSecuritykey,

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

...

}

SecurityInformation-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

SecurityResult ::= SEQUENCE {

integrityProtectionResult IntegrityProtectionResult,

confidentialityProtectionResult ConfidentialityProtectionResult,

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

...

}

SecurityResult-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

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

Slice-Support-Item ::= SEQUENCE {

sNSSAI SNSSAI,

iE-Extensions ProtocolExtensionContainer { { Slice-Support-Item-ExtIEs } } OPTIONAL

}

Slice-Support-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

SNSSAI ::= SEQUENCE {

sST OCTET STRING (SIZE(1)),

sD OCTET STRING (SIZE(3)) OPTIONAL,

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

...

}

SNSSAI-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

SDAP-Configuration ::= SEQUENCE {

defaultDRB DefaultDRB,

sDAP-Header-UL SDAP-Header-UL,

sDAP-Header-DL SDAP-Header-DL,

iE-Extensions ProtocolExtensionContainer { { SDAP-Configuration-ExtIEs } } OPTIONAL,

...

}

SDAP-Configuration-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

SDAP-Header-DL ::= ENUMERATED {

present,

absent,

...

}

SDAP-Header-UL ::= ENUMERATED {

present,

absent,

...

}

-- T

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

TNLAssociationUsage ::= ENUMERATED {

ue,

non-ue,

both,

...

}

TransportLayerAddress ::= BIT STRING (SIZE(1..160, ...))

TransactionID ::= INTEGER (0..255, ...)

T-Reordering ::= ENUMERATED {ms0, ms1, ms2, ms4, ms5, ms8, ms10, ms15, ms20, ms30, ms40, ms50, ms60, ms80, ms100, ms120, ms140, ms160, ms180, ms200, ms220, ms240, ms260, ms280, ms300, ms500, ms750, ms1000, ms1250, ms1500, ms1750, ms2000, ms2250, ms2500, ms2750, ms3000, ...}

T-ReorderingTimer ::= SEQUENCE {

t-Reordering T-Reordering,

iE-Extensions ProtocolExtensionContainer { { T-ReorderingTimer-ExtIEs } } OPTIONAL,

...

}

T-ReorderingTimer-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

TypeOfError ::= ENUMERATED {

not-understood,

missing,

...

}

-- U

UE-Activity ::= ENUMERATED {

active,

not-active,

...

}

UE-associatedLogicalE1-ConnectionItem ::= SEQUENCE {

gNB-CU-CP-UE-E1AP-ID GNB-CU-CP-UE-E1AP-ID OPTIONAL,

gNB-CU-UP-UE-E1AP-ID GNB-CU-UP-UE-E1AP-ID OPTIONAL,

iE-Extensions ProtocolExtensionContainer { { UE-associatedLogicalE1-ConnectionItemExtIEs} } OPTIONAL,

...

}

UE-associatedLogicalE1-ConnectionItemExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

UL-Configuration ::= ENUMERATED {

no-data,

shared,

only,

...

}

ULDataSplitThreshold ::= ENUMERATED {b0, b100, b200, b400, b800, b1600, b3200, b6400, b12800, b25600, b51200, b102400, b204800, b409600, b819200, b1228800, b1638400, b2457600, b3276800, b4096000, b4915200, b5734400, b6553600, infinity, ...}

UP-Parameters ::= SEQUENCE (SIZE(1.. maxnoofUPParameters)) OF UP-Parameters-Item

UP-Parameters-Item ::= SEQUENCE {

uP-TNL-Information UP-TNL-Information,

cell-Group-ID Cell-Group-ID,

iE-Extensions ProtocolExtensionContainer { { UP-Parameters-Item-ExtIEs } } OPTIONAL,

...

}

UP-Parameters-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

UPSecuritykey ::= SEQUENCE {

encryptionKey EncryptionKey,

integrityProtectionKey IntegrityProtectionKey OPTIONAL,

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

...

}

UPSecuritykey-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

UP-TNL-Information ::= CHOICE {

gTPTunnel GTPTunnel,

choice-extension ProtocolIE-SingleContainer {{UP-TNL-Information-ExtIEs}}

}

UP-TNL-Information-ExtIEs E1AP-PROTOCOL-IES ::= {

...

}

UplinkOnlyROHC ::= SEQUENCE {

maxCID INTEGER (0..16383, ...),

rOHC-Profiles INTEGER (0..511, ...),

continueROHC ENUMERATED {true, ...} OPTIONAL,

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

}

UplinkOnlyROHC-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

...

}

-- V

-- W

-- X

-- Y

-- Z

END

-- ASN1STOP

### 9.4.6 Common Definitions

-- ASN1START

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

--

-- Common definitions

--

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

E1AP-CommonDataTypes {

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

ngran-access (22) modules (3) e1ap (5) version1 (1) e1ap-CommonDataTypes (3)}

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- Extension constants

--

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

maxPrivateIEs INTEGER ::= 65535

maxProtocolExtensions INTEGER ::= 65535

maxProtocolIEs INTEGER ::= 65535

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

--

-- Common Data Types

--

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

Criticality ::= ENUMERATED { reject, ignore, notify }

Presence ::= ENUMERATED { optional, conditional, mandatory }

PrivateIE-ID ::= CHOICE {

local INTEGER (0.. maxPrivateIEs),

global OBJECT IDENTIFIER

}

ProcedureCode ::= INTEGER (0..255)

ProtocolExtensionID ::= INTEGER (0..maxProtocolExtensions)

ProtocolIE-ID ::= INTEGER (0..maxProtocolIEs)

TriggeringMessage ::= ENUMERATED { initiating-message, successful-outcome, unsuccessful-outcome}

END

-- ASN1STOP

### 9.4.7 Constant Definitions

-- ASN1START

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

--

-- Constant definitions

--

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

E1AP-Constants {

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

ngran-access (22) modules (3) e1ap (5) version1 (1) e1ap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

ProcedureCode,

ProtocolIE-ID

FROM E1AP-CommonDataTypes;

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

--

-- Elementary Procedures

--

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

id-reset ProcedureCode ::= 0

id-errorIndication ProcedureCode ::= 1

id-privateMessage ProcedureCode ::= 2

id-gNB-CU-UP-E1Setup ProcedureCode ::= 3

id-gNB-CU-CP-E1Setup ProcedureCode ::= 4

id-gNB-CU-UP-ConfigurationUpdate ProcedureCode ::= 5

id-gNB-CU-CP-ConfigurationUpdate ProcedureCode ::= 6

id-e1Release ProcedureCode ::= 7

id-bearerContextSetup ProcedureCode ::= 8

id-bearerContextModification ProcedureCode ::= 9

id-bearerContextModificationRequired ProcedureCode ::= 10

id-bearerContextRelease ProcedureCode ::= 11

id-bearerContextReleaseRequest ProcedureCode ::= 12

id-bearerContextInactivityNotification ProcedureCode ::= 13

id-dLDataNotification ProcedureCode ::= 14

id-dataUsageReport ProcedureCode ::= 15

id-gNB-CU-UP-CounterCheck ProcedureCode ::= 16

id-gNB-CU-UP-StatusIndication ProcedureCode ::= 17

id-uLDataNotification ProcedureCode ::= 18

id-mRDC-DataUsageReport ProcedureCode ::= 19

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

--

-- Lists

--

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

maxnoofErrors INTEGER ::= 256

maxnoofSPLMNs INTEGER ::= 12

maxnoofSliceItems INTEGER ::= 1024

maxnoofIndividualE1ConnectionsToReset INTEGER ::= 65536

maxnoofEUTRANQOSParameters INTEGER ::= 256

maxnoofNGRANQOSParameters INTEGER ::= 256

maxnoofDRBs INTEGER ::= 32

maxnoofNRCGI INTEGER ::= 512

maxnoofPDUSessionResource INTEGER ::= 256

maxnoofQoSFlows INTEGER ::= 64

maxnoofUPParameters INTEGER ::= 8

maxnoofCellGroups INTEGER ::= 4

maxnooftimeperiods INTEGER ::= 2

maxnoofTNLAssociations INTEGER ::= 32

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

--

-- IEs

--

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

id-Cause ProtocolIE-ID ::= 0

id-CriticalityDiagnostics ProtocolIE-ID ::= 1

id-gNB-CU-CP-UE-E1AP-ID ProtocolIE-ID ::= 2

id-gNB-CU-UP-UE-E1AP-ID ProtocolIE-ID ::= 3

id-ResetType ProtocolIE-ID ::= 4

id-UE-associatedLogicalE1-ConnectionItem ProtocolIE-ID ::= 5

id-UE-associatedLogicalE1-ConnectionListResAck ProtocolIE-ID ::= 6

id-gNB-CU-UP-ID ProtocolIE-ID ::= 7

id-gNB-CU-UP-Name ProtocolIE-ID ::= 8

id-gNB-CU-CP-Name ProtocolIE-ID ::= 9

id-CNSupport ProtocolIE-ID ::= 10

id-SupportedPLMNs ProtocolIE-ID ::= 11

id-TimeToWait ProtocolIE-ID ::= 12

id-SecurityInformation ProtocolIE-ID ::= 13

id-UEDLAggregateMaximumBitRate ProtocolIE-ID ::= 14

id-System-BearerContextSetupRequest ProtocolIE-ID ::= 15

id-System-BearerContextSetupResponse ProtocolIE-ID ::= 16

id-BearerContextStatusChange ProtocolIE-ID ::= 17

id-System-BearerContextModificationRequest ProtocolIE-ID ::= 18

id-System-BearerContextModificationResponse ProtocolIE-ID ::= 19

id-System-BearerContextModificationConfirm ProtocolIE-ID ::= 20

id-System-BearerContextModificationRequired ProtocolIE-ID ::= 21

id-DRB-Status-List ProtocolIE-ID ::= 22

id-ActivityNotificationLevel ProtocolIE-ID ::= 23

id-ActivityInformation ProtocolIE-ID ::= 24

id-Data-Usage-Report-List ProtocolIE-ID ::= 25

id-New-UL-TNL-Information-Required ProtocolIE-ID ::= 26

id-GNB-CU-CP-TNLA-To-Add-List ProtocolIE-ID ::= 27

id-GNB-CU-CP-TNLA-To-Remove-List ProtocolIE-ID ::= 28

id-GNB-CU-CP-TNLA-To-Update-List ProtocolIE-ID ::= 29

id-GNB-CU-CP-TNLA-Setup-List ProtocolIE-ID ::= 30

id-GNB-CU-CP-TNLA-Failed-To-Setup-List ProtocolIE-ID ::= 31

id-DRB-To-Setup-List-EUTRAN ProtocolIE-ID ::= 32

id-DRB-To-Modify-List-EUTRAN ProtocolIE-ID ::= 33

id-DRB-To-Remove-List-EUTRAN ProtocolIE-ID ::= 34

id-DRB-Required-To-Modify-List-EUTRAN ProtocolIE-ID ::= 35

id-DRB-Required-To-Remove-List-EUTRAN ProtocolIE-ID ::= 36

id-DRB-Setup-List-EUTRAN ProtocolIE-ID ::= 37

id-DRB-Failed-List-EUTRAN ProtocolIE-ID ::= 38

id-DRB-Modified-List-EUTRAN ProtocolIE-ID ::= 39

id-DRB-Failed-To-Modify-List-EUTRAN ProtocolIE-ID ::= 40

id-DRB-Confirm-Modified-List-EUTRAN ProtocolIE-ID ::= 41

id-PDU-Session-Resource-To-Setup-List ProtocolIE-ID ::= 42

id-PDU-Session-Resource-To-Modify-List ProtocolIE-ID ::= 43

id-PDU-Session-Resource-To-Remove-List ProtocolIE-ID ::= 44

id-PDU-Session-Resource-Required-To-Modify-List ProtocolIE-ID ::= 45

id-PDU-Session-Resource-Setup-List ProtocolIE-ID ::= 46

id-PDU-Session-Resource-Failed-List ProtocolIE-ID ::= 47

id-PDU-Session-Resource-Modified-List ProtocolIE-ID ::= 48

id-PDU-Session-Resource-Failed-To-Modify-List ProtocolIE-ID ::= 49

id-PDU-Session-Resource-Confirm-Modified-List ProtocolIE-ID ::= 50

id-DRB-To-Setup-Mod-List-EUTRAN ProtocolIE-ID ::= 51

id-DRB-Setup-Mod-List-EUTRAN ProtocolIE-ID ::= 52

id-DRB-Failed-Mod-List-EUTRAN ProtocolIE-ID ::= 53

id-PDU-Session-Resource-Setup-Mod-List ProtocolIE-ID ::= 54

id-PDU-Session-Resource-Failed-Mod-List ProtocolIE-ID ::= 55

id-PDU-Session-Resource-To-Setup-Mod-List ProtocolIE-ID ::= 56

id-TransactionID ProtocolIE-ID ::= 57

id-Serving-PLMN ProtocolIE-ID ::= 58

id-UE-Inactivity-Timer ProtocolIE-ID ::= 59

id-System-GNB-CU-UP-CounterCheckRequest ProtocolIE-ID ::= 60

id-DRBs-Subject-To-Counter-Check-List-EUTRAN ProtocolIE-ID ::= 61

id-DRBs-Subject-To-Counter-Check-List-NG-RAN ProtocolIE-ID ::= 62

id-PPI ProtocolIE-ID ::= 63

id-gNB-CU-UP-Capacity ProtocolIE-ID ::= 64

id-GNB-CU-UP-OverloadInformation ProtocolIE-ID ::= 65

id-UEDLMaximumIntegrityProtectedDataRate ProtocolIE-ID ::= 66

id-PDU-Session-To-Notify-List ProtocolIE-ID ::= 67

id-PDU-Session-Resource-Data-Usage-List ProtocolIE-ID ::= 68

id-SNSSAI ProtocolIE-ID ::= 69

id-DataDiscardRequired ProtocolIE-ID ::= 70

id-OldQoSFlowMap-ULendmarkerexpected ProtocolIE-ID ::= 71

id-DRB-QoS ProtocolIE-ID ::= 72

id-GNB-CU-UP-TNLA-To-Remove-List ProtocolIE-ID ::= 73

id-endpoint-IP-Address-and-Port ProtocolIE-ID ::= 74

id-TNLAssociationTransportLayerAddressgNBCUUP ProtocolIE-ID ::= 75

id-RANUEID ProtocolIE-ID ::= 76

id-GNB-DU-ID ProtocolIE-ID ::= 77

id-CommonNetworkInstance ProtocolIE-ID ::= 78

id-NetworkInstance ProtocolIE-ID ::= 79

id-QoSFlowMappingIndication ProtocolIE-ID ::= 80

id-PDCP-StatusReportIndication ProtocolIE-ID ::= 81

id-offeredGBRQoSFlowInfo PrtocolIE-ID ::= XX

END

-- ASN1STOP

### 9.4.8 Container Definitions

-- ASN1START

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

--

-- Container definitions

--

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

E1AP-Containers {

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

ngran-access (22) modules (3) e1ap (5) version1 (1) e1ap-Containers (5) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

--

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

IMPORTS

maxPrivateIEs,

maxProtocolExtensions,

maxProtocolIEs,

Criticality,

Presence,

PrivateIE-ID,

ProtocolIE-ID

FROM E1AP-CommonDataTypes;

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

--

-- Class Definition for Protocol IEs

--

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

E1AP-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 Extensions

--

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

E1AP-PROTOCOL-EXTENSION ::= CLASS {

&id ProtocolIE-ID UNIQUE,

&criticality Criticality,

&Extension,

&presence Presence

}

WITH SYNTAX {

ID &id

CRITICALITY &criticality

EXTENSION &Extension

PRESENCE &presence

}

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

--

-- Class Definition for Private IEs

--

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

E1AP-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 { E1AP-PROTOCOL-IES : IEsSetParam} ::=

SEQUENCE (SIZE (0..maxProtocolIEs)) OF

ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-SingleContainer { E1AP-PROTOCOL-IES : IEsSetParam} ::=

ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Field { E1AP-PROTOCOL-IES : IEsSetParam} ::= SEQUENCE {

id E1AP-PROTOCOL-IES.&id ({IEsSetParam}),

criticality E1AP-PROTOCOL-IES.&criticality ({IEsSetParam}{@id}),

value E1AP-PROTOCOL-IES.&Value ({IEsSetParam}{@id})

}

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

--

-- Container Lists for Protocol IE Containers

--

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

ProtocolIE-ContainerList {INTEGER : lowerBound, INTEGER : upperBound, E1AP-PROTOCOL-IES : IEsSetParam} ::=

SEQUENCE (SIZE (lowerBound..upperBound)) OF

ProtocolIE-Container {{IEsSetParam}}

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

--

-- Container for Protocol Extensions

--

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

ProtocolExtensionContainer { E1AP-PROTOCOL-EXTENSION : ExtensionSetParam} ::=

SEQUENCE (SIZE (1..maxProtocolExtensions)) OF

ProtocolExtensionField {{ExtensionSetParam}}

ProtocolExtensionField { E1AP-PROTOCOL-EXTENSION : ExtensionSetParam} ::= SEQUENCE {

id E1AP-PROTOCOL-EXTENSION.&id ({ExtensionSetParam}),

criticality E1AP-PROTOCOL-EXTENSION.&criticality ({ExtensionSetParam}{@id}),

extensionValue E1AP-PROTOCOL-EXTENSION.&Extension ({ExtensionSetParam}{@id})

}

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

--

-- Container for Private IEs

--

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

PrivateIE-Container { E1AP-PRIVATE-IES : IEsSetParam} ::=

SEQUENCE (SIZE (1..maxPrivateIEs)) OF

PrivateIE-Field {{IEsSetParam}}

PrivateIE-Field { E1AP-PRIVATE-IES : IEsSetParam} ::= SEQUENCE {

id E1AP-PRIVATE-IES.&id ({IEsSetParam}),

criticality E1AP-PRIVATE-IES.&criticality ({IEsSetParam}{@id}),

value E1AP-PRIVATE-IES.&Value ({IEsSetParam}{@id})

}

END

-- ASN1STOP

*End of Text Proposal to TS 38.463*