**3GPP TSG-RAN WG3 Meeting #109-eR3-205038**

**Online, August 17th – 28th 2020**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.413** | **CR** | **0441** | **rev** |  | **Current version:** | **16.2.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

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

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|  | | | | | | | | | | |
| ***Title:*** | Signalling Logged MDT configuration indication over NGAP | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | RAN3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_SON\_MDT | | | | |  | ***Date:*** | | | 2020-08-06 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12) Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Enabling simple enforcement of the RAN2 agreement: “Management based MDT should not overwrite signalling based MDT” in the case of idle UEs. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The CR requests to add a new IE to the Trace Activation message, stating that the Logged MDT configuration signalled is active or pending providing an efficient and simple mechanism to indicate an ongoing signalling based MDT session for idle UEs. The details are discussed in the associated discussion contribution    Impact Analysis  This CR has limited functional impact. The CR has limited ASN.1 impacts. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The RAN2 Agreement that specifies that “Management based MDT should not overwrite signalling based MDT” will not be supported | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.11.1, 8.11.2, 9.3.1.2, 9.4.5, 9.4.7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS38.423 CR0424 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

<<<<<<<<<<<<<<<<<<<<Start of Changes >>>>>>>>>>>>>>>>>>>>

<<<<<<<<<<<<<<<<<<<< 1st set of Changes >>>>>>>>>>>>>>>>>>>>

## 8.11 Trace Procedures

### 8.11.1 Trace Start

#### 8.11.1.1 General

The purpose of the Trace Start procedure is to allow the AMF to request the NG-RAN node to initiate a trace session for a UE. The procedure uses UE-associated signalling. If no UE-associated logical NG-connection exists, the UE-associated logical NG-connection shall be established as part of the procedure.

#### 8.11.1.2 Successful Operation



Figure 8.11.1.2-1: Trace start

The AMF initiates the procedure by sending a TRACE START message. Upon reception of the TRACE START message, the NG-RAN node shall initiate the requested trace session as described in TS 32.422 [11].

If the *Trace Activation* IE is included in the TRACE START message which includes the *MDT Activation* IE set to "Immediate MDT and Trace", the NG-RAN node shall, if supported, initiate the requested trace session and MDT session as described in TS 32.422 [11].

If the *Trace Activation* IE is included in the TRACE START message which includes the *MDT Activation* IE set to "Immediate MDT Only", "Logged MDT only", the NG-RAN node shall, if supported, initiate the requested MDT session as described in TS 32.422 [11] and the NG-RAN node shall ignore the *Interfaces To Trace* IE and the *Trace Depth* IE.

If the *Trace Activation* IE includes the *MDT Location Information* IE within the *MDT Configuration* IE, the NG-RAN node shall, if supported, store this information and take it into account in the requested MDT session.

If the *Trace Activation* IE is included in the TRACE START message which includes the *MDT Activation* IE set to "Immediate MDT Only", "Logged MDT only" and if the *Signalling Based MDT PLMN List* IE is included in the *MDT Configuration* IE, the NG-RAN node may use it to propagate the MDT Configuration as described in TS 37.320 [41].

If the *Trace Activation* IE includes the *Bluetooth Measurement Configuration* IE within the *MDT Configuration* IE, the NG-RAN node shall, if supported, take it into account for MDT Configuration as described in TS 37.320 [41].

If the *Trace Activation* IE includes the *WLAN Measurement Configuration* IE within the *MDT Configuration* IE, the NG-RAN node shall, if supported, take it into account for MDT Configuration as described in TS 37.320 [41].

If the *Trace Activation* IE includes the *Sensor Measurement Configuration* IE within the *MDT Configuration* IE, the NG-RAN node shall, if supported, take it into account for MDT Configuration as described in TS 37.320 [41].

If the *Trace Activation* IE includes the *MDT Configuration* IE and if the NG-RAN node is a gNB at least the *MDT Configuration-NR* IE shall be present, while if the NG-RAN node is an ng-eNB at least the *MDT Configuration-EUTRA* IE shall be present.

**Interactions with other procedures:**

If the NG-RAN node is not able to initiate the trace session due to ongoing handover of the UE to another NG-RAN node or due to failure to configure the UE, the NG-RAN node shall initiate a Trace Failure Indication procedure with the appropriate cause value.

#### 8.11.1.3 Abnormal Conditions

Void.

### 8.11.2 Trace Failure Indication

#### 8.11.2.1 General

The purpose of the Trace Failure Indication procedure is to allow the NG-RAN node to inform the AMF that a Trace Start procedure or a Deactivate Trace procedure has failed due to an interaction with a handover procedure or due to failure to configure the UE. The procedure uses UE-associated signalling.

#### 8.11.2.2 Successful Operation



Figure 8.11.2.2-1: Trace failure indication

The NG-RAN node initiates the procedure by sending a TRACE FAILURE INDICATION message. Upon reception of the TRACE FAILURE INDICATION message, the AMF shall take appropriate actions based on the failure reason indicated by the *Cause* IE.

#### 8.11.2.3 Abnormal Conditions

Void.

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**- TEXT OMITTED –**

<<<<<<<<<<<<<<<<<<<< 2nd set of Changes >>>>>>>>>>>>>>>>>>>>

#### 9.3.1.14 Trace Activation

This IE defines parameters related to a trace session activation.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| NG-RAN Trace ID | M |  | OCTET STRING (SIZE(8)) | This IE is composed of the following:  Trace Reference defined in TS 32.422 [11] (leftmost 6 octets, with PLMN information encoded as in 9.3.3.1), and  Trace Recording Session Reference defined in TS 32.422 [11] (last 2 octets). | - |  |
| Interfaces to Trace | M |  | BIT STRING (SIZE(8)) | Each position in the bitmap represents an NG-RAN node interface:  first bit = NG-C, second bit = Xn-C, third bit = Uu, fourth bit = F1-C, fifth bit = E1:  other bits reserved for future use. Value '1' indicates 'should be traced'. Value '0' indicates 'should not be traced'. | - |  |
| Trace Depth | M |  | ENUMERATED (minimum, medium, maximum, minimumWithoutVendorSpecificExtension,  mediumWithoutVendorSpecificExtension,  maximumWithoutVendorSpecificExtension, …) | Defined in TS 32.422 [11]. | - |  |
| Trace Collection Entity IP Address | M |  | Transport Layer Address  9.3.2.4 | For File based Reporting. Defined in TS 32.422 [11].  Should be ignored if URI is present. | - |  |
| MDT Configuration | O |  | 9.3.1.167 |  | YES | ignore |
| Trace Collection Entity URI | O |  | URI  9.3.2.14 | For Streaming based Reporting.  Defined in TS 32.422 [11]  Replaces Trace Collection Entity IP Address if present | YES | ignore |
| Signalling Based Logged MDT State | O |  | ENUMERATED (Configured, …) | This IE indicates that the signalling based logged MDT configuration has been configured at the UE | Yes | ignore |

<<<<<<<<<<<<<<<<<<<< End of 2nd set of Changes >>>>>>>>>>>>>>>>>>>>

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<<<<<<<<<<<<<<<<<<<< 3rd set of Changes >>>>>>>>>>>>>>>>>>>>

#### 9.3.1.2 Cause

The purpose of the *Cause* IE is to indicate the reason for a particular event for the NGAP protocol.

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| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| CHOICE *Cause Group* | M |  |  |  |
| >*Radio Network Layer* |  |  |  |  |
| >>Radio Network Layer Cause | M |  | ENUMERATED (Unspecified,  TXnRELOCOverall expiry,  Successful handover,  Release due to NG-RAN generated reason,  Release due to 5GC generated reason,  Handover cancelled,  Partial handover,  Handover failure in target 5GC/NG-RAN node or target system,  Handover target not allowed,  TNGRELOCoverall expiry,  TNGRELOCprep expiry,  Cell not available,  Unknown target ID,  No radio resources available in target cell,  Unknown local UE NGAP ID,  Inconsistent remote UE NGAP ID,  Handover desirable for radio reasons,  Time critical handover,  Resource optimisation handover,  Reduce load in serving cell,  User inactivity,  Radio connection with UE lost,  Radio resources not available,  Invalid QoS combination,  Failure in the radio interface procedure,  Interaction with other procedure,  Unknown PDU Session ID,  Unknown QoS Flow ID,  Multiple PDU Session ID Instances,  Multiple QoS Flow ID Instances,  Encryption and/or integrity protection algorithms not supported,  NG intra-system handover triggered,  NG inter-system handover triggered,  Xn handover triggered,  Not supported 5QI value,  UE context transfer,  IMS voice EPS fallback or RAT fallback triggered,  UP integrity protection not possible,  UP confidentiality protection not possible,  Slice(s) not supported,  UE in RRC\_INACTIVE state not reachable,  Redirection,  Resources not available for the slice(s),  UE maximum integrity protected data rate reason,  Release due to CN-detected mobility,  …, N26 interface not available, Release due to pre-emption,Multiple Location Reporting Reference ID Instances,  NPN access denied,  RSN not available for the UP, Failed logged MDT measurement configuration) |  |
| *>Transport Layer* |  |  |  |  |
| >>Transport Layer Cause | M |  | ENUMERATED (Transport resource unavailable,  Unspecified, …) |  |
| *>NAS* |  |  |  |  |
| >>NAS Cause | M |  | ENUMERATED  (Normal release,  Authentication failure,  Deregister,  Unspecified,  …) |  |
| *>Protocol* |  |  |  |  |
| >>Protocol Cause | M |  | ENUMERATED (Transfer syntax error, Abstract syntax error (reject), Abstract syntax error (ignore and notify), Message not compatible with receiver state,  Semantic error,  Abstract syntax error (falsely constructed message),  Unspecified,  …) |  |
| *>Miscellaneous* |  |  |  |  |
| >>Miscellaneous Cause | M |  | ENUMERATED (Control processing overload,  Not enough user plane processing resources, Hardware failure, O&M intervention, Unknown PLMN,  Unspecified,  …) |  |

The meaning of the different cause values is described in the following tables. In general, "not supported" cause values indicate that the related capability is missing. On the other hand, "not available" cause values indicate that the related capability is present, but insufficient resources were available to perform the requested action.

|  |  |
| --- | --- |
| Radio Network Layer cause | Meaning |
| Unspecified | Sent for radio network layer cause when none of the specified cause values applies. |
| TXnRELOCOverall expiry | The timer guarding the handover that takes place over Xn has abnormally expired. |
| Successful handover | Successful handover. |
| Release due to NG-RAN generated reason | Release is initiated due to NG-RAN generated reason. |
| Release due to 5GC generated reason | Release is initiated due to 5GC generated reason. |
| Handover cancelled | The reason for the action is cancellation of Handover. |
| Partial handover | Provides a reason for the handover cancellation. The HANDOVER COMMAND message from AMF contained *PDU Session Resource to Release List* IEor *QoS flow to Release List* and the source NG-RAN node estimated service continuity for the UE would be better by not proceeding with handover towards this particular target NG-RAN node. |
| Handover failure in target 5GC/ NG-RAN node or target system | The handover failed due to a failure in target 5GC/NG-RAN node or target system. |
| Handover target not allowed | Handover to the indicated target cell is not allowed for the UE in question. |
| TNGRELOCoverall expiry | The reason for the action is expiry of timer TNGRELOCoverall. |
| TNGRELOCprep expiry | Handover Preparation procedure is cancelled when timer TNGRELOCprep expires. |
| Cell not available | The concerned cell is not available. |
| Unknown target ID | Handover rejected because the target ID is not known to the AMF. |
| No radio resources available in target cell | Load on target cell is too high. |
| Unknown local UE NGAP ID | The action failed because the receiving node does not recognise the local UE NGAP ID. |
| Inconsistent remote UE NGAP ID | The action failed because the receiving node considers that the received remote UE NGAP ID is inconsistent. |
| Handover desirable for radio reasons | The reason for requesting handover is radio related. |
| Time critical handover | Handover is requested for time critical reason i.e., this cause value is reserved to represent all critical cases where the connection is likely to be dropped if handover is not performed. |
| Resource optimisation handover | The reason for requesting handover is to improve the load distribution with the neighbour cells. |
| Reduce load in serving cell | Load on serving cell needs to be reduced. When applied to handover preparation, it indicates the handover is triggered due to load balancing. |
| User inactivity | The action is requested due to user inactivity on all PDU sessions, e.g., NG is requested to be released in order to optimise the radio resources. |
| Radio connection with UE lost | The action is requested due to losing the radio connection to the UE. |
| Radio resources not available | No requested radio resources are available. |
| Invalid QoS combination | The action was failed because of invalid QoS combination. |
| Failure in the radio interface procedure | Radio interface procedure has failed. |
| Interaction with other procedure | The action is due to an ongoing interaction with another procedure. |
| Unknown PDU Session ID | The action failed because the PDU Session ID is unknown in the NG-RAN node. |
| Unknown QoS Flow ID | The action failed because the QoS Flow ID is unknown in the NG-RAN node. |
| Multiple PDU Session ID instances | The action failed because multiple instance of the same PDU Session had been provided to/from the NG-RAN node. |
| Multiple QoS Flow ID instances | The action failed because multiple instances of the same QoS flow had been provided to the NG-RAN node. |
| Encryption and/or integrity protection algorithms not supported | The NG-RAN node is unable to support any of the encryption and/or integrity protection algorithms supported by the UE. |
| NG intra-system handover triggered | The action is due to a NG intra-system handover that has been triggered. |
| NG inter-system handover triggered | The action is due to a NG inter-system handover that has been triggered. |
| Xn handover triggered | The action is due to an Xn handover that has been triggered. |
| Not supported 5QI value | The QoS flow setup failed because the requested 5QI is not supported. |
| UE context transfer | The action is due to a UE resumes from the NG-RAN node different from the one which sent the UE into RRC\_INACTIVE state. |
| IMS voice EPS fallback or RAT fallback triggered | The setup of QoS flow is failed due to EPS fallback or RAT fallback for IMS voice using handover or redirection. |
| UP integrity protection not possible | The PDU session cannot be accepted according to the required user plane integrity protection policy. |
| UP confidentiality protection not possible | The PDU session cannot be accepted according to the required user plane confidentiality protection policy. |
| Slice(s) not supported | Slice(s) not supported. |
| UE in RRC\_INACTIVE state not reachable | The action is requested due to RAN paging failure. |
| Redirection | The release is requested due to inter-system redirection or intra-system redirection. |
| Resources not available for the slice(s) | The requested resources are not available for the slice(s). |
| UE maximum integrity protected data rate reason | The request is not accepted in order to comply with the maximum data rate for integrity protection supported by the UE. |
| Release due to CN-detected mobility | The context release is requested by the AMF because the UE is already served by another CN node (same or different system), or another NG interface of the same CN node. |
| N26 interface not available | The action failed due to a temporary failure of the N26 interface. |
| Release due to pre-emption | Release is initiated due to pre-emption. |
| Multiple Location Reporting Reference ID Instances | The action failed because multiple areas of interest are set with the same Location Reporting Reference ID. |
| RSN not available for the UP | The redundant user plane resources indicated by RSN are not available. |
| NPN access denied | Access was denied for NPN reasons. |
| Failed logged MDT measurement configuration | Unable to configure MDT measerments at the UE |

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| Transport Layer cause | Meaning |
| Transport resource unavailable | The required transport resources are not available. |
| Unspecified | Sent when none of the above cause values applies but still the cause is Transport Network Layer related. |

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| NAS cause | Meaning |
| Normal release | The release is normal. |
| Authentication failure | The action is due to authentication failure. |
| Deregister | The action is due to deregister. |
| Unspecified | Sent when none of the above cause values applies but still the cause is NAS related. |

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| Protocol cause | Meaning |
| Transfer syntax error | The received message included a transfer syntax error. |
| Abstract syntax error (reject) | The received message included an abstract syntax error and the concerning criticality indicated "reject". |
| Abstract syntax error (ignore and notify) | The received message included an abstract syntax error and the concerning criticality indicated "ignore and notify". |
| Message not compatible with receiver state | The received message was not compatible with the receiver state. |
| Semantic error | The received message included a semantic error. |
| Abstract syntax error (falsely constructed message) | The received message contained IEs or IE groups in wrong order or with too many occurrences. |
| Unspecified | Sent when none of the above cause values applies but still the cause is Protocol related. |

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| Miscellaneous cause | Meaning |
| Control processing overload | Control processing overload. |
| Not enoughuser plane processing resources | Not enough resources are available related to user plane processing. |
| Hardware failure | Action related to hardware failure. |
| O&M intervention | The action is due to O&M intervention. |
| Unknown PLMN | The AMF does not identify any PLMN provided by the NG-RAN node. |
| Unspecified failure | Sent when none of the above cause values applies and the cause is not related to any of the categories Radio Network Layer, Transport Network Layer, NAS or Protocol. |

<<<<<<<<<<<<<<<<<<<< End of 3rd set of Changes >>>>>>>>>>>>>>>>>>>>

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<<<<<<<<<<<<<<<<<<<< Start of 4th Set of Changes >>>>>>>>>>>>>>>>>>>>

### 9.4.5 Information Element Definitions

-- ASN1START

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

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-- Information Element Definitions

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

NGAP-IEs {

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

ngran-Access (22) modules (3) ngap (1) version1 (1) ngap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

id-AdditionalDLForwardingUPTNLInformation,

id-AdditionalULForwardingUPTNLInformation,

id-AdditionalDLQosFlowPerTNLInformation,

id-AdditionalDLUPTNLInformationForHOList,

id-AdditionalNGU-UP-TNLInformation,

id-AdditionalRedundantDL-NGU-UP-TNLInformation,

id-AdditionalRedundantDLQosFlowPerTNLInformation,

id-AdditionalRedundantNGU-UP-TNLInformation,

id-AdditionalRedundantUL-NGU-UP-TNLInformation,

id-AdditionalUL-NGU-UP-TNLInformation,

id-AlternativeQoSParaSetList,

id-Cause,

id-CNPacketDelayBudgetDL,

id-CNPacketDelayBudgetUL,

id-CNTypeRestrictionsForEquivalent,

id-CNTypeRestrictionsForServing,

id-CommonNetworkInstance,

id-CurrentQoSParaSetIndex,

id-DAPSRequestInfo,

id-DAPSResponseInfoList,

id-DataForwardingNotPossible,

id-DataForwardingResponseERABList,

id-DirectForwardingPathAvailability,

id-DL-NGU-UP-TNLInformation,

id-EndpointIPAddressAndPort,

id-ExtendedPacketDelayBudget,

id-ExtendedRATRestrictionInformation,

id-ExtendedSliceSupportList,

id-ExtendedTAISliceSupportList,

id-GlobalRANNodeID,

id-GlobalTNGF-ID,

id-GlobalTWIF-ID,

id-GlobalW-AGF-ID,

id-GUAMIType,

id-LastEUTRAN-PLMNIdentity,

id-LocationReportingAdditionalInfo,

id-MaximumIntegrityProtectedDataRate-DL,

id-MDTConfiguration,

id-NetworkInstance,

id-NID,

id-NPN-MobilityInformation,

id-NPN-PagingAssistanceInformation,

id-NPN-Support,

id-OldAssociatedQosFlowList-ULendmarkerexpected,

id-PagingAssisDataforCEcapabUE,

id-PagingeDRXInformation,

id-PDUSessionAggregateMaximumBitRate,

id-PDUSessionResourceFailedToSetupListCxtFail,

id-PDUSessionResourceReleaseResponseTransfer,

id-PDUSessionType,

id-PSCellInformation,

id-QosFlowAddOrModifyRequestList,

id-QosFlowSetupRequestList,

id-QosFlowToReleaseList,

id-QosMonitoringRequest,

id-RAT-Information,

id-RedundantCommonNetworkInstance,

id-RedundantDL-NGU-TNLInformationReused,

id-RedundantDL-NGU-UP-TNLInformation,

id-RedundantDLQosFlowPerTNLInformation,

id-RedundantPDUSessionInformation,

id-RedundantQosFlowIndicator,

id-RedundantUL-NGU-UP-TNLInformation,

id-SCTP-TLAs,

id-SecondaryRATUsageInformation,

id-SecurityIndication,

id-SecurityResult,

id-SgNB-UE-X2AP-ID,

id-S-NSSAI,

id-SONInformationReport,

id-TNLAssociationTransportLayerAddressNGRAN,

id-TargetRNC-ID,

id-TraceCollectionEntityURI,

id-TSCTrafficCharacteristics,

id-UEHistoryInformationFromTheUE,

id-UERadioCapabilityForPagingOfNB-IoT,

id-UL-NGU-UP-TNLInformation,

id-UL-NGU-UP-TNLModifyList,

id-ULForwarding,

id-ULForwardingUP-TNLInformation,

id-UsedRSNInformation,

id-UserLocationInformationTNGF,

id-UserLocationInformationTWIF,

id-UserLocationInformationW-AGF,

id-SignallingBasedMDTState,

maxnoofAllowedAreas,

maxnoofAllowedCAGsperPLMN,

maxnoofAllowedS-NSSAIs,

maxnoofBluetoothName,

maxnoofBPLMNs,

maxnoofCAGSperCell,

maxnoofCandidateCells,

maxnoofCellIDforMDT,

maxnoofCellIDforWarning,

maxnoofCellinAoI,

maxnoofCellinEAI,

maxnoofCellsingNB,

maxnoofCellsinngeNB,

maxnoofCellinTAI,

maxnoofCellsinUEHistoryInfo,

maxnoofCellsUEMovingTrajectory,

maxnoofDRBs,

maxnoofEmergencyAreaID,

maxnoofEAIforRestart,

maxnoofEPLMNs,

maxnoofEPLMNsPlusOne,

maxnoofE-RABs,

maxnoofErrors,

maxnoofExtSliceItems,

maxnoofForbTACs,

maxnoofFreqforMDT,

maxnoofMDTPLMNs,

maxnoofMultiConnectivity,

maxnoofMultiConnectivityMinusOne,

maxnoofNeighPCIforMDT,

maxnoofNGConnectionsToReset,

maxNRARFCN,

maxnoofNRCellBands,

maxnoofPC5QoSFlows,

maxnoofPDUSessions,

maxnoofPLMNs,

maxnoofQosFlows,

maxnoofQosParaSets,

maxnoofRANNodeinAoI,

maxnoofRecommendedCells,

maxnoofRecommendedRANNodes,

maxnoofAoI,

maxnoofSensorName,

maxnoofServedGUAMIs,

maxnoofSliceItems,

maxnoofTACs,

maxnoofTAforMDT,

maxnoofTAIforInactive,

maxnoofTAIforPaging,

maxnoofTAIforRestart,

maxnoofTAIforWarning,

maxnoofTAIinAoI,

maxnoofTimePeriods,

maxnoofTNLAssociations,

maxnoofWLANName,

maxnoofXnExtTLAs,

maxnoofXnGTP-TLAs,

maxnoofXnTLAs

FROM NGAP-Constants

Criticality,

ProcedureCode,

ProtocolIE-ID,

TriggeringMessage

FROM NGAP-CommonDataTypes

ProtocolExtensionContainer{},

ProtocolIE-Container{},

NGAP-PROTOCOL-EXTENSION,

ProtocolIE-SingleContainer{},

NGAP-PROTOCOL-IES

FROM NGAP-Containers;

-- A

**-- TEXT OMITTED –**

CauseRadioNetwork ::= ENUMERATED {

unspecified,

txnrelocoverall-expiry,

successful-handover,

release-due-to-ngran-generated-reason,

release-due-to-5gc-generated-reason,

handover-cancelled,

partial-handover,

ho-failure-in-target-5GC-ngran-node-or-target-system,

ho-target-not-allowed,

tngrelocoverall-expiry,

tngrelocprep-expiry,

cell-not-available,

unknown-targetID,

no-radio-resources-available-in-target-cell,

unknown-local-UE-NGAP-ID,

inconsistent-remote-UE-NGAP-ID,

handover-desirable-for-radio-reason,

time-critical-handover,

resource-optimisation-handover,

reduce-load-in-serving-cell,

user-inactivity,

radio-connection-with-ue-lost,

radio-resources-not-available,

invalid-qos-combination,

failure-in-radio-interface-procedure,

interaction-with-other-procedure,

unknown-PDU-session-ID,

unkown-qos-flow-ID,

multiple-PDU-session-ID-instances,

multiple-qos-flow-ID-instances,

encryption-and-or-integrity-protection-algorithms-not-supported,

ng-intra-system-handover-triggered,

ng-inter-system-handover-triggered,

xn-handover-triggered,

not-supported-5QI-value,

ue-context-transfer,

ims-voice-eps-fallback-or-rat-fallback-triggered,

up-integrity-protection-not-possible,

up-confidentiality-protection-not-possible,

slice-not-supported,

ue-in-rrc-inactive-state-not-reachable,

redirection,

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

ue-max-integrity-protected-data-rate-reason,

release-due-to-cn-detected-mobility,

...,

n26-interface-not-available,

release-due-to-pre-emption,

multiple-location-reporting-reference-ID-instances,

rsn-not-available-for-the-up,

npn-access-denied,

failed-logged-MDT-measurement-configuration

}

CauseTransport ::= ENUMERATED {

transport-resource-unavailable,

unspecified,

...

}

**-- TEXT OMITTED –**

-- S

**-- TEXT OMITTED –**

SgNB-UE-X2AP-ID ::= INTEGER (0..4294967295)

SignallingBasedMDTState ::= ENUMERATED {

configured,

...

}

SliceOverloadList ::= SEQUENCE (SIZE(1..maxnoofSliceItems)) OF SliceOverloadItem

} SliceOverloadItem ::= SEQUENCE {

s-NSSAI S-NSSAI,

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

...

}

SliceOverloadItem-ExtIEs NGAP-PROTOCOL-EXTENSION ::= {

...

}

**-- TEXT OMITTED –**

TraceActivation ::= SEQUENCE {

nGRANTraceID NGRANTraceID,

interfacesToTrace InterfacesToTrace,

traceDepth TraceDepth,

traceCollectionEntityIPAddress TransportLayerAddress,

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

...

}

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

{ ID id-MDTConfiguration CRITICALITY ignore EXTENSION MDT-Configuration PRESENCE optional }|

{ ID id-TraceCollectionEntityURI CRITICALITY ignore EXTENSION URI-address PRESENCE optional }|

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

...

}

**-- TEXT OMITTED –**

### 9.4.7 Constant Definitions

-- ASN1START

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

--

-- Constant definitions

--

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

NGAP-Constants {

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

ngran-Access (22) modules (3) ngap (1) version1 (1) ngap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

--

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

IMPORTS

ProcedureCode,

ProtocolIE-ID

FROM NGAP-CommonDataTypes;

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

--

-- Elementary Procedures

--

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

id-AMFConfigurationUpdate ProcedureCode ::= 0

id-AMFStatusIndication ProcedureCode ::= 1

id-CellTrafficTrace ProcedureCode ::= 2

id-DeactivateTrace ProcedureCode ::= 3

id-DownlinkNASTransport ProcedureCode ::= 4

id-DownlinkNonUEAssociatedNRPPaTransport ProcedureCode ::= 5

id-DownlinkRANConfigurationTransfer ProcedureCode ::= 6

id-DownlinkRANStatusTransfer ProcedureCode ::= 7

id-DownlinkUEAssociatedNRPPaTransport ProcedureCode ::= 8

id-ErrorIndication ProcedureCode ::= 9

id-HandoverCancel ProcedureCode ::= 10

id-HandoverNotification ProcedureCode ::= 11

id-HandoverPreparation ProcedureCode ::= 12

id-HandoverResourceAllocation ProcedureCode ::= 13

id-InitialContextSetup ProcedureCode ::= 14

id-InitialUEMessage ProcedureCode ::= 15

id-LocationReportingControl ProcedureCode ::= 16

id-LocationReportingFailureIndication ProcedureCode ::= 17

id-LocationReport ProcedureCode ::= 18

id-NASNonDeliveryIndication ProcedureCode ::= 19

id-NGReset ProcedureCode ::= 20

id-NGSetup ProcedureCode ::= 21

id-OverloadStart ProcedureCode ::= 22

id-OverloadStop ProcedureCode ::= 23

id-Paging ProcedureCode ::= 24

id-PathSwitchRequest ProcedureCode ::= 25

id-PDUSessionResourceModify ProcedureCode ::= 26

id-PDUSessionResourceModifyIndication ProcedureCode ::= 27

id-PDUSessionResourceRelease ProcedureCode ::= 28

id-PDUSessionResourceSetup ProcedureCode ::= 29

id-PDUSessionResourceNotify ProcedureCode ::= 30

id-PrivateMessage ProcedureCode ::= 31

id-PWSCancel ProcedureCode ::= 32

id-PWSFailureIndication ProcedureCode ::= 33

id-PWSRestartIndication ProcedureCode ::= 34

id-RANConfigurationUpdate ProcedureCode ::= 35

id-RerouteNASRequest ProcedureCode ::= 36

id-RRCInactiveTransitionReport ProcedureCode ::= 37

id-TraceFailureIndication ProcedureCode ::= 38

id-TraceStart ProcedureCode ::= 39

id-UEContextModification ProcedureCode ::= 40

id-UEContextRelease ProcedureCode ::= 41

id-UEContextReleaseRequest ProcedureCode ::= 42

id-UERadioCapabilityCheck ProcedureCode ::= 43

id-UERadioCapabilityInfoIndication ProcedureCode ::= 44

id-UETNLABindingRelease ProcedureCode ::= 45

id-UplinkNASTransport ProcedureCode ::= 46

id-UplinkNonUEAssociatedNRPPaTransport ProcedureCode ::= 47

id-UplinkRANConfigurationTransfer ProcedureCode ::= 48

id-UplinkRANStatusTransfer ProcedureCode ::= 49

id-UplinkUEAssociatedNRPPaTransport ProcedureCode ::= 50

id-WriteReplaceWarning ProcedureCode ::= 51

id-SecondaryRATDataUsageReport ProcedureCode ::= 52

id-UplinkRIMInformationTransfer ProcedureCode ::= 53

id-DownlinkRIMInformationTransfer ProcedureCode ::= 54

id-RetrieveUEInformation ProcedureCode ::= 55

id-UEInformationTransfer ProcedureCode ::= 56

id-RANCPRelocationIndication ProcedureCode ::= 57

id-UEContextResume ProcedureCode ::= 58

id-UEContextSuspend ProcedureCode ::= 59

id-UERadioCapabilityIDMapping ProcedureCode ::= 60

id-HandoverSuccess ProcedureCode ::= 61

id-UplinkRANEarlyStatusTransfer ProcedureCode ::= 62

id-DownlinkRANEarlyStatusTransfer ProcedureCode ::= 63

id-AMFCPRelocationIndication ProcedureCode ::= 64

id-ConnectionEstablishmentIndication ProcedureCode ::= 65

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

--

-- Extension constants

--

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

maxPrivateIEs INTEGER ::= 65535

maxProtocolExtensions INTEGER ::= 65535

maxProtocolIEs INTEGER ::= 65535

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

--

-- Lists

--

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

maxnoofAllowedAreas INTEGER ::= 16

maxnoofAllowedCAGsperPLMN INTEGER ::= 256

maxnoofAllowedS-NSSAIs INTEGER ::= 8

maxnoofBluetoothName INTEGER ::= 4

maxnoofBPLMNs INTEGER ::= 12

maxnoofCAGSperCell INTEGER ::= 64

maxnoofCellIDforMDT INTEGER ::= 32

maxnoofCellIDforWarning INTEGER ::= 65535

maxnoofCellinAoI INTEGER ::= 256

maxnoofCellinEAI INTEGER ::= 65535

maxnoofCellinTAI INTEGER ::= 65535

maxnoofCellsingNB INTEGER ::= 16384

maxnoofCellsinngeNB INTEGER ::= 256

maxnoofCellsinUEHistoryInfo INTEGER ::= 16

maxnoofCellsUEMovingTrajectory INTEGER ::= 16

maxnoofDRBs INTEGER ::= 32

maxnoofEmergencyAreaID INTEGER ::= 65535

maxnoofEAIforRestart INTEGER ::= 256

maxnoofEPLMNs INTEGER ::= 15

maxnoofEPLMNsPlusOne INTEGER ::= 16

maxnoofE-RABs INTEGER ::= 256

maxnoofErrors INTEGER ::= 256

maxnoofExtSliceItems INTEGER ::= 65535

maxnoofForbTACs INTEGER ::= 4096

maxnoofFreqforMDT INTEGER ::= 8

maxnoofMDTPLMNs INTEGER ::= 16

maxnoofMultiConnectivity INTEGER ::= 4

maxnoofMultiConnectivityMinusOne INTEGER ::= 3

maxnoofNeighPCIforMDT INTEGER ::= 32

maxnoofNGConnectionsToReset INTEGER ::= 65536

maxnoofNRCellBands INTEGER ::= 32

maxnoofPC5QoSFlows INTEGER ::= 2048

maxnoofPDUSessions INTEGER ::= 256

maxnoofPLMNs INTEGER ::= 12

maxnoofQosFlows INTEGER ::= 64

maxnoofQosParaSets INTEGER ::= 8

maxnoofRANNodeinAoI INTEGER ::= 64

maxnoofRecommendedCells INTEGER ::= 16

maxnoofRecommendedRANNodes INTEGER ::= 16

maxnoofAoI INTEGER ::= 64

maxnoofSensorName INTEGER ::= 3

maxnoofServedGUAMIs INTEGER ::= 256

maxnoofSliceItems INTEGER ::= 1024

maxnoofTACs INTEGER ::= 256

maxnoofTAforMDT INTEGER ::= 8

maxnoofTAIforInactive INTEGER ::= 16

maxnoofTAIforPaging INTEGER ::= 16

maxnoofTAIforRestart INTEGER ::= 2048

maxnoofTAIforWarning INTEGER ::= 65535

maxnoofTAIinAoI INTEGER ::= 16

maxnoofTimePeriods INTEGER ::= 2

maxnoofTNLAssociations INTEGER ::= 32

maxnoofWLANName INTEGER ::= 4

maxnoofXnExtTLAs INTEGER ::= 16

maxnoofXnGTP-TLAs INTEGER ::= 16

maxnoofXnTLAs INTEGER ::= 2

maxnoofCandidateCells INTEGER ::= 32

maxNRARFCN INTEGER ::= 3279165

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

--

-- IEs

--

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

id-AllowedNSSAI ProtocolIE-ID ::= 0

id-AMFName ProtocolIE-ID ::= 1

id-AMFOverloadResponse ProtocolIE-ID ::= 2

id-AMFSetID ProtocolIE-ID ::= 3

id-AMF-TNLAssociationFailedToSetupList ProtocolIE-ID ::= 4

id-AMF-TNLAssociationSetupList ProtocolIE-ID ::= 5

id-AMF-TNLAssociationToAddList ProtocolIE-ID ::= 6

id-AMF-TNLAssociationToRemoveList ProtocolIE-ID ::= 7

id-AMF-TNLAssociationToUpdateList ProtocolIE-ID ::= 8

id-AMFTrafficLoadReductionIndication ProtocolIE-ID ::= 9

id-AMF-UE-NGAP-ID ProtocolIE-ID ::= 10

id-AssistanceDataForPaging ProtocolIE-ID ::= 11

id-BroadcastCancelledAreaList ProtocolIE-ID ::= 12

id-BroadcastCompletedAreaList ProtocolIE-ID ::= 13

id-CancelAllWarningMessages ProtocolIE-ID ::= 14

id-Cause ProtocolIE-ID ::= 15

id-CellIDListForRestart ProtocolIE-ID ::= 16

id-ConcurrentWarningMessageInd ProtocolIE-ID ::= 17

id-CoreNetworkAssistanceInformationForInactive ProtocolIE-ID ::= 18

id-CriticalityDiagnostics ProtocolIE-ID ::= 19

id-DataCodingScheme ProtocolIE-ID ::= 20

id-DefaultPagingDRX ProtocolIE-ID ::= 21

id-DirectForwardingPathAvailability ProtocolIE-ID ::= 22

id-EmergencyAreaIDListForRestart ProtocolIE-ID ::= 23

id-EmergencyFallbackIndicator ProtocolIE-ID ::= 24

id-EUTRA-CGI ProtocolIE-ID ::= 25

id-FiveG-S-TMSI ProtocolIE-ID ::= 26

id-GlobalRANNodeID ProtocolIE-ID ::= 27

id-GUAMI ProtocolIE-ID ::= 28

id-HandoverType ProtocolIE-ID ::= 29

id-IMSVoiceSupportIndicator ProtocolIE-ID ::= 30

id-IndexToRFSP ProtocolIE-ID ::= 31

id-InfoOnRecommendedCellsAndRANNodesForPaging ProtocolIE-ID ::= 32

id-LocationReportingRequestType ProtocolIE-ID ::= 33

id-MaskedIMEISV ProtocolIE-ID ::= 34

id-MessageIdentifier ProtocolIE-ID ::= 35

id-MobilityRestrictionList ProtocolIE-ID ::= 36

id-NASC ProtocolIE-ID ::= 37

id-NAS-PDU ProtocolIE-ID ::= 38

id-NASSecurityParametersFromNGRAN ProtocolIE-ID ::= 39

id-NewAMF-UE-NGAP-ID ProtocolIE-ID ::= 40

id-NewSecurityContextInd ProtocolIE-ID ::= 41

id-NGAP-Message ProtocolIE-ID ::= 42

id-NGRAN-CGI ProtocolIE-ID ::= 43

id-NGRANTraceID ProtocolIE-ID ::= 44

id-NR-CGI ProtocolIE-ID ::= 45

id-NRPPa-PDU ProtocolIE-ID ::= 46

id-NumberOfBroadcastsRequested ProtocolIE-ID ::= 47

id-OldAMF ProtocolIE-ID ::= 48

id-OverloadStartNSSAIList ProtocolIE-ID ::= 49

id-PagingDRX ProtocolIE-ID ::= 50

id-PagingOrigin ProtocolIE-ID ::= 51

id-PagingPriority ProtocolIE-ID ::= 52

id-PDUSessionResourceAdmittedList ProtocolIE-ID ::= 53

id-PDUSessionResourceFailedToModifyListModRes ProtocolIE-ID ::= 54

id-PDUSessionResourceFailedToSetupListCxtRes ProtocolIE-ID ::= 55

id-PDUSessionResourceFailedToSetupListHOAck ProtocolIE-ID ::= 56

id-PDUSessionResourceFailedToSetupListPSReq ProtocolIE-ID ::= 57

id-PDUSessionResourceFailedToSetupListSURes ProtocolIE-ID ::= 58

id-PDUSessionResourceHandoverList ProtocolIE-ID ::= 59

id-PDUSessionResourceListCxtRelCpl ProtocolIE-ID ::= 60

id-PDUSessionResourceListHORqd ProtocolIE-ID ::= 61

id-PDUSessionResourceModifyListModCfm ProtocolIE-ID ::= 62

id-PDUSessionResourceModifyListModInd ProtocolIE-ID ::= 63

id-PDUSessionResourceModifyListModReq ProtocolIE-ID ::= 64

id-PDUSessionResourceModifyListModRes ProtocolIE-ID ::= 65

id-PDUSessionResourceNotifyList ProtocolIE-ID ::= 66

id-PDUSessionResourceReleasedListNot ProtocolIE-ID ::= 67

id-PDUSessionResourceReleasedListPSAck ProtocolIE-ID ::= 68

id-PDUSessionResourceReleasedListPSFail ProtocolIE-ID ::= 69

id-PDUSessionResourceReleasedListRelRes ProtocolIE-ID ::= 70

id-PDUSessionResourceSetupListCxtReq ProtocolIE-ID ::= 71

id-PDUSessionResourceSetupListCxtRes ProtocolIE-ID ::= 72

id-PDUSessionResourceSetupListHOReq ProtocolIE-ID ::= 73

id-PDUSessionResourceSetupListSUReq ProtocolIE-ID ::= 74

id-PDUSessionResourceSetupListSURes ProtocolIE-ID ::= 75

id-PDUSessionResourceToBeSwitchedDLList ProtocolIE-ID ::= 76

id-PDUSessionResourceSwitchedList ProtocolIE-ID ::= 77

id-PDUSessionResourceToReleaseListHOCmd ProtocolIE-ID ::= 78

id-PDUSessionResourceToReleaseListRelCmd ProtocolIE-ID ::= 79

id-PLMNSupportList ProtocolIE-ID ::= 80

id-PWSFailedCellIDList ProtocolIE-ID ::= 81

id-RANNodeName ProtocolIE-ID ::= 82

id-RANPagingPriority ProtocolIE-ID ::= 83

id-RANStatusTransfer-TransparentContainer ProtocolIE-ID ::= 84

id-RAN-UE-NGAP-ID ProtocolIE-ID ::= 85

id-RelativeAMFCapacity ProtocolIE-ID ::= 86

id-RepetitionPeriod ProtocolIE-ID ::= 87

id-ResetType ProtocolIE-ID ::= 88

id-RoutingID ProtocolIE-ID ::= 89

id-RRCEstablishmentCause ProtocolIE-ID ::= 90

id-RRCInactiveTransitionReportRequest ProtocolIE-ID ::= 91

id-RRCState ProtocolIE-ID ::= 92

id-SecurityContext ProtocolIE-ID ::= 93

id-SecurityKey ProtocolIE-ID ::= 94

id-SerialNumber ProtocolIE-ID ::= 95

id-ServedGUAMIList ProtocolIE-ID ::= 96

id-SliceSupportList ProtocolIE-ID ::= 97

id-SONConfigurationTransferDL ProtocolIE-ID ::= 98

id-SONConfigurationTransferUL ProtocolIE-ID ::= 99

id-SourceAMF-UE-NGAP-ID ProtocolIE-ID ::= 100

id-SourceToTarget-TransparentContainer ProtocolIE-ID ::= 101

id-SupportedTAList ProtocolIE-ID ::= 102

id-TAIListForPaging ProtocolIE-ID ::= 103

id-TAIListForRestart ProtocolIE-ID ::= 104

id-TargetID ProtocolIE-ID ::= 105

id-TargetToSource-TransparentContainer ProtocolIE-ID ::= 106

id-TimeToWait ProtocolIE-ID ::= 107

id-TraceActivation ProtocolIE-ID ::= 108

id-TraceCollectionEntityIPAddress ProtocolIE-ID ::= 109

id-UEAggregateMaximumBitRate ProtocolIE-ID ::= 110

id-UE-associatedLogicalNG-connectionList ProtocolIE-ID ::= 111

id-UEContextRequest ProtocolIE-ID ::= 112

id-UE-NGAP-IDs ProtocolIE-ID ::= 114

id-UEPagingIdentity ProtocolIE-ID ::= 115

id-UEPresenceInAreaOfInterestList ProtocolIE-ID ::= 116

id-UERadioCapability ProtocolIE-ID ::= 117

id-UERadioCapabilityForPaging ProtocolIE-ID ::= 118

id-UESecurityCapabilities ProtocolIE-ID ::= 119

id-UnavailableGUAMIList ProtocolIE-ID ::= 120

id-UserLocationInformation ProtocolIE-ID ::= 121

id-WarningAreaList ProtocolIE-ID ::= 122

id-WarningMessageContents ProtocolIE-ID ::= 123

id-WarningSecurityInfo ProtocolIE-ID ::= 124

id-WarningType ProtocolIE-ID ::= 125

id-AdditionalUL-NGU-UP-TNLInformation ProtocolIE-ID ::= 126

id-DataForwardingNotPossible ProtocolIE-ID ::= 127

id-DL-NGU-UP-TNLInformation ProtocolIE-ID ::= 128

id-NetworkInstance ProtocolIE-ID ::= 129

id-PDUSessionAggregateMaximumBitRate ProtocolIE-ID ::= 130

id-PDUSessionResourceFailedToModifyListModCfm ProtocolIE-ID ::= 131

id-PDUSessionResourceFailedToSetupListCxtFail ProtocolIE-ID ::= 132

id-PDUSessionResourceListCxtRelReq ProtocolIE-ID ::= 133

id-PDUSessionType ProtocolIE-ID ::= 134

id-QosFlowAddOrModifyRequestList ProtocolIE-ID ::= 135

id-QosFlowSetupRequestList ProtocolIE-ID ::= 136

id-QosFlowToReleaseList ProtocolIE-ID ::= 137

id-SecurityIndication ProtocolIE-ID ::= 138

id-UL-NGU-UP-TNLInformation ProtocolIE-ID ::= 139

id-UL-NGU-UP-TNLModifyList ProtocolIE-ID ::= 140

id-WarningAreaCoordinates ProtocolIE-ID ::= 141

id-PDUSessionResourceSecondaryRATUsageList ProtocolIE-ID ::= 142

id-HandoverFlag ProtocolIE-ID ::= 143

id-SecondaryRATUsageInformation ProtocolIE-ID ::= 144

id-PDUSessionResourceReleaseResponseTransfer ProtocolIE-ID ::= 145

id-RedirectionVoiceFallback ProtocolIE-ID ::= 146

id-UERetentionInformation ProtocolIE-ID ::= 147

id-S-NSSAI ProtocolIE-ID ::= 148

id-PSCellInformation ProtocolIE-ID ::= 149

id-LastEUTRAN-PLMNIdentity ProtocolIE-ID ::= 150

id-MaximumIntegrityProtectedDataRate-DL ProtocolIE-ID ::= 151

id-AdditionalDLForwardingUPTNLInformation ProtocolIE-ID ::= 152

id-AdditionalDLUPTNLInformationForHOList ProtocolIE-ID ::= 153

id-AdditionalNGU-UP-TNLInformation ProtocolIE-ID ::= 154

id-AdditionalDLQosFlowPerTNLInformation ProtocolIE-ID ::= 155

id-SecurityResult ProtocolIE-ID ::= 156

id-ENDC-SONConfigurationTransferDL ProtocolIE-ID ::= 157

id-ENDC-SONConfigurationTransferUL ProtocolIE-ID ::= 158

id-OldAssociatedQosFlowList-ULendmarkerexpected ProtocolIE-ID ::= 159

id-CNTypeRestrictionsForEquivalent ProtocolIE-ID ::= 160

id-CNTypeRestrictionsForServing ProtocolIE-ID ::= 161

id-NewGUAMI ProtocolIE-ID ::= 162

id-ULForwarding ProtocolIE-ID ::= 163

id-ULForwardingUP-TNLInformation ProtocolIE-ID ::= 164

id-CNAssistedRANTuning ProtocolIE-ID ::= 165

id-CommonNetworkInstance ProtocolIE-ID ::= 166

id-NGRAN-TNLAssociationToRemoveList ProtocolIE-ID ::= 167

id-TNLAssociationTransportLayerAddressNGRAN ProtocolIE-ID ::= 168

id-EndpointIPAddressAndPort ProtocolIE-ID ::= 169

id-LocationReportingAdditionalInfo ProtocolIE-ID ::= 170

id-SourceToTarget-AMFInformationReroute ProtocolIE-ID ::= 171

id-AdditionalULForwardingUPTNLInformation ProtocolIE-ID ::= 172

id-SCTP-TLAs ProtocolIE-ID ::= 173

id-DataForwardingResponseERABList ProtocolIE-ID ::= 174

id-RIMInformationTransfer ProtocolIE-ID ::= 175

id-GUAMIType ProtocolIE-ID ::= 176

id-SRVCCOperationPossible ProtocolIE-ID ::= 177

id-TargetRNC-ID ProtocolIE-ID ::= 178

id-RAT-Information ProtocolIE-ID ::= 179

id-ExtendedRATRestrictionInformation ProtocolIE-ID ::= 180

id-QosMonitoringRequest ProtocolIE-ID ::= 181

id-SgNB-UE-X2AP-ID ProtocolIE-ID ::= 182

id-AdditionalRedundantDL-NGU-UP-TNLInformation ProtocolIE-ID ::= 183

id-AdditionalRedundantDLQosFlowPerTNLInformation ProtocolIE-ID ::= 184

id-AdditionalRedundantNGU-UP-TNLInformation ProtocolIE-ID ::= 185

id-AdditionalRedundantUL-NGU-UP-TNLInformation ProtocolIE-ID ::= 186

id-CNPacketDelayBudgetDL ProtocolIE-ID ::= 187

id-CNPacketDelayBudgetUL ProtocolIE-ID ::= 188

id-ExtendedPacketDelayBudget ProtocolIE-ID ::= 189

id-RedundantCommonNetworkInstance ProtocolIE-ID ::= 190

id-RedundantDL-NGU-TNLInformationReused ProtocolIE-ID ::= 191

id-RedundantDL-NGU-UP-TNLInformation ProtocolIE-ID ::= 192

id-RedundantDLQosFlowPerTNLInformation ProtocolIE-ID ::= 193

id-RedundantQosFlowIndicator ProtocolIE-ID ::= 194

id-RedundantUL-NGU-UP-TNLInformation ProtocolIE-ID ::= 195

id-TSCTrafficCharacteristics ProtocolIE-ID ::= 196

id-RedundantPDUSessionInformation ProtocolIE-ID ::= 197

id-UsedRSNInformation ProtocolIE-ID ::= 198

id-IAB-Authorized ProtocolIE-ID ::= 199

id-IAB-Supported ProtocolIE-ID ::= 200

id-IABNodeIndication ProtocolIE-ID ::= 201

id-NB-IoT-PagingDRX ProtocolIE-ID ::= 202

id-NB-IoT-Paging-eDRXInfo ProtocolIE-ID ::= 203

id-NB-IoT-DefaultPagingDRX ProtocolIE-ID ::= 204

id-Enhanced-CoverageRestriction ProtocolIE-ID ::= 205

id-Extended-ConnectedTime ProtocolIE-ID ::= 206

id-PagingAssisDataforCEcapabUE ProtocolIE-ID ::= 207

id-WUS-Assistance-Information ProtocolIE-ID ::= 208

id-UE-DifferentiationInfo ProtocolIE-ID ::= 209

id-NB-IoT-UEPriority ProtocolIE-ID ::= 210

id-UL-CP-SecurityInformation ProtocolIE-ID ::= 211

id-DL-CP-SecurityInformation ProtocolIE-ID ::= 212

id-TAI ProtocolIE-ID ::= 213

id-UERadioCapabilityForPagingOfNB-IoT ProtocolIE-ID ::= 214

id-LTEV2XServicesAuthorized ProtocolIE-ID ::= 215

id-NRV2XServicesAuthorized ProtocolIE-ID ::= 216

id-LTEUESidelinkAggregateMaximumBitrate ProtocolIE-ID ::= 217

id-NRUESidelinkAggregateMaximumBitrate ProtocolIE-ID ::= 218

id-PC5QoSParameters ProtocolIE-ID ::= 219

id-AlternativeQoSParaSetList ProtocolIE-ID ::= 220

id-CurrentQoSParaSetIndex ProtocolIE-ID ::= 221

id-CEmodeBrestricted ProtocolIE-ID ::= 222

id-PagingeDRXInformation ProtocolIE-ID ::= 223

id-CEmodeBSupport-Indicator ProtocolIE-ID ::= 224

id-LTEM-Indication ProtocolIE-ID ::= 225

id-EndIndication ProtocolIE-ID ::= 226

id-EDT-Session ProtocolIE-ID ::= 227

id-UECapabilityInfoRequest ProtocolIE-ID ::= 228

id-PDUSessionResourceFailedToResumeListRESReq ProtocolIE-ID ::= 229

id-PDUSessionResourceFailedToResumeListRESRes ProtocolIE-ID ::= 230

id-PDUSessionResourceSuspendListSUSReq ProtocolIE-ID ::= 231

id-PDUSessionResourceResumeListRESReq ProtocolIE-ID ::= 232

id-PDUSessionResourceResumeListRESRes ProtocolIE-ID ::= 233

id-UE-UP-CIoT-Support ProtocolIE-ID ::= 234

id-Suspend-Request-Indication ProtocolIE-ID ::= 235

id-Suspend-Response-Indication ProtocolIE-ID ::= 236

id-RRC-Resume-Cause ProtocolIE-ID ::= 237

id-RGLevelWirelineAccessCharacteristics ProtocolIE-ID ::= 238

id-W-AGFIdentityInformation ProtocolIE-ID ::= 239

id-GlobalTNGF-ID ProtocolIE-ID ::= 240

id-GlobalTWIF-ID ProtocolIE-ID ::= 241

id-GlobalW-AGF-ID ProtocolIE-ID ::= 242

id-UserLocationInformationW-AGF ProtocolIE-ID ::= 243

id-UserLocationInformationTNGF ProtocolIE-ID ::= 244

id-AuthenticatedIndication ProtocolIE-ID ::= 245

id-TNGFIdentityInformation ProtocolIE-ID ::= 246

id-TWIFIdentityInformation ProtocolIE-ID ::= 247

id-UserLocationInformationTWIF ProtocolIE-ID ::= 248

id-SelectedPLMNIdentity ProtocolIE-ID ::= 249

id-IntersystemSONConfigurationTransferDL ProtocolIE-ID ::= 250

id-IntersystemSONConfigurationTransferUL ProtocolIE-ID ::= 251

id-SONInformationReport ProtocolIE-ID ::= 252

id-UEHistoryInformationFromTheUE ProtocolIE-ID ::= 253

id-ManagementBasedMDTPLMNList ProtocolIE-ID ::= 254

id-MDTConfiguration ProtocolIE-ID ::= 255

id-PrivacyIndicator ProtocolIE-ID ::= 256

id-TraceCollectionEntityURI ProtocolIE-ID ::= 257

id-NPN-Support ProtocolIE-ID ::= 258

id-NPN-AccessInformation ProtocolIE-ID ::= 259

id-NPN-PagingAssistanceInformation ProtocolIE-ID ::= 260

id-NPN-MobilityInformation ProtocolIE-ID ::= 261

id-TargettoSource-Failure-TransparentContainer ProtocolIE-ID ::= 262

id-NID ProtocolIE-ID ::= 263

id-UERadioCapabilityID ProtocolIE-ID ::= 264

id-UERadioCapability-EUTRA-Format ProtocolIE-ID ::= 265

id-DAPSRequestInfo ProtocolIE-ID ::= 266

id-DAPSResponseInfoList ProtocolIE-ID ::= 267

id-EarlyStatusTransfer-TransparentContainer ProtocolIE-ID ::= 268

id-NotifySourceNGRANNode ProtocolIE-ID ::= 269

id-ExtendedSliceSupportList ProtocolIE-ID ::= 270

id-ExtendedTAISliceSupportList ProtocolIE-ID ::= 271

id-SignallingBasedMDTState ProtocolIE-ID ::= xxx

END

-- ASN1STOP

<<<<<<<<<<<<<<<<<<<< End of New Changes >>>>>>>>>>>>>>>>>>>>