**3GPP TSG-RAN WG3 Meeting #121 R3-234585**

**21-25 August 2023, Toulouse, France**

Agenda Item: 20.2

Source: Ericsson, Qualcomm Inc., ZTE, Lenovo, CATT

Title: (TP to TS 37.483 BL CR) Introduction of SDT Data Size threshold

Document for: Other

# TP to TS 37.483 BL CR

**>>>>>>START OF CHANGE<<<<<<<**

8.3.1 Bearer Context Setup

////////////////Skip unchanged part//////////////////////////

If the *UDC parameters* IE is included in the *PDCP Configuration* IE in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall, if supported, take these parameters into account to perform appropriate uplink data compression for the concerned DRB.

If the *SCG Activation Status* IE is contained in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall take it into account when handling DL data transfer as specified in TS 37.340 [19].

**Interactions with DL Data Notification procedure:**

If the *MT-SDT Information Request* IE is included in the BEARER CONTEXT SETUP REQUEST message and the value is set to 'true', the gNB-CU-UP shall, if supported, store it and report the *MT-SDT Information* IE in the DL DATA NOTIFICATION message as specified in TS 38.401 [2].

If the *SDT Data Size Threshold* IE is included in the BEARER CONTEXT SETUP REQUEST message, the gNB-CU-UP shall, if supported, store it and act as specified in TS 38.401 [2].

8.3.1.3 Unsuccessful Operation

Not modified

8.3.2 Bearer Context Modification (gNB-CU-CP initiated)

////////////////Skip unchanged part//////////////////////////

If the *Management Based MDT PLMN Modification List* IE is contained in the BEARER CONTEXT MODIFICATION REQUEST message, the gNB-CU-UP shall, if supported, overwrite any previously stored Management Based MDT PLMN List information in the UE context and use the received information to determine subsequent selection of the UE for management based MDT defined in TS 32.422 [24].

**Interactions with DL Data Notification procedure:**

If the *MT-SDT Information Request* IE is included in the BEARER CONTEXT MODIFICATION REQUEST message and the value is set to 'true', the gNB-CU-UP shall, if supported, store it and report the *MT-SDT Information* IE in the DL DATA NOTIFICATION message as specified in TS 38.401 [2].

If the *SDT Data Size Threshold* IE is included in the BEARER CONTEXT MODIFICATION REQUEST message, the gNB-CU-UP shall, if supported, store it and act as specified in TS 38.401 [2].

Not modified

8.3.7 DL Data Notification

8.3.7.1 General

This procedure is initiated by the gNB-CU-UP to indicate the detection of DL data arrival for the UE, or indicate that a DL packet including a QFI value in the NG-U header not configured by the *QoS Flows Information To Be Setup* IE or the *Flow Mapping Information* IE is received for the first time. The procedure uses UE-associated signalling.

8.3.7.2 Successful Operation

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**Figure 8.3.7.2-1: DL Data Notification procedure: Successful Operation.**

The gNB-CU-UP initiates the procedure by sending the DL DATA NOTIFICATION message to the gNB-CU-CP.

If the *PPI* IE is included in the DL DATA NOTIFICATION message, the gNB-CU-CP shall use it for paging policy differentiation.

If the *PDU Session To Notify List* IE is included in the DL DATA NOTIFICATION message, the gNB-CU-CP shall, if supported, either map the flow(s) included in *PDU Session To Notify List* IE to the existing DRB or establish a new DRB for the flow(s).

If the *MT-SDT Information* IE is included in the DL DATA NOTIFICATION message, the gNB-CU-CP shall, if supported, take it into account for MT-SDT paging.

If the *SDT Data Size Threshold Crossed* IE is included in the DL DATA NOTIFICATION message, the gNB-CU-CP shall, if supported, act as specified in TS 38.401 [2].

NOTE: If a DL packet including a QFI value in the NG-U header not configured by the *QoS Flows Information To Be Setup* IE or the *Flow Mapping Information* IE is received, the gNB-CU-UP may deliver the DL packet via any existing configured DRB before it initiates DL Data Notification procedure.

Not modified

9.2.2.1 BEARER CONTEXT SETUP REQUEST

This message is sent by the gNB-CU-CP to request the gNB-CU-UP to setup a bearer context.

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 |
| gNB-CU-CP UE E1AP ID | M |  | 9.3.1.4 |  | YES | reject |
| Security Information | M |  | 9.3.1.10 |  | YES | reject |
| UE DL Aggregate Maximum Bit Rate | M |  | Bit Rate 9.3.1.20 |  | YES | reject |
| UE DL Maximum Integrity Protected Data Rate | O |  | Bit Rate 9.3.1.20 | The Bit Rate is a portion of the UE’s Maximum Integrity Protected Data Rate, and is enforced by the gNB-CU-UP node. | YES | reject |
| Serving PLMN | M |  | PLMN Identity 9.3.1.7 |  | YES | ignore |
| Activity Notification Level | M |  | 9.3.1.67 |  | YES | reject |
| UE Inactivity Timer | O |  | Inactivity Timer 9.3.1.54 | Included if the Activity Notification Level is set to UE.  | - | - |
| Bearer Context Status Change | O |  | ENUMERATED (Suspend, Resume, …, ResumeforSDT) | Indicates the status of the Bearer Context.*NOTE: This IE is not applicable to eNB-CP/eNB-UP and ng-eNB-CU-CP/ng-eNB-CU-UP* | YES | reject |
| CHOICE *System* | M |  |  |  | YES | reject |
| *>E-UTRAN* |  |  |  |  |  |  |
| >>DRB To Setup List | M |  | DRB To Setup List E-UTRAN 9.3.3.1 |  | YES | reject |
| >>Subscriber Profile ID for RAT/Frequency priority | O |  | 9.3.1.69 |  | YES | ignore |
| >>Additional RRM Policy Index | O |  | 9.3.1.70 |  | YES | Ignore |
| *>NG-RAN* |  |  |  |  |  |  |
| >>PDU Session Resource To Setup List | M |  | 9.3.3.2 |  | YES | reject |
| RAN UE ID | O |  | OCTET STRING (SIZE(8)) |  | YES | ignore |
| gNB-DU ID | O |  | 9.3.1.65 | Included whenever it is known by the gNB-CU-CP or by the ng-eNB-CU-CP | YES | ignore |
| Trace Activation | O |  | 9.3.1.68 |  | YES | ignore |
| NPN Context Information | O |  | 9.3.1.84 |  | YES | reject |
| Management Based MDT PLMN List | O |  | MDT PLMN List9.3.1.89 |  | YES | ignore |
| CHO Initiation | O |  | ENUMERATED (True, …) |  | YES | reject |
| Additional Handover Information | O |  | ENUMERATED(Discard PDCP SN, …) | If set to “Discard PDCP SN”, indicates that the forwarded PDCP SNs have to be removed | YES | ignore |
| Direct Forwarding Path Availability | O |  | 9.3.1.98 |  | YES | ignore |
| gNB-CU-UP UE E1AP ID | O |  | 9.3.1.5 |  | YES | ignore |
| MDT Polluted Measurement Indicator | O |  | ENUMERATED (IDC, no-IDC, …) | Indication on whether MDT Measurement affect (e.g. IDC) is undertake or not. | YES | ignore |
| UE Slice Maximum Bit Rate List | O |  | 9.3.1.102 |  | YES | ignore |
| SCG Activation Status | O |  | 9.3.1.105 |  | YES | ignore |
| MT-SDT Information Request | O |  | ENUMERATED (true, …) | Indicates to request the report of MT-SDT Information. | YES | ignore |
| SDT Data Size Threshold | O |  | INTEGER(1.. 192000,...) | Unit: byte. | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofDRBs | Maximum no. of DRBs for a UE. Value is 32. |
| maxnoofPDUSessionResource  | Maximum no. of PDU Sessions for a UE. Value is 256. |

Not modified

9.2.2.4 BEARER CONTEXT MODIFICATION REQUEST

This message is sent by the gNB-CU-CP to request the gNB-CU-UP to modify a bearer context.

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 |
| gNB-CU-CP UE E1AP ID | M |  | 9.3.1.4 |  | YES | reject |
| gNB-CU-UP UE E1AP ID | M |  | 9.3.1.5 |  | YES | reject |
| Security Information | O |  | 9.3.1.10 |  | YES | reject |
| UE DL Aggregate Maximum Bit Rate | O |  | Bit Rate 9.3.1.20 |  | YES | reject |
| UE DL Maximum Integrity Protected Data Rate | O |  | Bit Rate 9.3.1.20 | The Bit Rate is a portion of the UE’s Maximum Integrity Protected Data Rate, and is enforced by the gNB-CU-UP node. | YES | reject |
| Bearer Context Status Change | O |  | ENUMERATED (Suspend, Resume, …, ResumeforSDT) | Indicates the status of the Bearer Context*NOTE: This IE is not applicable to eNB-CP/eNB-UP and ng-eNB-CU-CP/ng-eNB-CU-UP*. | YES | reject |
| New UL TNL Information Required | O |  | ENUMERATED (required, …) | Indicates that new UL TNL information has been requested to be provided. | YES | reject |
| UE Inactivity Timer | O |  | Inactivity Timer 9.3.1.54 | Included if the Activity Notification Level is set to UE. | - | - |
| Data Discard Required | O |  | ENUMERATED (required, …) | Indicate to discard the DL user data in case of RAN paging failure. | YES | ignore |
| CHOICE *System* | O |  |  |  | YES | reject |
| *>E-UTRAN* |  |  |  |  |  |  |
| >>DRB To Setup List | O |  | DRB To Setup Modification List E-UTRAN 9.3.3.7 |  | YES | reject |
| >>DRB To Modify List | O |  | DRB To Modify List E-UTRAN9.3.3.8 |  | YES | reject |
| >>DRB To Remove List | O |  | DRB To Remove List E-UTRAN 9.3.3.9 |  | YES | reject |
| >>Subscriber Profile ID for RAT/Frequency priority | O |  | 9.3.1.69 |  | YES | ignore |
| >>Additional RRM Policy Index | O |  | 9.3.1.70 |  | YES | ignore |
| *>NG-RAN* |  |  |  |  |  |  |
| >>PDU Session Resource To Setup List | O |  | PDU Session Resource To Setup Modification List9.3.3.10 |  | YES | reject |
| >>PDU Session Resource To Modify List | O |  | 9.3.3.11 |  | YES | reject |
| >>PDU Session Resource To Remove List | O |  | 9.3.3.12 |  | YES | reject |
| RAN UE ID | O |  | OCTET STRING (SIZE(8)) |  | YES | ignore |
| gNB-DU ID | O |  | 9.3.1.65 |  | YES | ignore |
| Activity Notification Level | O |  | 9.3.1.67 |  | YES | ignore |
| MDT Polluted Measurement Indicator | O |  | ENUMERATED (IDC, no-IDC, …) | Indication on whether MDT Measurement affect (e.g. IDC) is undertake or not. | YES | ignore |
| UE Slice Maximum Bit Rate List | O |  | 9.3.1.102 |  | YES | ignore |
| SCG Activation Status | O |  | 9.3.1.105 |  | YES | ignore |
| SDT Continue ROHC | O |  | ENUMERATED (true, …) | Indicates ROHC should be continued for SDT DRBs. This IE corresponds to information provided in the *sdt-DRB-ContinueROHC* contained in the *SDT-Config* IE as defined in TS 38.331 [10]. | YES | reject |
| Management Based MDT PLMN Modification List | O |  | MDT PLMN Modification List9.3.1.129 |  | YES | ignore |
| MT-SDT Information Request | O |  | ENUMERATED (true, …) | Indicates to request the report of MT-SDT Information. | YES | ignore |
| SDT Data Size Threshold | O |  | INTEGER(1.. 192000,...) | Unit: byte. | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofDRBs | Maximum no. of DRBs for a UE. Value is 32. |
| maxnoofPDUSessionResource  | Maximum no. of PDU Sessions for a UE. Value is 256. |

9.2.2.13 DL DATA NOTIFICATION

This message is sent by the gNB-CU-UP to provide information about the DL data detection to the gNB-CU-CP.

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 |
| gNB-CU-CP UE E1AP ID | M  |  | 9.3.1.4 |  | YES | reject |
| gNB-CU-UP UE E1AP ID  | M |  | 9.3.1.5 |  | YES | reject |
| Paging Priority Indicator (PPI) | O |  | 9.3.1.55 |  | YES | ignore |
| **PDU Session To Notify List** | O |  |  |  | YES | ignore |
| **>PDU Session To Notify Item** |  | *1..<maxnoofPDUSessionResource>* |  |  | - | - |
| >>PDU Session ID  | M |  | 9.3.1.21 |  | - | - |
| >>QoS Flow List | M |  | 9.3.1.12 |  | - | - |
| MT-SDT Information | O |  | 9.3.1.xxx |  | YES | ignore |
| SDT Data Size Threshold Crossed | O |   | ENUMERATED(true,…) | Indicates that the SDT Data size Threshold is crossed. |   |   |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofPDUSessionResource  | Maximum no. of PDU Sessions for a UE. Value is 256. |

Not modified

### 9.4.4 PDU Definitions

-- ASN1START

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

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-- 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-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,

 ExtendedSliceSupportList,

 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,

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

 SDTContinueROHC,

 MDTPLMNModificationList,

 MT-SDT-Information,

 MT-SDT-Information-Request,

 SDT-data-size-threshold,

 SDT-data-size-threshold-Crossed,

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-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-MT-SDT-Information,

 id-MT-SDT-Information-Request,

 id-SDT-data-size-threshold,

 id-SDT-data-size-threshold-Crossed

 maxnoofErrors,

 maxnoofSPLMNs,

 maxnoofDRBs,

 maxnoofTNLAssociations,

 maxnoofIndividualE1ConnectionsToReset,

 maxnoofTNLAddresses,

 maxnoofPSKs

FROM E1AP-Constants;

Not modified

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

--

-- Bearer Context Setup Request

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

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 }|

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

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

 { ID id-ManagementBasedMDTPLMNList CRITICALITY ignore TYPE MDTPLMNList PRESENCE optional}|

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

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

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

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

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

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

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

 { ID id-MT-SDT-Information-Request CRITICALITY ignore TYPE MT-SDT-Information-Request PRESENCE optional }|

 { ID id-SDT-data-size-threshold CRITICALITY ignore TYPE SDT-data-size-threshold 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 }|

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

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

 ...

}

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 },

 ...

}

Not modified

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

--

-- Bearer Context Modification Request

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

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 }|

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

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

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

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

 { ID id-ManagementBasedMDTPLMNModificationList CRITICALITY ignore TYPE MDTPLMNModificationList PRESENCE optional}|

 { ID id-MT-SDT-Information-Request CRITICALITY ignore TYPE MT-SDT-Information-Request PRESENCE optional }|

 { ID id-SDT-data-size-threshold CRITICALITY ignore TYPE SDT-data-size-threshold 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 }|

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

 { ID id-AdditionalRRMPriorityIndex CRITICALITY ignore TYPE AdditionalRRMPriorityIndex 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 },

 ...

}

Not modified

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

--

-- DL DATA NOTIFICATION

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

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

--

-- DL Data Notification

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

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 }|

 { ID id-PDU-Session-To-Notify-List CRITICALITY ignore TYPE PDU-Session-To-Notify-List PRESENCE optional }|

 { ID id-MT-SDT-Information CRITICALITY ignore TYPE MT-SDT-Information PRESENCE optional }|

 { ID id-SDT-data-size-threshold-Crossed CRITICALITY ignore TYPE SDT-data-size-threshold-Crossed PRESENCE optional },

 ...

}

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

Not modified

9.4.5 Information Element Definitions

-- ASN1START

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

--

-- Information Element Definitions

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

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

MeasurementsToActivate ::= BIT STRING (SIZE (8))

MDTPLMNList ::= SEQUENCE (SIZE(1..maxnoofMDTPLMNs)) OF PLMN-Identity

MDTPLMNModificationList ::= SEQUENCE (SIZE(0..maxnoofMDTPLMNs)) OF PLMN-Identity

MT-SDT-Information ::= SEQUENCE {

 mT-SDT-Data-Size MT-SDT-Data-Size,

 iE-Extensions ProtocolExtensionContainer { {MT-SDT-Information-ExtIEs} } OPTIONAL

}

MT-SDT-Information-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

MT-SDT-Information-Request ::= ENUMERATED {true, ...}

MT-SDT-Data-Size::= INTEGER (1..96000, ...)

-- N

Not modified

-- S

SCGActivationStatus ::= ENUMERATED { scg-activated, scg-deactivated, ...}

SecurityAlgorithm ::= SEQUENCE {

 cipheringAlgorithm CipheringAlgorithm,

 integrityProtectionAlgorithm IntegrityProtectionAlgorithm OPTIONAL,

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

 ...

}

SDT-data-size-threshold ::= INTEGER (1.. 192000, ...)

SDT-data-size-threshold-Crossed ::= ENUMERATED {oversize-sdt-data, ...}

Not modified

9.4.7 Constant Definitions

-- ASN1START

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

--

-- Constant definitions

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

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

Not modified

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-MT-SDT-Information ProtocolIE-ID ::= xxx

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

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

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

END

-- ASN1STOP