3GPP TSG-RAN WG3 Meeting #107 R3-20xxxx

Athens, Greece, 24 - 28 February 2020

**Agenda item: TBD**

**Source: ZTE**

**Title: (TP for NR\_IIOT BL CR for TS 38.463) Corrections and addition of ASN.1**

**Document for: Discussion and Decision**

# 1 Introduction

Following RAN3#106, the NR\_IIOT BL CR for TS 38.463 was agreed in [1].

Based on [2], the following proposal shall be also caputured

**Proposal 1: For backwards compatibility, a new *Extended Packet Delay Budget* IE should be introduced instead of extending the existing *Packet Delay Budget* IE.**

**Proposal 2: In order to be more future proof, the IE within the *Redundant QoS Flow Information* IE should be renamed *Redundant Transmission Requested* IE.**

This paper proposes the ASN.1 for the TS 38.463 NR\_IIOT BL CR. Also, some changes are proposed to the tabular to address issues found while drafting the ASN.1.

# References

1. R3-197828, Introduction of NR\_IIOT support to TS 38.463, ZTE
2. R3-20xxxx (TP for NR\_IIOT BL CR for TS 38.413) Corrections and addition of ASN.1, Nokia, Nokia Shanghai Bell

# Appendix: TP for TS 38.463 BL CR

*Beginning of Text Proposal for TS 38.463*

9.3.1.27 Non Dynamic 5QI Descriptor

This IE indicates the QoS Characteristics for a standardized or pre-configured 5QI for downlink and uplink.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| 5QI | M |  | INTEGER (0..255, …) | This IE contains the standardized or pre-configured 5QI as specified in TS 23.501 [20]. | - | - |
| Priority Level | O |  | 9.3.1.51 | For details see TS 23.501 [20]. When included overrides standardized or pre-configured value. | - | - |
| Averaging Window | O |  | 9.3.1.49 | This IE applies to GBR QoS Flows only. For details see TS 23.501 [20]. When included overrides standardized or pre-configured value. | - | - |
| Maximum Data Burst Volume | O |  | 9.3.1.50 | For details see TS 23.501 [20]. When included overrides standardized or pre-configured value.  | - | - |
| CN Packet Delay Budget | O |  | Extended Packet Delay Budget9.3.1.z3 | Core Network Packet Delay Budget is specified in TS 23.501 [9]. This IE may be present in case of GBR QoS flows and is ignored otherwise. | YES | ignore |

9.3.1.28 Dynamic 5QI Descriptor

This IE indicates the QoS Characteristics for a Non-standardised or not pre-configured 5QI for downlink and uplink.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| Priority Level | M |  | 9.3.1.51 | For details see TS 23.501 [20]. | - | - |
| Packet Delay Budget | M |  | 9.3.1.47 | For details see TS 23.501 [20]. This IE is ignored if the *Extended Packet Delay Budget* IE is present. | - | - |
| Packet Error Rate | M |  | 9.3.1.48 | For details see TS 23.501 [20]. | - | - |
| 5QI | O |  | INTEGER (0..255,…) | This IE contains the dynamically assigned 5QI as specified in TS 23.501 [20]. | - | - |
| Delay Critical | C-ifGBRflow |  | ENUMERATED (delay critical, non-delay critical) | For details see TS 23.501 [20]. | - | - |
| Averaging Window | C-ifGBRflow  |  | 9.3.1.49 | For details see TS 23.501 [20]. | - | - |
| Maximum Data Burst Volume | O |  | 9.3.1.50 | For details see TS 23.501 [20]. This IE shall be included if the *Delay Critical* IE is set to “delay critical” and is ignored otherwise. | - | - |
| Extended Packet Delay Budget | O |  | Extended Packet Delay Budget9.3.1.z3 | Packet Delay Budget is specified in TS 23.501 [9] | YES | ignore |
| CN Packet Delay Budget | O |  | Extended Packet Delay Budget9.3.1.z3 | Core Network Packet Delay Budget is specified in TS 23.501 [9]. This IE may be present in case of GBR QoS flows and is ignored otherwise. | YES | ignore |

|  |  |
| --- | --- |
| **Condition** | **Explanation** |
| ifGBRflow | This IE shall be present if the *GBR QoS Flow Information* IE is present in the *QoS Flow Level QoS Parameters* IE. |

*Next of Text Proposal for TS 38.463*

9.3.1.x Redundant QoS Flow Information

This IE provides the Redundant QoS Flow Information for a QoS flow.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| Redundant Transmission Requested | M |  | ENUMERATED (true, false) | This IE indicates that this QoS flow is requested for the redundant transmission, as specified in TS 23.501 [20]. |

*Next of Text Proposal for TS 38.463*

#### 9.3.1.z3 Extended Packet Delay Budget

This IE indicates the Packet Delay Budget for a QoS flow.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| Extended Packet Delay Budget | M |  | INTEGER (0..65535, …) | Upper bound value for the delay that a packet may experience expressed in unit of 0.01ms. |

*Next of Text Proposal for TS 38.463*

### 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-RedundantCommonNetworkInstance,

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

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

 id-RedundantQosFlowInformation,

 id-TSCTrafficCharacteristics,

 id-ExtendedPacketDelayBudget,

 id-CNPacketDelayBudget,

 maxnoofErrors,

 maxnoofSliceItems,

 maxnoofEUTRANQOSParameters,

 maxnoofNGRANQOSParameters,

 maxnoofDRBs,

 maxnoofPDUSessionResource,

 maxnoofQoSFlows,

 maxnoofUPParameters,

 maxnoofCellGroups,

 maxnooftimeperiods,

 maxnoofNRCGI,

 maxnoofTLAs,

 maxnoofGTPTLAs

<Skip unchanged part>

-- D

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

 data-Forwarding-Request Data-Forwarding-Request,

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

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

 ...

}

<Skip unchanged part>

Dynamic5QIDescriptor ::= SEQUENCE {

 qoSPriorityLevel QoSPriorityLevel,

 packetDelayBudget PacketDelayBudget,

 packetErrorRate PacketErrorRate,

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

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

 averagingWindow AveragingWindow OPTIONAL,

 maxDataBurstVolume MaxDataBurstVolume OPTIONAL,

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

}

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

 { ID id-ExtendedPacketDelayBudget CRITICALITY ignore EXTENSION ExtendedPacketDelayBudget PRESENCE optional }|

 { ID id-CNPacketDelayBudget CRITICALITY ignore EXTENSION ExtendedPacketDelayBudget PRESENCE optional },

 ...

}

DataDiscardRequired ::= ENUMERATED {

 required,

 ...

}

-- E

EncryptionKey ::= OCTET STRING

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

 endpoint-IP-Address TransportLayerAddress,

 portNumber PortNumber,

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

}

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

 ...

}

ExtendedPacketDelayBudget ::= INTEGER (1..65535, ...)

EUTRANAllocationAndRetentionPriority ::= SEQUENCE {

 priorityLevel PriorityLevel,

 pre-emptionCapability Pre-emptionCapability,

 pre-emptionVulnerability Pre-emptionVulnerability,

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

 ...

}

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

 ...

}

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

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

 eUTRAN-QoS EUTRAN-QoS,

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

}

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

 ...

}

EUTRAN-QoS ::= SEQUENCE {

 qCI QCI,

 eUTRANallocationAndRetentionPriority EUTRANAllocationAndRetentionPriority,

 gbrQosInformation GBR-QosInformation OPTIONAL,

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

 ...

}

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

 ...

}

<Skip unchanged part>

-- N

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

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

 required,

 ...

}

NGRANAllocationAndRetentionPriority ::= SEQUENCE {

 priorityLevel PriorityLevel,

 pre-emptionCapability Pre-emptionCapability,

 pre-emptionVulnerability Pre-emptionVulnerability,

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

}

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

 ...

}

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

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

 non-Dynamic5QIDescriptor Non-Dynamic5QIDescriptor,

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

}

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

 ...

}

Non-Dynamic5QIDescriptor ::= SEQUENCE {

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

 qoSPriorityLevel QoSPriorityLevel OPTIONAL,

 averagingWindow AveragingWindow OPTIONAL,

 maxDataBurstVolume MaxDataBurstVolume OPTIONAL,

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

}

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

 { ID id-CNPacketDelayBudget CRITICALITY ignore EXTENSION ExtendedPacketDelayBudget PRESENCE optional },

 ...

}

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

NR-CGI ::= SEQUENCE {

 pLMN-Identity PLMN-Identity,

 nR-Cell-Identity NR-Cell-Identity,

 iE-Extensions ProtocolExtensionContainer { { NR-CGI-ExtIEs } } OPTIONAL

}

NR-CGI-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NR-CGI-Support-List ::= SEQUENCE (SIZE(1.. maxnoofNRCGI)) OF NR-CGI-Support-Item

NR-CGI-Support-Item ::= SEQUENCE {

 nR-CGI NR-CGI,

 iE-Extensions ProtocolExtensionContainer { { NR-CGI-Support-Item-ExtIEs } } OPTIONAL

}

NR-CGI-Support-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

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-- P

PacketDelayBudget ::= INTEGER (0..1023, ...)

PacketErrorRate ::= SEQUENCE {

 pER-Scalar PER-Scalar,

 pER-Exponent PER-Exponent,

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

 ...

}

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

 ...

}

PER-Scalar ::= INTEGER (0..9, ...)

PER-Exponent ::= INTEGER (0..9, ...)

PDCP-Configuration ::= SEQUENCE {

 pDCP-SN-Size-UL PDCP-SN-Size,

 pDCP-SN-Size-DL PDCP-SN-Size,

 rLC-Mode RLC-Mode,

 rOHC-Parameters ROHC-Parameters OPTIONAL,

 t-ReorderingTimer T-ReorderingTimer OPTIONAL,

 discardTimer DiscardTimer OPTIONAL,

 uLDataSplitThreshold ULDataSplitThreshold OPTIONAL,

 pDCP-Duplication PDCP-Duplication OPTIONAL,

 pDCP-Reestablishment PDCP-Reestablishment OPTIONAL,

 pDCP-DataRecovery PDCP-DataRecovery OPTIONAL,

 duplication-Activation Duplication-Activation OPTIONAL,

 outOfOrderDelivery OutOfOrderDelivery OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { PDCP-Configuration-ExtIEs } } OPTIONAL,

 ...

}

PDCP-Configuration-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PDCP-Count ::= SEQUENCE {

 pDCP-SN PDCP-SN,

 hFN HFN,

 iE-Extensions ProtocolExtensionContainer { { PDCP-Count-ExtIEs } } OPTIONAL,

 ...

}

PDCP-Count-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PDCP-SN-Status-Request ::= ENUMERATED {

 requested,

 ...

}

PDCP-DataRecovery ::= ENUMERATED {

 true,

 ...

}

PDCP-Duplication ::= ENUMERATED {

 true,

 ...

}

PDCP-Reestablishment ::= ENUMERATED {

 true,

 ...

}

PDU-Session-Resource-Data-Usage-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Data-Usage-Item

PDU-Session-Resource-Data-Usage-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 mRDC-Usage-Information MRDC-Usage-Information,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Data-Usage-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-Data-Usage-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PDCP-SN ::= INTEGER (0..262143)

PDCP-SN-Size ::= ENUMERATED {

 s-12,

 s-18,

 ...

}

PDCP-SN-Status-Information ::= SEQUENCE {

 pdcpStatusTransfer-UL DRBBStatusTransfer,

 pdcpStatusTransfer-DL PDCP-Count,

 iE-Extension ProtocolExtensionContainer { {DRBsSubjectToStatusTransfer-Item-ExtIEs} } OPTIONAL,

 ...

}

DRBsSubjectToStatusTransfer-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DRBBStatusTransfer ::= SEQUENCE {

 receiveStatusofPDCPSDU BIT STRING (SIZE(1..131072)) OPTIONAL,

 countValue PDCP-Count,

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

 ...

}

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

 ...

}

PDU-Session-ID ::= INTEGER (0..255)

PDU-Session-Resource-Activity ::= ENUMERATED {

 active,

 not-active,

 ...

}

PDU-Session-Resource-Activity-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Activity-Item

PDU-Session-Resource-Activity-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

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

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Activity-ItemExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-Activity-ItemExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PDU-Session-Resource-Confirm-Modified-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Confirm-Modified-Item

PDU-Session-Resource-Confirm-Modified-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 dRB-Confirm-Modified-List-NG-RAN DRB-Confirm-Modified-List-NG-RAN OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Confirm-Modified-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-Confirm-Modified-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PDU-Session-Resource-Failed-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Failed-Item

PDU-Session-Resource-Failed-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 cause Cause,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Failed-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-Failed-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PDU-Session-Resource-Failed-Mod-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Failed-Mod-Item

PDU-Session-Resource-Failed-Mod-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 cause Cause,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Failed-Mod-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-Failed-Mod-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PDU-Session-Resource-Failed-To-Modify-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Failed-To-Modify-Item

PDU-Session-Resource-Failed-To-Modify-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 cause Cause,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Failed-To-Modify-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-Failed-To-Modify-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PDU-Session-Resource-Modified-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Modified-Item

PDU-Session-Resource-Modified-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 nG-DL-UP-TNL-Information UP-TNL-Information OPTIONAL,

 securityResult SecurityResult OPTIONAL,

 pDU-Session-Data-Forwarding-Information-Response Data-Forwarding-Information OPTIONAL,

 dRB-Setup-List-NG-RAN DRB-Setup-List-NG-RAN OPTIONAL,

 dRB-Failed-List-NG-RAN DRB-Failed-List-NG-RAN OPTIONAL,

 dRB-Modified-List-NG-RAN DRB-Modified-List-NG-RAN OPTIONAL,

 dRB-Failed-To-Modify-List-NG-RAN DRB-Failed-To-Modify-List-NG-RAN OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Modified-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-Modified-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 { ID id-redundant-nG-DL-UP-TNL-Information CRITICALITY ignore EXTENSION UP-TNL-Information PRESENCE optional },

 ...

}

PDU-Session-Resource-Required-To-Modify-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Required-To-Modify-Item

PDU-Session-Resource-Required-To-Modify-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 nG-DL-UP-TNL-Information UP-TNL-Information OPTIONAL,

 dRB-Required-To-Modify-List-NG-RAN DRB-Required-To-Modify-List-NG-RAN OPTIONAL,

 dRB-Required-To-Remove-List-NG-RAN DRB-Required-To-Remove-List-NG-RAN OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Required-To-Modify-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-Required-To-Modify-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 { ID id-redundant-nG-DL-UP-TNL-Information CRITICALITY ignore EXTENSION UP-TNL-Information PRESENCE optional },

 ...

}

PDU-Session-Resource-Setup-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Setup-Item

PDU-Session-Resource-Setup-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 securityResult SecurityResult OPTIONAL,

 nG-DL-UP-TNL-Information UP-TNL-Information,

 pDU-Session-Data-Forwarding-Information-Response Data-Forwarding-Information OPTIONAL,

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

 dRB-Setup-List-NG-RAN DRB-Setup-List-NG-RAN,

 dRB-Failed-List-NG-RAN DRB-Failed-List-NG-RAN OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Setup-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-Setup-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 { ID id-redundant-nG-DL-UP-TNL-Information CRITICALITY ignore EXTENSION UP-TNL-Information PRESENCE optional },

 ...

}

PDU-Session-Resource-Setup-Mod-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-Setup-Mod-Item

PDU-Session-Resource-Setup-Mod-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 securityResult SecurityResult OPTIONAL,

 nG-DL-UP-TNL-Information UP-TNL-Information,

 pDU-Session-Data-Forwarding-Information-Response Data-Forwarding-Information OPTIONAL,

 dRB-Setup-Mod-List-NG-RAN DRB-Setup-Mod-List-NG-RAN,

 dRB-Failed-Mod-List-NG-RAN DRB-Failed-Mod-List-NG-RAN OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-Setup-Mod-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-Setup-Mod-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 { ID id-redundant-nG-DL-UP-TNL-Information CRITICALITY ignore EXTENSION UP-TNL-Information PRESENCE optional },

 ...

}

PDU-Session-Resource-To-Modify-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-To-Modify-Item

PDU-Session-Resource-To-Modify-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 securityIndication SecurityIndication OPTIONAL,

 pDU-Session-Resource-DL-AMBR BitRate OPTIONAL,

 nG-UL-UP-TNL-Information UP-TNL-Information OPTIONAL,

 pDU-Session-Data-Forwarding-Information-Request Data-Forwarding-Information-Request OPTIONAL,

 pDU-Session-Data-Forwarding-Information Data-Forwarding-Information OPTIONAL,

 pDU-Session-Inactivity-Timer Inactivity-Timer OPTIONAL,

 networkInstance NetworkInstance OPTIONAL,

 dRB-To-Setup-List-NG-RAN DRB-To-Setup-List-NG-RAN OPTIONAL,

 dRB-To-Modify-List-NG-RAN DRB-To-Modify-List-NG-RAN OPTIONAL,

 dRB-To-Remove-List-NG-RAN DRB-To-Remove-List-NG-RAN OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-To-Modify-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-To-Modify-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 {ID id-SNSSAI CRITICALITY reject EXTENSION SNSSAI PRESENCE optional}|

 {ID id-CommonNetworkInstance CRITICALITY ignore EXTENSION CommonNetworkInstance PRESENCE optional }|

 {ID id-redundant-nG-UL-UP-TNL-Information CRITICALITY ignore EXTENSION UP-TNL-Information PRESENCE optional }|

 {ID id-RedundantCommonNetworkInstance CRITICALITY ignore EXTENSION CommonNetworkInstance PRESENCE optional },

 ...

}

PDU-Session-Resource-To-Remove-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-To-Remove-Item

PDU-Session-Resource-To-Remove-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-To-Remove-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-To-Remove-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

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

 ...

}

PDU-Session-Resource-To-Setup-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-To-Setup-Item

PDU-Session-Resource-To-Setup-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 pDU-Session-Type PDU-Session-Type,

 sNSSAI SNSSAI,

 securityIndication SecurityIndication,

 pDU-Session-Resource-DL-AMBR BitRate OPTIONAL,

 nG-UL-UP-TNL-Information UP-TNL-Information,

 pDU-Session-Data-Forwarding-Information-Request Data-Forwarding-Information-Request OPTIONAL,

 pDU-Session-Inactivity-Timer Inactivity-Timer OPTIONAL,

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

 networkInstance NetworkInstance OPTIONAL,

 dRB-To-Setup-List-NG-RAN DRB-To-Setup-List-NG-RAN,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-To-Setup-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-To-Setup-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 { ID id-CommonNetworkInstance CRITICALITY ignore EXTENSION CommonNetworkInstance PRESENCE optional }|

 { ID id-redundant-nG-UL-UP-TNL-Information CRITICALITY ignore EXTENSION UP-TNL-Information PRESENCE optional }|

 { ID id-RedundantCommonNetworkInstance CRITICALITY ignore EXTENSION CommonNetworkInstance PRESENCE optional },

 ...

}

PDU-Session-Resource-To-Setup-Mod-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-Resource-To-Setup-Mod-Item

PDU-Session-Resource-To-Setup-Mod-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 pDU-Session-Type PDU-Session-Type,

 sNSSAI SNSSAI,

 securityIndication SecurityIndication,

 pDU-Session-Resource-AMBR BitRate OPTIONAL,

 nG-UL-UP-TNL-Information UP-TNL-Information,

 pDU-Session-Data-Forwarding-Information-Request Data-Forwarding-Information-Request OPTIONAL,

 pDU-Session-Inactivity-Timer Inactivity-Timer OPTIONAL,

 dRB-To-Setup-Mod-List-NG-RAN DRB-To-Setup-Mod-List-NG-RAN,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-Resource-To-Setup-Mod-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-Resource-To-Setup-Mod-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 {ID id-NetworkInstance CRITICALITY ignore EXTENSION NetworkInstance PRESENCE optional}|

 {ID id-CommonNetworkInstance CRITICALITY ignore EXTENSION CommonNetworkInstance PRESENCE optional}|

 {ID id-redundant-nG-UL-UP-TNL-Information CRITICALITY ignore EXTENSION UP-TNL-Information PRESENCE optional }|

 {ID id-RedundantCommonNetworkInstance CRITICALITY ignore EXTENSION CommonNetworkInstance PRESENCE optional },

 ...

}

PDU-Session-To-Notify-List ::= SEQUENCE (SIZE(1.. maxnoofPDUSessionResource)) OF PDU-Session-To-Notify-Item

PDU-Session-To-Notify-Item ::= SEQUENCE {

 pDU-Session-ID PDU-Session-ID,

 qoS-Flow-List QoS-Flow-List,

 iE-Extensions ProtocolExtensionContainer { { PDU-Session-To-Notify-Item-ExtIEs } } OPTIONAL,

 ...

}

PDU-Session-To-Notify-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

PDU-Session-Type ::= ENUMERATED {

 ipv4,

 ipv6,

 ipv4v6,

 ethernet,

 unstructured,

 ...

}

PLMN-Identity ::= OCTET STRING (SIZE(3))

PortNumber ::= BIT STRING (SIZE(16))

PPI ::= INTEGER (0..7, ...)

PriorityLevel ::= INTEGER { spare (0), highest (1), lowest (14), no-priority (15) } (0..15)

Pre-emptionCapability ::= ENUMERATED {

 shall-not-trigger-pre-emption,

 may-trigger-pre-emption

}

Pre-emptionVulnerability ::= ENUMERATED {

 not-pre-emptable,

 pre-emptable

}

-- Q

QCI ::= INTEGER (0..255)

QoS-Characteristics ::= CHOICE {

 non-Dynamic-5QI Non-Dynamic5QIDescriptor,

 dynamic-5QI Dynamic5QIDescriptor,

 choice-extension ProtocolIE-SingleContainer {{QoS-Characteristics-ExtIEs}}

}

QoS-Characteristics-ExtIEs E1AP-PROTOCOL-IES ::= {

 ...

}

QoS-Flow-Identifier ::= INTEGER (0..63)

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

QoS-Flow-Item ::= SEQUENCE {

 qoS-Flow-Identifier QoS-Flow-Identifier,

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

 ...

}

QoS-Flow-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 {ID id-QoSFlowMappingIndication CRITICALITY ignore EXTENSION QoS-Flow-Mapping-Indication PRESENCE optional},

 ...

}

QoS-Flow-Failed-List ::= SEQUENCE (SIZE(1.. maxnoofQoSFlows)) OF QoS-Flow-Failed-Item

QoS-Flow-Failed-Item ::= SEQUENCE {

 qoS-Flow-Identifier QoS-Flow-Identifier,

 cause Cause,

 iE-Extensions ProtocolExtensionContainer { { QoS-Flow-Failed-Item-ExtIEs } } OPTIONAL,

 ...

}

QoS-Flow-Failed-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

QoS-Flow-Mapping-List ::= SEQUENCE (SIZE(1.. maxnoofQoSFlows)) OF QoS-Flow-Mapping-Item

QoS-Flow-Mapping-Item ::= SEQUENCE {

 qoS-Flow-Identifier QoS-Flow-Identifier,

 qoSFlowMappingIndication QoS-Flow-Mapping-Indication OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { QoS-Flow-Mapping-Item-ExtIEs } } OPTIONAL,

 ...

}

QoS-Flow-Mapping-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

QoS-Flow-Mapping-Indication ::= ENUMERATED {ul, dl, ...}

QoS-Parameters-Support-List ::= SEQUENCE {

 eUTRAN-QoS-Support-List EUTRAN-QoS-Support-List OPTIONAL,

 nG-RAN-QoS-Support-List NG-RAN-QoS-Support-List OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { QoS-Parameters-Support-List-ItemExtIEs} } OPTIONAL,

 ...

}

QoS-Parameters-Support-List-ItemExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

QoSPriorityLevel ::= INTEGER (0..127, ...)

QoS-Flow-QoS-Parameter-List ::= SEQUENCE (SIZE(1.. maxnoofQoSFlows)) OF QoS-Flow-QoS-Parameter-Item

QoS-Flow-QoS-Parameter-Item ::= SEQUENCE {

 qoS-Flow-Identifier QoS-Flow-Identifier,

 qoSFlowLevelQoSParameters QoSFlowLevelQoSParameters,

 qoSFlowMappingIndication QoS-Flow-Mapping-Indication OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { QoS-Flow-QoS-Parameter-Item-ExtIEs } } OPTIONAL,

 ...

}

QoS-Flow-QoS-Parameter-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 {ID id-RedundantQosFlowInformation CRITICALITY ignore EXTENSION RedundantQosFlowInformation PRESENCE optional}|

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

 ...

}

QoSFlowLevelQoSParameters ::= SEQUENCE {

 qoS-Characteristics QoS-Characteristics,

 nGRANallocationRetentionPriority NGRANAllocationAndRetentionPriority,

 gBR-QoS-Flow-Information GBR-QoSFlowInformation OPTIONAL,

 reflective-QoS-Attribute ENUMERATED {subject-to, ...} OPTIONAL,

 additional-QoS-Information ENUMERATED {more-likely, ...} OPTIONAL,

 paging-Policy-Indicator INTEGER (1..8, ...) OPTIONAL,

 reflective-QoS-Indicator ENUMERATED {enabled, ...} OPTIONAL,

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

}

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

 ...

}

QoS-Flow-Removed-Item ::= SEQUENCE {

 qoS-Flow-Identifier QoS-Flow-Identifier,

 qoS-Flow-Released-In-Session ENUMERATED {released-in-session, not-released-in-session, ...} OPTIONAL,

 qoS-Flow-Accumulated-Session-Time OCTET STRING (SIZE(5)) OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { QoS-Flow-Removed-Item-ExtIEs } } OPTIONAL,

 ...

}

QoS-Flow-Removed-Item-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

-- R

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

RAT-Type ::= ENUMERATED {

 e-UTRA,

 nR,

 ...

}

RedundantQosFlowInformation ::= SEQUENCE {

 redundantTransmissionRequested RedundantTransmissionRequested,

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

 ...

}

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

 ...

}

RedundantTransmissionRequested ::= ENUMERATED {

 true,

 false,

 ...

}

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

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 ::= {

 ...

}

<Skip unchanged part>

-- T

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

TNLAssociationUsage ::= ENUMERATED {

 ue,

 non-ue,

 both,

...

}

TSCTrafficCharacteristics ::= SEQUENCE {

 tSCTrafficCharacteristicsUL TSCTrafficInformation OPTIONAL,

 tSCTrafficCharacteristicsDL TSCTrafficInformation OPTIONAL,

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

}

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

 ...

}

TSCTrafficInformation ::= SEQUENCE {

 periodicity Periodicity,

 burstArrivalTime BurstArrivalTime OPTIONAL,

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

}

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

 ...

}

Periodicity ::= INTEGER (1..640000, ...)

BurstArrivalTime ::= OCTET STRING

TraceActivation ::= SEQUENCE {

 traceID TraceID,

 interfacesToTrace InterfacesToTrace,

 traceDepth TraceDepth,

 traceCollectionEntityIPAddress TransportLayerAddress,

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

 ...

}

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

 ...

}

TraceDepth ::= ENUMERATED {

 minimum,

 medium,

 maximum,

 minimumWithoutVendorSpecificExtension,

 mediumWithoutVendorSpecificExtension,

 maximumWithoutVendorSpecificExtension,

 ...

}

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

TransportLayerAddress ::= BIT STRING (SIZE(1..160, ...))

TransactionID ::= INTEGER (0..255, ...)

T-Reordering ::= ENUMERATED {ms0, ms1, ms2, ms4, ms5, ms8, ms10, ms15, ms20, ms30, ms40, ms50, ms60, ms80, ms100, ms120, ms140, ms160, ms180, ms200, ms220, ms240, ms260, ms280, ms300, ms500, ms750, ms1000, ms1250, ms1500, ms1750, ms2000, ms2250, ms2500, ms2750, ms3000, ...}

T-ReorderingTimer ::= SEQUENCE {

 t-Reordering T-Reordering,

 iE-Extensions ProtocolExtensionContainer { { T-ReorderingTimer-ExtIEs } } OPTIONAL,

 ...

}

T-ReorderingTimer-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TypeOfError ::= ENUMERATED {

 not-understood,

 missing,

 ...

}

Transport-Layer-Address-Info ::= SEQUENCE {

 transport-UP-Layer-Addresses-Info-To-Add-List Transport-UP-Layer-Addresses-Info-To-Add-List OPTIONAL,

 transport-UP-Layer-Addresses-Info-To-Remove-List Transport-UP-Layer-Addresses-Info-To-Remove-List OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Transport-Layer-Address-Info-ExtIEs} } OPTIONAL,

 ...

 }

Transport-Layer-Address-Info-ExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Transport-UP-Layer-Addresses-Info-To-Add-List ::= SEQUENCE (SIZE(1.. maxnoofTLAs)) OF Transport-UP-Layer-Addresses-Info-To-Add-Item

Transport-UP-Layer-Addresses-Info-To-Add-Item ::= SEQUENCE {

 iP-SecTransportLayerAddress TransportLayerAddress,

 gTPTransportLayerAddressesToAdd GTPTLAs OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Transport-UP-Layer-Addresses-Info-To-Add-ItemExtIEs } } OPTIONAL,

 ...

}

Transport-UP-Layer-Addresses-Info-To-Add-ItemExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Transport-UP-Layer-Addresses-Info-To-Remove-List ::= SEQUENCE (SIZE(1.. maxnoofTLAs)) OF Transport-UP-Layer-Addresses-Info-To-Remove-Item

Transport-UP-Layer-Addresses-Info-To-Remove-Item ::= SEQUENCE {

 iP-SecTransportLayerAddress TransportLayerAddress,

 gTPTransportLayerAddressesToRemove GTPTLAs OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Transport-UP-Layer-Addresses-Info-To-Remove-ItemExtIEs } } OPTIONAL,

 ...

}

Transport-UP-Layer-Addresses-Info-To-Remove-ItemExtIEs E1AP-PROTOCOL-EXTENSION ::= {

 ...

}

-- U

### 9.4.7 Constant Definitions

-- ASN1START

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

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-- Constant definitions

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

<Skip unchanged part>

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

--

-- 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-Addresses-Info ProtocolIE-ID ::= 86

id-RedundantCommonNetworkInstance ProtocolIE-ID ::= xx

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

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

id-RedundantQosFlowInformation ProtocolIE-ID ::= xx

id-TSCTrafficCharacteristics ProtocolIE-ID ::= xx

id-CNPacketDelayBudget ProtocolIE-ID ::= xx

id-ExtendedPacketDelayBudget ProtocolIE-ID ::= xx

END

-- ASN1STOP

*End of Text Proposal for TS 38.463*