**3GPP TSG-RAN WG3 Meeting #127-bis R3-252389**

**Wuhan, China, 7-11 April, 2025**

**Agenda item: 11.4**

**Source: Samsung, ZTE Corporation**

**Title: (TP to BL CR for 37.483) Data Collection procedures for UE performance**

**Document for: Text Proposal**

# 1. Introduction

This TP implements the agreement achieved in RAN3#127bis about introducing new E1 procedures for data collection of UE performance from CU-UP to CU-CP:

Introducing Data Collection Reporting Initiation and Data Collection Reporting procedures over E1 interface to transfer UL/DL UE throughput and UL/DL packet delay from CU-UP to CU-CP upon request.

# 2. Text Proposals to BLCR of 37.483

## 8.1 List of E1AP Elementary Procedures

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

Table 1: Class 1 procedures

| Elementary Procedure | Initiating Message | Successful Outcome | Unsuccessful Outcome |
| --- | --- | --- | --- |
| Response message | Response message |
| Reset | RESET | RESET ACKNOWLEDGE |  |
| gNB-CU-UP E1 Setup | GNB-CU-UP E1 SETUP REQUEST | GNB-CU-UP E1 SETUP RESPONSE | GNB-CU-UP E1 SETUP FAILURE |
| gNB-CU-CP E1 Setup | GNB-CU-CP E1 SETUP REQUEST | GNB-CU-CP E1 SETUP RESPONSE | GNB-CU-CP E1 SETUP FAILURE |
| gNB-CU-UP Configuration Update | GNB-CU-UP CONFIGURATION UPDATE | GNB-CU-UP CONFIGURATION UPDATE ACKNOWLEDGE | GNB-CU-UP CONFIGURATION UPDATE FAILURE |
| gNB-CU-CP Configuration Update | GNB-CU-CP CONFIGURATION UPDATE | GNB-CU-CP CONFIGURATION UPDATE ACKNOWLEDGE | GNB-CU-CP CONFIGURATION UPDATE FAILURE |
| E1 Release  | E1 RELEASE REQUEST | E1 RELEASE RESPONSE |  |
| Bearer Context Setup | BEARER CONTEXT SETUP REQUEST | BEARER CONTEXT SETUP RESPONSE | BEARER CONTEXT SETUP FAILURE |
| Bearer Context Modification (gNB-CU-CP initiated) | BEARER CONTEXT MODIFICATION REQUEST | BEARER CONTEXT MODIFICATION RESPONSE | BEARER CONTEXT MODIFICATION FAILURE |
| Bearer Context Modification Required (gNB-CU-UP initiated) | BEARER CONTEXT MODIFICATION REQUIRED | BEARER CONTEXT MODIFICATION CONFIRM |  |
| Bearer Context Release (gNB-CU-CP initiated) | BEARER CONTEXT RELEASE COMMAND | BEARER CONTEXT RELEASE COMPLETE |  |
| Resource Status Reporting Initiation | RESOURCE STATUS REQUEST | RESOURCE STATUS RESPONSE | RESOURCE STATUS FAILURE |
| IAB UP TNL Address Update | IAB UP TNL ADDRESS UPDATE | IAB UP TNL ADDRESS UPDATE ACKNOWLEDGE | IAB UP TNL ADDRESS UPDATE FAILURE |
| BC Bearer Context Setup | BC BEARER CONTEXT SETUP REQUEST | BC BEARER CONTEXT SETUP RESPONSE | BC BEARER CONTEXT SETUP FAILURE |
| BC Bearer Context Modification (gNB-CU-CP initiated) | BC BEARER CONTEXT MODIFICATION REQUEST | BC BEARER CONTEXT MODIFICATION RESPONSE | BC BEARER CONTEXT MODIFICATION FAILURE |
| BC Bearer Context Modification Required (gNB-CU-UP initiated) | BC BEARER CONTEXT MODIFICATION REQUIRED | BC BEARER CONTEXT MODIFICATION CONFIRM |  |
| BC Bearer Context Release (gNB-CU-CP initiated) | BC BEARER CONTEXT RELEASE COMMAND | BC BEARER CONTEXT RELEASE COMPLETE |  |
| MC Bearer Context Setup | MC BEARER CONTEXT SETUP REQUEST | MC BEARER CONTEXT SETUP RESPONSE | MC BEARER CONTEXT SETUP FAILURE |
| MC Bearer Context Modification (gNB-CU-CP initiated) | MC BEARER CONTEXT MODIFICATION REQUEST | MC BEARER CONTEXT MODIFICATION RESPONSE | MC BEARER CONTEXT MODIFICATION FAILURE |
| MC Bearer Context Modification Required (gNB-CU-UP initiated) | MC BEARER CONTEXT MODIFICATION REQUIRED | MC BEARER CONTEXT MODIFICATION CONFIRM |  |
| MC Bearer Context Release (gNB-CU-CP initiated) | MC BEARER CONTEXT RELEASE COMMAND | MC BEARER CONTEXT RELEASE COMPLETE |  |
| Data Collection Reporting Initiation | DATA COLLECTION REQUEST | DATA COLLECTION RESPONSE  | DATA COLLECTION FAILURE |

Table 2: Class 2 procedures

| Elementary Procedure | Message |
| --- | --- |
| Error Indication | ERROR INDICATION |
| Bearer Context Release Request (gNB-CU-UP initiated) | BEARER CONTEXT RELEASE REQUEST |
| Bearer Context Inactivity Notification  | BEARER CONTEXT INACTIVITY NOTIFICATION |
| DL Data Notification | DL DATA NOTIFICATION |
| UL Data Notification | UL DATA NOTIFICATION |
| Data Usage Report | DATA USAGE REPORT |
| gNB-CU-UP Counter Check | GNB-CU-UP COUNTER CHECK REQUEST |
| gNB-CU-UP Status Indication | GNB-CU-UP STATUS INDICATION |
| MR-DC Data Usage Report | MR-DC DATA USAGE REPORT |
| Trace Start | TRACE START |
| Deactivate Trace | DEACTIVATE TRACE |
| Cell Traffic Trace | CELL TRAFFIC TRACE |
| Resource Status Reporting | RESOURCE STATUS UPDATE |
| Early Forwarding SN Transfer | EARLY FORWARDING SN TRANSFER |
| GNB-CU-CP Measurement Results Information | GNB-CU-CP MEASUREMENT RESULTS INFORMATION |
| IAB PSK Notification | IAB PSK NOTIFICATION |
| BC Bearer Context Release (gNB-CU-UP initiated) | BC BEARER CONTEXT RELEASE REQUEST |
| MC Bearer Context Release (gNB-CU-UP initiated) | MC BEARER CONTEXT RELEASE REQUEST |
| MC Bearer Notification | MC BEARER NOTIFICATION |
| Data Collection Reporting | DATA COLLECTION UPDATE |

### 8.2.AA Data Collection Reporting Initiation

#### 8.2.AA.1 General

Editor’s Note: FFS other information that can be requested using this procedure.

This procedure is used by a gNB-CU-CP to request from a gNB-CU-UP the reporting of information to support, e.g., AI/ML in NG-RAN.

The procedure uses non UE-associated signalling.

#### 8.2.AA.2 Successful Operation



Figure 8.4.AA.2-1: Data Collection Reporting Initiation, successful operation

The gNB-CU-CP initiates the procedure by sending the DATA COLLECTION REQUEST message to gNB-CU-UP to start information reporting and stop information reporting. Upon receipt, the gNB-CU-UP:

- shall initiate the requested information reporting according to the parameters given in the request in case the *Registration Request for Data Collection* IE is set to “start”; or

- shall stop all information reporting and terminate the reporting in case the *Registration Request for Data Collection* IE is set to “stop”.

If the gNB-CU-UP is capable to provide all of the requested information, it shall initiate the information reporting as requested by the gNB-CU-CP and respond with the DATA COLLECTION RESPONSE message.

If the *Reporting Periodicity for Data Collection* IE in the DATA COLLECTION REQUEST is present, this indicates the periodicity for the reporting of periodic information. The gNB-CU-UP shall report only once, unless otherwise requested within the *Reporting Periodicity for Data Collection* IE.

**Interaction with other procedures**

When starting a measurement, the *Report Characteristics for Data Collection* IE in the DATA COLLECTION REQUEST indicates the type of objects gNB-CU-UP shall perform measurements on. The gNB-CU-UP shall include in the DATA COLLECTION UPDATE message:

- the *Average UE Throughput DL* IE, if the first bit, “Average UE Throughput DL” of the *Report Characteristics for Data Collection* IE included in the DATA COLLECTION REQUEST message is set to “1”.

- the *Average UE Throughput UL* IE, if the second bit, “Average UE Throughput UL” of the *Report Characteristics for Data Collection* IE included in the DATA COLLECTION REQUEST message is set to “1”.

- the *Average Packet Delay* IE, if the third bit, “Average Packet Delay” of the *Report Characteristics for Data Collection* IE included in the DATA COLLECTION REQUEST message is set to “1”.

- FFS

Editor’s Note: The procedure text can be further refined.

#### 8.2.AA.3 Unsuccessful Operation



Figure 8.4.AA.3-1: Data Collection Reporting Initiation, unsuccessful operation

If none of the requested information reporting cannot be initiated, gNB-CU-UP shall send the DATA COLLECTION FAILURE message with an appropriate cause value.

#### 8.2.AA.4 Abnormal Conditions

For the same Measurement ID, if the initiating gNB-CU-CP does not receive either the DATA COLLECTION RESPONSE message or the DATA COLLECTION FAILURE message, the gNB-CU-CP may reinitiate the Data Collection Reporting Initiation procedure towards the same NG-RAN node, provided that the content of the new DATA COLLECTION REQUEST message is identical to the content of the previously unacknowledged DATA COLLECTION REQUEST message.

If the gNB-CU-UP receives an DATA COLLECTION REQUEST message which includes the *Registration Request* IE set to “stop” and if the gNB-CU-UP Measurement ID value received in the DATA COLLECTION REQUEST message is not used, the gNB-CU-UP shall initiate DATA COLLECTION FAILURE message with an appropriate cause value.

If the *Report Characteristics for Data Collection* IE bitmap is set to “0” (all bits are set to “0”) in the DATA COLLECTION REQUEST message then gNB-CU-UP shall initiate an DATA COLLECTION FAILURE message with an appropriate cause value.

If the gNB-CU-UP receives a DATA COLLECTION REQUEST message which includes the *Registration Request* IE set to “start” and the *gNB-CU-CP Measurement ID* IE corresponding to an existing on-going Data Collection reporting, then gNB-CU-UP shall initiate a DATA COLLECTION FAILURE message with an appropriate cause value.

### 8.2.BB Data Collection Reporting

#### 8.2.BB.1 General

This procedure is initiated by an gNB-CU-UP to report information accepted by the gNB-CU-CP following a successful Data Collection Reporting Initiation procedure.

The procedure uses non UE-associated signalling.

#### 8.2.BB.2 Successful Operation



Figure 8.4.11.2-1: Data Collection Reporting, successful operation

The gNB-CU-UP shall report the accepted information in DATA COLLECTION UPDATE message. The accepted information is the information that was successfully initiated during the preceding Data Collection Reporting Initiation procedure.

#### 8.2.BB.3 Unsuccessful Operation

Not applicable.

#### 8.2.BB.4 Abnormal Conditions

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

#### 9.2.1.CC DATA COLLECTION REQUEST

This message is sent by gNB-CU-CP to gNB-CU-UP to initiate the requested information reporting according to the parameters given in the message.

Direction: gNB-CU-CP → gNB-CU-UP.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| Transaction ID | M |  | 9.3.1.53 |  | YES | reject |
| gNB-CU-CP Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-CU-CP | YES | reject |
| gNB-CU-UP Measurement ID | C-ifRegistrationRequestStop |  | INTEGER (1..4095,...) | Allocated by gNB-CU-UP | YES | ignore |
| Registration Request for Data Collection | M |  | ENUMERATED(start, stop, …)  | Type of request for which the AI/ML related information is required. | YES | reject |
| Report Characteristics for Data Collection | C-ifRegistrationRequestStart |  | BITSTRING(SIZE(32)) | Each position in the bitmap indicates the object the gNB-CU-UP is requested to report.First Bit = Average UE Throughput UL,Second bit = Average UE Throughput DL,Third Bit = Average Packet Delay,Other bits are ignored by the gNB-CU-UP.FFS on the coding | YES | reject |
| Reporting Periodicity for Data Collection | O |  | ENUMERATED (500ms, 1000ms, 2000ms, 5000ms, 10000ms, …) | Periodicity that can be used for reporting of requested objects. Also used as the averaging window length for all objects if supported. | YES | ignore |

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

#### 9.2.1.DD DATA COLLECTION RESPONSE

This message is sent by gNB-CU-UP to gNB-CU-CP to indicate that the requested information, for all or part of the measurement objects included in the reporting is successfully initiated.

Direction: gNB-CU-UP → gNB-CU-CP

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| Transaction ID | M |  | 9.3.1.53 |  | YES | reject |
| gNB-CU-CP Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-CU-CP | YES | reject |
| gNB-CU-UP Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-CU-UP | YES | ignore |
| Cause | M |  | 9.3.1.2 | Failure cause for measurement objects for which the measurement cannot be initiated. | – |  |
| Criticality Diagnostics | O |  | 9.3.1.3 |  | YES | ignore |

#### 9.2.1.EE DATA COLLECTION FAILURE

This message is sent by the gNB CU-UP to gNB-CU-CP to indicate that for all of the requested objects the reporting cannot be initiated.

Direction: gNB-CU-UP → gNB-CU-CP.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| Transaction ID | M |  | 9.3.1.53 |  | YES | reject |
| gNB-CU-CP Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-CU-CP | YES | reject |
| gNB-CU-UP Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-CU-UP | YES | ignore |
| Cause | M |  | 9.3.1.2 |  | YES | ignore |
| Criticality Diagnostics | O |  | 9.3.1.3 |  | YES | ignore |

#### 9.2.1.FF DATA COLLECTION UPDATE

This message is sent by gNB-CU-UP to gNB-CU-CP to report the requested information.

Direction: gNB-CU-UP → gNB-CU-CP.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| Transaction ID | M |  | 9.3.1.53 |  | YES | reject |
| gNB-CU-CP Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-CU-CP | YES | reject |
| gNB-CU-UP Measurement ID | M |  | INTEGER (1..4095,...) | Allocated by gNB-CU-UP | YES | ignore |
| FFS other information |  |  |  |  |  |  |

<<<<<<<<<<<<<<<<<<<< Next Changes >>>>>>>>>>>>>>>>>>>>

9.4.3 Elementary Procedure Definitions

-- ASN1START

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

--

-- Elementary Procedure definitions

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

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,

 BCBearerContextSetupRequest,

 BCBearerContextSetupResponse,

 BCBearerContextSetupFailure,

 BCBearerContextModificationRequest,

 BCBearerContextModificationResponse,

 BCBearerContextModificationFailure,

 BCBearerContextModificationRequired,

 BCBearerContextModificationConfirm,

 BCBearerContextReleaseCommand,

 BCBearerContextReleaseComplete,

 BCBearerContextReleaseRequest,

 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,

 MCBearerContextSetupRequest,

 MCBearerContextSetupResponse,

 MCBearerContextSetupFailure,

 MCBearerContextModificationRequest,

 MCBearerContextModificationResponse,

 MCBearerContextModificationFailure,

 MCBearerContextModificationRequired,

 MCBearerContextModificationConfirm,

 MCBearerNotification,

 MCBearerContextReleaseCommand,

 MCBearerContextReleaseComplete,

 MCBearerContextReleaseRequest,

 MRDC-DataUsageReport,

 DeactivateTrace,

 TraceStart,

 PrivateMessage,

 ResourceStatusRequest,

 ResourceStatusResponse,

 ResourceStatusFailure,

 ResourceStatusUpdate,

 IAB-UPTNLAddressUpdate,

 IAB-UPTNLAddressUpdateAcknowledge,

 IAB-UPTNLAddressUpdateFailure,

 CellTrafficTrace,

 EarlyForwardingSNTransfer,

 GNB-CU-CPMeasurementResultsInformation,

 IABPSKNotification,

 DataCollectionRequest,

 DataCollectionResponse,

 DataCollectionFailure,

 DataCollectionUpdate

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-DeactivateTrace,

 id-TraceStart,

 id-privateMessage,

 id-resourceStatusReportingInitiation,

 id-resourceStatusReporting,

 id-iAB-UPTNLAddressUpdate,

 id-CellTrafficTrace,

 id-earlyForwardingSNTransfer,

 id-gNB-CU-CPMeasurementResultsInformation,

 id-iABPSKNotification,

 id-BCBearerContextSetup,

 id-BCBearerContextModification,

 id-BCBearerContextModificationRequired,

 id-BCBearerContextRelease,

 id-BCBearerContextReleaseRequest,

 id-MCBearerContextSetup,

 id-MCBearerContextModification,

 id-MCBearerContextModificationRequired,

 id-MCBearerNotification,

 id-MCBearerContextRelease,

 id-MCBearerContextReleaseRequest,

 id-dataCollectionReportingInitiation,

 id-dataCollectionReporting

FROM E1AP-Constants;

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

--

-- Interface Elementary Procedure Class

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

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 |

 resourceStatusReportingInitiation |

 iAB-UPTNLAddressUpdate |

 bCBearerContextSetup |

 bCBearerContextModification |

 bCBearerContextModificationRequired |

 bCBearerContextRelease |

 mCBearerContextSetup |

 mCBearerContextModification |

 mCBearerContextModificationRequired |

 mCBearerContextRelease |

 dataCollectionReportingInitiation,

 ...

}

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

 errorIndication |

 bearerContextReleaseRequest |

 bearerContextInactivityNotification |

 dLDataNotification |

 uLDataNotification |

 dataUsageReport |

 gNB-CU-UP-CounterCheck |

 gNB-CU-UP-StatusIndication |

 mRDC-DataUsageReport |

 deactivateTrace |

 traceStart |

 privateMessage |

 cellTrafficTrace |

 resourceStatusReporting |

 earlyForwardingSNTransfer |

 gNB-CU-CPMeasurementResultsInformation |

 iABPSKNotification |

 bCBearerContextReleaseRequest |

 mCBearerContextReleaseRequest |

 mCBearerNotification |

 dataCollectionReporting,

 ...

}

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

--

-- Interface Elementary Procedures

--

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

reset E1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE Reset

 SUCCESSFUL OUTCOME ResetAcknowledge

 PROCEDURE CODE id-reset

 CRITICALITY reject

}

<uncahnged text omitted>

mCBearerNotification E1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE MCBearerNotification

 PROCEDURE CODE id-MCBearerNotification

 CRITICALITY reject

}

mCBearerContextRelease E1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE MCBearerContextReleaseCommand

 SUCCESSFUL OUTCOME MCBearerContextReleaseComplete

 PROCEDURE CODE id-MCBearerContextRelease

 CRITICALITY reject

}

mCBearerContextReleaseRequest E1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE MCBearerContextReleaseRequest

 PROCEDURE CODE id-MCBearerContextReleaseRequest

 CRITICALITY reject

}

dataCollectionReportingInitiation E1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE DataCollectionRequest

 SUCCESSFUL OUTCOME DataCollectionResponse

 UNSUCCESSFUL OUTCOME DataCollectionFailure

 PROCEDURE CODE id-dataCollectionReportingInitiation

 CRITICALITY reject

}

dataCollectionReporting E1AP-ELEMENTARY-PROCEDURE ::= {

 INITIATING MESSAGE DataCollectionUpdate

 PROCEDURE CODE id-dataCollectionReporting

 CRITICALITY ignore

}

END

-- ASN1STOP

<<<<<<<<<<<<<<<<<<<< Next Changes >>>>>>>>>>>>>>>>>>>>

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

 AssociatedSessionID,

 Cause,

 CriticalityDiagnostics,

 GNB-CU-CP-MBS-E1AP-ID,

 GNB-CU-UP-MBS-E1AP-ID,

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

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

 UE-associatedLogicalE1-ConnectionItem,

 GNB-CU-UP-ID,

 GNB-CU-UP-Name,

 Extended-GNB-CU-UP-Name,

 GNB-CU-CP-Name,

 Extended-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-Measurement-Results-Information-List,

 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,

 TraceID,

 TraceActivation,

 SubscriberProfileIDforRFP,

 AdditionalRRMPriorityIndex,

 RetainabilityMeasurementsInfo,

 Transport-Layer-Address-Info,

 HW-CapacityIndicator,

 RegistrationRequest,

 ReportCharacteristics,

 ReportingPeriodicity,

 TNL-AvailableCapacityIndicator,

 DLUPTNLAddressToUpdateItem,

 ULUPTNLAddressToUpdateItem,

 NPNContextInfo,

 NPNSupportInfo,

 MDTPLMNList,

 PrivacyIndicator,

 URIaddress,

 DRBs-Subject-To-Early-Forwarding-List,

 CHOInitiation,

 ExtendedSliceSupportList,

 TransportLayerAddress,

 AdditionalHandoverInfo,

 Extended-NR-CGI-Support-List,

 DirectForwardingPathAvailability,

 IAB-Donor-CU-UPPSKInfo-Item,

 ECGI-Support-List,

 MDTPollutedMeasurementIndicator,

 UESliceMaximumBitRateList,

 SCGActivationStatus,

 GlobalMBSSessionID,

 BCBearerContextToSetup,

 BCBearerContextToSetupResponse,

 BCBearerContextToModify,

 BCBearerContextToModifyResponse,

 BCBearerContextToModifyRequired,

 BCBearerContextToModifyConfirm,

 MCBearerContextToSetup,

 MCBearerContextToSetupResponse,

 MCBearerContextToModify,

 MCBearerContextToModifyResponse,

 MCBearerContextToModifyRequired,

 MCBearerContextToModifyConfirm,

 MBSMulticastF1UContextDescriptor,

 MBS-ServiceArea,

 GNB-CU-UP-MBS-Support-Info,

 SDTContinueROHC,

 MDTPLMNModificationList,

 InactivityInformationRequest,

 UEInactivityInformation,

 MBSSessionResourceNotification,

 MT-SDT-Information,

 MT-SDT-Information-Request,

 SDT-data-size-threshold,

 SDT-data-size-threshold-Crossed,

 RegistrationRequestForDataCollection,

 ReportCharacteristicsForDataCollection,

 ReportingPeriodicityForDataCollection

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-AssociatedSessionID,

 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-Extended-GNB-CU-UP-Name,

 id-gNB-CU-CP-Name,

 id-Extended-GNB-CU-CP-Name,

 id-CNSupport,

 id-SupportedPLMNs,

 id-NPNSupportInfo,

 id-NPNContextInfo,

 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-Measurement-Results-Information-List,

 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-TraceID,

 id-TraceActivation,

 id-SubscriberProfileIDforRFP,

 id-AdditionalRRMPriorityIndex,

 id-RetainabilityMeasurementsInfo,

 id-Transport-Layer-Address-Info,

 id-gNB-CU-CP-Measurement-ID,

 id-gNB-CU-UP-Measurement-ID,

 id-RegistrationRequest,

 id-ReportCharacteristics,

 id-ReportingPeriodicity,

 id-TNL-AvailableCapacityIndicator,

 id-HW-CapacityIndicator,

 id-DLUPTNLAddressToUpdateList,

 id-ULUPTNLAddressToUpdateList,

 id-ManagementBasedMDTPLMNList,

 id-TraceCollectionEntityIPAddress,

 id-PrivacyIndicator,

 id-URIaddress,

 id-DRBs-Subject-To-Early-Forwarding-List,

 id-CHOInitiation,

 id-ExtendedSliceSupportList,

 id-AdditionalHandoverInfo,

 id-Extended-NR-CGI-Support-List,

 id-DirectForwardingPathAvailability, id-IAB-Donor-CU-UPPSKInfo,

 id-ECGI-Support-List,

 id-MDTPollutedMeasurementIndicator,

 id-UESliceMaximumBitRateList,

 id-SCGActivationStatus,

 id-GNB-CU-CP-MBS-E1AP-ID,

 id-GNB-CU-UP-MBS-E1AP-ID,

 id-GlobalMBSSessionID,

 id-BCBearerContextToSetup,

 id-BCBearerContextToSetupResponse,

 id-BCBearerContextToModify,

 id-BCBearerContextToModifyResponse,

 id-BCBearerContextToModifyRequired,

 id-BCBearerContextToModifyConfirm,

 id-MCBearerContextToSetup,

 id-MCBearerContextToSetupResponse,

 id-MCBearerContextToModify,

 id-MCBearerContextToModifyResponse,

 id-MCBearerContextToModifyRequired,

 id-MCBearerContextToModifyConfirm,

 id-MBSMulticastF1UContextDescriptor,

 id-gNB-CU-UP-MBS-Support-Info,

 id-SDTContinueROHC,

 id-ManagementBasedMDTPLMNModificationList,

 id-MBS-ServiceArea,

 id-InactivityInformationRequest,

 id-UEInactivityInformation,

 id-MBSSessionResourceNotification,

 id-MT-SDT-Information,

 id-MT-SDT-Information-Request,

 id-SDT-data-size-threshold,

 id-SDT-data-size-threshold-Crossed,

 id-RegistrationRequestForDataCollection,

 id-ReportCharacteristicsForDataCollection,

 id-ReportingPeriodicityForDataCollection

 maxnoofErrors,

 maxnoofSPLMNs,

 maxnoofDRBs,

 maxnoofTNLAssociations,

 maxnoofIndividualE1ConnectionsToReset,

 maxnoofTNLAddresses,

 maxnoofPSKs

FROM E1AP-Constants;

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

--

<unchanged text omitted>

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

--

-- DATA COLLECTION REQUEST

--

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

DataCollectionRequest ::= SEQUENCE {

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

 ...

}

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

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

 { ID id-gNB-CU-CP-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

 { ID id-gNB-CU-UP-Measurement-ID CRITICALITY ignore TYPE Measurement-ID PRESENCE conditional}|

-- This IE shall be present if the *Registration Request for Data Collection* IE is set to the value "stop".

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

 { ID id-ReportCharacteristicsForDataCollection CRITICALITY reject TYPE ReportCharacteristicsForDataCollection PRESENCE conditional}|

-- This IE shall be present if the *Registration Request for Data Collection* IE is set to the value "start".

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

 ...

}

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

--

-- DATA COLLECTION RESPONSE

--

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

DataCollectionResponse ::= SEQUENCE {

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

 ...

}

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

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

 { ID id-gNB-CU-CP-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

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

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

 ...

}

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

--

-- DATA COLLECTION FAILURE

--

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

DataCollectionFailure ::= SEQUENCE {

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

 ...

}

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

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

 { ID id-gNB-CU-CP-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

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

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

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

 ...

}

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

--

-- DATA COLLECTION UPDATE

--

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

DataCollectionUpdate ::= SEQUENCE {

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

 ...

}

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

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

 { ID id-gNB-CU-CP-Measurement-ID CRITICALITY reject TYPE Measurement-ID PRESENCE mandatory}|

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

 ...

}

END

-- ASN1STOP

<<<<<<<<<<<<<<<<<<<< Next Changes >>>>>>>>>>>>>>>>>>>>

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-BCBearerContextNGU-TNLInfoatNGRAN-Request,

 id-QoSMonitoringRequest,

 id-QosMonitoringReportingFrequency,

 id-QoSMonitoringDisabled,

 id-PDCP-StatusReportIndication,

 id-RedundantCommonNetworkInstance,

 id-redundant-nG-UL-UP-TNL-Information,

 id-redundant-nG-DL-UP-TNL-Information,

 id-RedundantQosFlowIndicator,

 id-TSCTrafficCharacteristics,

 id-ExtendedPacketDelayBudget,

 id-CNPacketDelayBudgetDownlink,

 id-CNPacketDelayBudgetUplink,

 id-AdditionalPDCPduplicationInformation,

 id-RedundantPDUSessionInformation,

 id-RedundantPDUSessionInformation-used,

 id-QoS-Mapping-Information,

 id-MDTConfiguration,

 id-TraceCollectionEntityURI,

 id-EHC-Parameters,

 id-DAPSRequestInfo,

 id-EarlyForwardingCOUNTReq,

 id-EarlyForwardingCOUNTInfo,

 id-AlternativeQoSParaSetList,

 id-MCG-OfferedGBRQoSFlowInfo,

 id-Number-of-tunnels,

 id-DataForwardingtoE-UTRANInformationList,

 id-DataForwardingtoNG-RANQoSFlowInformationList,

 id-MaxCIDEHCDL,

 id-ignoreMappingRuleIndication,

 id-EarlyDataForwardingIndicator,

 id-QoSFlowsDRBRemapping,

 id-SecurityIndicationModify,

 id-DataForwardingSourceIPAddress,

 id-M4ReportAmount,

 id-M6ReportAmount,

 id-M7ReportAmount,

 id-PDUSession-PairID,

 id-SurvivalTime,

 id-UDC-Parameters,

 id-SecurityIndication,

 id-SecurityResult,

 id-SDTindicatorSetup,

 id-SDTindicatorMod,

 id-DiscardTimerExtended,

 id-MCForwardingResourceRequest,

 id-MCForwardingResourceIndication,

 id-MCForwardingResourceResponse,

 id-MCForwardingResourceRelease,

 id-MCForwardingResourceReleaseIndication,

 id-PDCP-COUNT-Reset,

 id-MBSSessionAssociatedInfoNonSupportToSupport,

 id-VersionID,

 id-MBSAreaSessionID,

 id-Secondary-PDU-Session-Data-Forwarding-Information,

 id-MBSSessionResourceNotification,

 id-MCBearerContextInactivityTimer,

 id-MCBearerContextStatusChange,

 id-SpecialTriggeringPurpose,

 id-F1UTunnelNotEstablished,

 id-PDUSetQoSParameters,

 id-N6JitterInformation,

 id-ECNMarkingorCongestionInformationReportingRequest,

 id-ECNMarkingorCongestionInformationReportingStatus,

 id-PDUSetbasedHandlingIndicator,

 id-IndirectPathIndication,

 id-F1U-TNL-InfoToAdd-List,

 id-F1U-TNL-InfoAdded-List,

 id-F1U-TNL-InfoToAddOrModify-List,

 id-F1U-TNL-InfoAddedOrModified-List,

 id-F1U-TNL-InfoToRelease-List,

 id-BroadcastF1U-ContextReferenceE1,

 id-PSIbasedDiscardTimer,

 id-UserPlaneErrorIndicator,

 id-MaximumDataBurstVolume,

 id-PDCPSNGapReport,

 id-UserPlaneFailureIndication,

 maxnoofMBSAreaSessionIDs,

 maxnoofSharedNG-UTerminations,

 maxnoofMRBs,

 maxnoofMBSSessionIDs,

 maxnoofQoSParaSets,

 maxnoofErrors,

 maxnoofSliceItems,

 maxnoofEUTRANQOSParameters,

 maxnoofNGRANQOSParameters,

 maxnoofDRBs,

 maxnoofPDUSessionResource,

 maxnoofQoSFlows,

 maxnoofUPParameters,

 maxnoofCellGroups,

 maxnooftimeperiods,

 maxnoofNRCGI,

 maxnoofTLAs,

 maxnoofGTPTLAs,

 maxnoofSPLMNs,

 maxnoofMDTPLMNs,

 maxnoofExtSliceItems,

 maxnoofDataForwardingTunneltoE-UTRAN,

 maxnoofExtNRCGI,

 maxnoofECGI,

 maxnoofSMBRValues,

 maxnoofCellsforMBS,

 maxnoofTAIforMBS,

 maxnoofMBSServiceAreaInformation,

 maxnoofDUs

FROM E1AP-Constants

 Criticality,

 ProcedureCode,

 ProtocolIE-ID,

 TriggeringMessage

FROM E1AP-CommonDataTypes

 ProtocolExtensionContainer{},

 ProtocolIE-SingleContainer{},

 E1AP-PROTOCOL-EXTENSION,

 E1AP-PROTOCOL-IES

FROM E1AP-Containers;

<<<<<<<<<<<<<<<<<<<< Next Changes >>>>>>>>>>>>>>>>>>>>

-- R

RANUEID ::= OCTET STRING (SIZE (8))

RAT-Type ::= ENUMERATED {

 e-UTRA,

 nR,

 ...

}

RedundantQoSFlowIndicator::= ENUMERATED {true,false}

RedundantPDUSessionInformation ::= SEQUENCE {

 rSN RSN,

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

 ...

}

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

 {ID id-PDUSession-PairID CRITICALITY ignore EXTENSION PDUSession-PairID PRESENCE optional },

 ...

}

RSN ::= ENUMERATED {v1, v2, ...}

RetainabilityMeasurementsInfo ::= SEQUENCE (SIZE(1.. maxnoofDRBs)) OF DRB-Removed-Item

RegistrationRequest ::= ENUMERATED {

 start,

 stop,

 ...

}

RegistrationRequestForDataCollection ::= ENUMERATED {start, stop, ... }

ReportCharacteristics ::= BIT STRING (SIZE(36))

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

ReportingPeriodicity ::= ENUMERATED {

 ms500, ms1000, ms2000, ms5000, ms10000, ms20000, ms30000, ms40000, ms50000, ms60000, ms70000, ms80000, ms90000, ms100000, ms110000, ms120000,

 ...

}

ReportingPeriodicityForDataCollection ::= ENUMERATED {

 half-thousand-ms,

 one-thousand-ms,

 two-thousand-ms,

 five-thousand-ms,

 ten-thousand-ms,

 ...

}

RequestedAction4AvailNGUTermination ::= ENUMERATED {

 apply-available-configuration,

 apply-requested-configuration,

 ...,

 apply-available-configuration-if-same-as-requested

}

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 ::= {

 ...

}

<<<<<<<<<<<<<<<<<<<< Next Changes >>>>>>>>>>>>>>>>>>>>

-- U

UDC-Parameters ::= SEQUENCE {

 bufferSize BufferSize,

 dictionary Dictionary OPTIONAL,

 continueUDC ENUMERATED {true, ...} OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { UDC-Parameters-ExtIEs } } OPTIONAL

}

UDC-Parameters-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 { ID id-VersionID CRITICALITY ignore EXTENSION INTEGER (0..15) PRESENCE optional},

 ...

}

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 ::= {

 ...

}

UESliceMaximumBitRateList ::= SEQUENCE (SIZE(1.. maxnoofSMBRValues)) OF UESliceMaximumBitRateItem

UESliceMaximumBitRateItem ::= SEQUENCE {

 sNSSAI SNSSAI,

 uESliceMaximumBitRateDL BitRate,

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

 ...

}

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

 ...

}

<<<<<<<<<<<<<<<<<<<< Next Changes >>>>>>>>>>>>>>>>>>>>

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

id-TraceStart ProcedureCode ::= 20

id-DeactivateTrace ProcedureCode ::= 21

id-resourceStatusReportingInitiation ProcedureCode ::= 22

id-resourceStatusReporting ProcedureCode ::= 23

id-iAB-UPTNLAddressUpdate ProcedureCode ::= 24

id-CellTrafficTrace ProcedureCode ::= 25

id-earlyForwardingSNTransfer ProcedureCode ::= 26

id-gNB-CU-CPMeasurementResultsInformation ProcedureCode ::= 27

id-iABPSKNotification ProcedureCode ::= 28

id-BCBearerContextSetup ProcedureCode ::= 29

id-BCBearerContextModification ProcedureCode ::= 30

id-BCBearerContextModificationRequired ProcedureCode ::= 31

id-BCBearerContextRelease ProcedureCode ::= 32

id-BCBearerContextReleaseRequest ProcedureCode ::= 33

id-MCBearerContextSetup ProcedureCode ::= 34

id-MCBearerContextModification ProcedureCode ::= 35

id-MCBearerContextModificationRequired ProcedureCode ::= 36

id-MCBearerContextRelease ProcedureCode ::= 37

id-MCBearerContextReleaseRequest ProcedureCode ::= 38

id-MCBearerNotification ProcedureCode ::= 39

id-dataCollectionReportingInitiation ProcedureCode ::= X1

id-dataCollectionReporting ProcedureCode ::= X2

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

--

-- 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

maxnoofTLAs INTEGER ::= 16

maxnoofGTPTLAs INTEGER ::= 16

maxnoofTNLAddresses INTEGER ::= 8

maxnoofMDTPLMNs INTEGER ::= 16

maxnoofQoSParaSets INTEGER ::= 8

maxnoofExtSliceItems INTEGER ::= 65535

maxnoofDataForwardingTunneltoE-UTRAN INTEGER ::= 256

maxnoofExtNRCGI INTEGER ::= 16384

maxnoofPSKs INTEGER ::= 256

maxnoofECGI INTEGER ::= 512

maxnoofSMBRValues INTEGER ::= 8

maxnoofMBSAreaSessionIDs INTEGER ::= 256

maxnoofSharedNG-UTerminations INTEGER ::= 8

maxnoofMRBs INTEGER ::= 32

maxnoofMBSSessionIDs INTEGER ::= 512

maxnoofCellsforMBS INTEGER ::= 512

maxnoofTAIforMBS INTEGER ::= 512

maxnoofMBSServiceAreaInformation INTEGER ::= 256

maxnoofDUs INTEGER ::= 512

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

--

-- 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-TraceActivation ProtocolIE-ID ::= 81

id-TraceID ProtocolIE-ID ::= 82

id-SubscriberProfileIDforRFP ProtocolIE-ID ::= 83

id-AdditionalRRMPriorityIndex ProtocolIE-ID ::= 84

id-RetainabilityMeasurementsInfo ProtocolIE-ID ::= 85

id-Transport-Layer-Address-Info ProtocolIE-ID ::= 86

id-QoSMonitoringRequest ProtocolIE-ID ::= 87

id-PDCP-StatusReportIndication ProtocolIE-ID ::= 88

id-gNB-CU-CP-Measurement-ID ProtocolIE-ID ::= 89

id-gNB-CU-UP-Measurement-ID ProtocolIE-ID ::= 90

id-RegistrationRequest ProtocolIE-ID ::= 91

id-ReportCharacteristics ProtocolIE-ID ::= 92

id-ReportingPeriodicity ProtocolIE-ID ::= 93

id-TNL-AvailableCapacityIndicator ProtocolIE-ID ::= 94

id-HW-CapacityIndicator ProtocolIE-ID ::= 95

id-RedundantCommonNetworkInstance ProtocolIE-ID ::= 96

id-redundant-nG-UL-UP-TNL-Information ProtocolIE-ID ::= 97

id-redundant-nG-DL-UP-TNL-Information ProtocolIE-ID ::= 98

id-RedundantQosFlowIndicator ProtocolIE-ID ::= 99

id-TSCTrafficCharacteristics ProtocolIE-ID ::= 100

id-CNPacketDelayBudgetDownlink ProtocolIE-ID ::= 101

id-CNPacketDelayBudgetUplink ProtocolIE-ID ::= 102

id-ExtendedPacketDelayBudget ProtocolIE-ID ::= 103

id-AdditionalPDCPduplicationInformation ProtocolIE-ID ::= 104

id-RedundantPDUSessionInformation ProtocolIE-ID ::= 105

id-RedundantPDUSessionInformation-used ProtocolIE-ID ::= 106

id-QoS-Mapping-Information ProtocolIE-ID ::= 107

id-DLUPTNLAddressToUpdateList ProtocolIE-ID ::= 108

id-ULUPTNLAddressToUpdateList ProtocolIE-ID ::= 109

id-NPNSupportInfo ProtocolIE-ID ::= 110

id-NPNContextInfo ProtocolIE-ID ::= 111

id-MDTConfiguration ProtocolIE-ID ::= 112

id-ManagementBasedMDTPLMNList ProtocolIE-ID ::= 113

id-TraceCollectionEntityIPAddress ProtocolIE-ID ::= 114

id-PrivacyIndicator ProtocolIE-ID ::= 115

id-TraceCollectionEntityURI ProtocolIE-ID ::= 116

id-URIaddress ProtocolIE-ID ::= 117

id-EHC-Parameters ProtocolIE-ID ::= 118

id-DRBs-Subject-To-Early-Forwarding-List ProtocolIE-ID ::= 119

id-DAPSRequestInfo ProtocolIE-ID ::= 120

id-CHOInitiation ProtocolIE-ID ::= 121

id-EarlyForwardingCOUNTReq ProtocolIE-ID ::= 122

id-EarlyForwardingCOUNTInfo ProtocolIE-ID ::= 123

id-AlternativeQoSParaSetList ProtocolIE-ID ::= 124

id-ExtendedSliceSupportList ProtocolIE-ID ::= 125

id-MCG-OfferedGBRQoSFlowInfo ProtocolIE-ID ::= 126

id-Number-of-tunnels ProtocolIE-ID ::= 127

id-DRB-Measurement-Results-Information-List ProtocolIE-ID ::= 128

id-Extended-GNB-CU-CP-Name ProtocolIE-ID ::= 129

id-Extended-GNB-CU-UP-Name ProtocolIE-ID ::= 130

id-DataForwardingtoE-UTRANInformationList ProtocolIE-ID ::= 131

id-QosMonitoringReportingFrequency ProtocolIE-ID ::= 132

id-QoSMonitoringDisabled ProtocolIE-ID ::= 133

id-AdditionalHandoverInfo ProtocolIE-ID ::= 134

id-Extended-NR-CGI-Support-List ProtocolIE-ID ::= 135

id-DataForwardingtoNG-RANQoSFlowInformationList ProtocolIE-ID ::= 136

id-MaxCIDEHCDL ProtocolIE-ID ::= 137

id-ignoreMappingRuleIndication ProtocolIE-ID ::= 138

id-DirectForwardingPathAvailability ProtocolIE-ID ::= 139

id-EarlyDataForwardingIndicator ProtocolIE-ID ::= 140

id-QoSFlowsDRBRemapping ProtocolIE-ID ::= 141

id-DataForwardingSourceIPAddress ProtocolIE-ID ::= 142

id-SecurityIndicationModify ProtocolIE-ID ::= 143

id-IAB-Donor-CU-UPPSKInfo ProtocolIE-ID ::= 144

id-ECGI-Support-List ProtocolIE-ID ::= 145

id-MDTPollutedMeasurementIndicator ProtocolIE-ID ::= 146

id-M4ReportAmount ProtocolIE-ID ::= 147

id-M6ReportAmount ProtocolIE-ID ::= 148

id-M7ReportAmount ProtocolIE-ID ::= 149

id-UESliceMaximumBitRateList ProtocolIE-ID ::= 150

id-PDUSession-PairID ProtocolIE-ID ::= 151

id-SurvivalTime ProtocolIE-ID ::= 152

id-UDC-Parameters ProtocolIE-ID ::= 153

id-SCGActivationStatus ProtocolIE-ID ::= 154

id-GNB-CU-CP-MBS-E1AP-ID ProtocolIE-ID ::= 155

id-GNB-CU-UP-MBS-E1AP-ID ProtocolIE-ID ::= 156

id-GlobalMBSSessionID ProtocolIE-ID ::= 157

id-BCBearerContextToSetup ProtocolIE-ID ::= 158

id-BCBearerContextToSetupResponse ProtocolIE-ID ::= 159

id-BCBearerContextToModify ProtocolIE-ID ::= 160

id-BCBearerContextToModifyResponse ProtocolIE-ID ::= 161

id-BCBearerContextToModifyRequired ProtocolIE-ID ::= 162

id-BCBearerContextToModifyConfirm ProtocolIE-ID ::= 163

id-MCBearerContextToSetup ProtocolIE-ID ::= 164

id-MCBearerContextToSetupResponse ProtocolIE-ID ::= 165

id-MCBearerContextToModify ProtocolIE-ID ::= 166

id-MCBearerContextToModifyResponse ProtocolIE-ID ::= 167

id-MCBearerContextToModifyRequired ProtocolIE-ID ::= 168

id-MCBearerContextToModifyConfirm ProtocolIE-ID ::= 169

id-MBSMulticastF1UContextDescriptor ProtocolIE-ID ::= 170

id-gNB-CU-UP-MBS-Support-Info ProtocolIE-ID ::= 171

id-SecurityIndication ProtocolIE-ID ::= 172

id-SecurityResult ProtocolIE-ID ::= 173

id-SDTContinueROHC ProtocolIE-ID ::= 174

id-SDTindicatorSetup ProtocolIE-ID ::= 175

id-SDTindicatorMod ProtocolIE-ID ::= 176

id-DiscardTimerExtended ProtocolIE-ID ::= 177

id-ManagementBasedMDTPLMNModificationList ProtocolIE-ID ::= 178

id-MCForwardingResourceRequest ProtocolIE-ID ::= 179

id-MCForwardingResourceIndication ProtocolIE-ID ::= 180

id-MCForwardingResourceResponse ProtocolIE-ID ::= 181

id-MCForwardingResourceRelease ProtocolIE-ID ::= 182

id-MCForwardingResourceReleaseIndication ProtocolIE-ID ::= 183

id-PDCP-COUNT-Reset ProtocolIE-ID ::= 184

id-MBSSessionAssociatedInfoNonSupportToSupport ProtocolIE-ID ::= 185

id-VersionID ProtocolIE-ID ::= 186

id-InactivityInformationRequest ProtocolIE-ID ::= 187

id-UEInactivityInformation ProtocolIE-ID ::= 188

id-MBSAreaSessionID ProtocolIE-ID ::= 189

id-Secondary-PDU-Session-Data-Forwarding-Information ProtocolIE-ID ::= 190

id-MBSSessionResourceNotification ProtocolIE-ID ::= 191

id-MCBearerContextInactivityTimer ProtocolIE-ID ::= 192

id-MCBearerContextStatusChange ProtocolIE-ID ::= 193

id-MT-SDT-Information ProtocolIE-ID ::= 194

id-MT-SDT-Information-Request ProtocolIE-ID ::= 195

id-SDT-data-size-threshold ProtocolIE-ID ::= 196

id-SDT-data-size-threshold-Crossed ProtocolIE-ID ::= 197

id-SpecialTriggeringPurpose ProtocolIE-ID ::= 198

id-AssociatedSessionID ProtocolIE-ID ::= 199

id-MBS-ServiceArea ProtocolIE-ID ::= 200

id-PDUSetQoSParameters ProtocolIE-ID ::= 201

id-N6JitterInformation ProtocolIE-ID ::= 202

id-ECNMarkingorCongestionInformationReportingRequest ProtocolIE-ID ::= 203

id-ECNMarkingorCongestionInformationReportingStatus ProtocolIE-ID ::= 204

id-PDUSetbasedHandlingIndicator ProtocolIE-ID ::= 205

id-IndirectPathIndication ProtocolIE-ID ::= 206

id-F1UTunnelNotEstablished ProtocolIE-ID ::= 207

id-F1U-TNL-InfoToAdd-List ProtocolIE-ID ::= 208

id-F1U-TNL-InfoAdded-List ProtocolIE-ID ::= 209

id-F1U-TNL-InfoToAddOrModify-List ProtocolIE-ID ::= 210

id-F1U-TNL-InfoAddedOrModified-List ProtocolIE-ID ::= 211

id-F1U-TNL-InfoToRelease-List ProtocolIE-ID ::= 212

id-BroadcastF1U-ContextReferenceE1 ProtocolIE-ID ::= 213

id-PSIbasedDiscardTimer ProtocolIE-ID ::= 214

id-UserPlaneErrorIndicator ProtocolIE-ID ::= 215

id-MaximumDataBurstVolume ProtocolIE-ID ::= 216

id-BCBearerContextNGU-TNLInfoatNGRAN-Request ProtocolIE-ID ::= 217

id-PDCPSNGapReport ProtocolIE-ID ::= 218

id-UserPlaneFailureIndication ProtocolIE-ID ::= 219

id-RegistrationRequestForDataCollection ProtocolIE-ID ::= XX1

id-ReportCharacteristicsForDataCollection ProtocolIE-ID ::= XX2

id-ReportingPeriodicityForDataCollection ProtocolIE-ID ::= XX3

END

-- ASN1STOP

<<<<<<<<<<<<<<<<<<<< End of the Change >>>>>>>>>>>>>>>>>>>>