**3GPP TSG-RAN WG3 Meeting #123R3-240xxx**

**Athens, Greece, 26th Feb – 1st Mar, 2024**

|  |
| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **38.413** | **CR** | **1090** | **rev** | **1** | **Current version:** | **18.0.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
|  |

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

|  |
| --- |
|  |
| ***Title:***  | Introduction of 2Rx relaxation for XR devices [2Rx\_XR\_Device] |
|  |  |
| ***Source to WG:*** | Huawei, Telecom Italia, Telia Company, NTT DOCOMO, T-Mobile USA, BT, Deutsche Telekom, Spark NZ Ltd, ZTE, Nokia, Nokia Shanghai Bell, Apple, CATT |
| ***Source to TSG:*** | R3 |
|  |  |
| ***Work item code:*** | TEI18 |  | ***Date:*** | 2024-02-19 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-18 |
|  | *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 canbe 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
|  |  |
| ***Reason for change:*** | During RAN#102 meeting, it has been agreed to support 2Rx XR devices. There are some RAN3 tasks listed in the summary in RP-234015, as excerpted below.

|  |
| --- |
| 1. **Task RAN2 and RAN3** to develop signaling support for ‘2Rx non-REDCAP XR devices’, send corresponding Release-18 draft CR(s) to RAN#103:

……* SPID indication from the Core Network to gNB. [RAN3]
* N2-NGAP indication for ‘2Rx non-REDCAP XR devices’ from gNB to Core Network to take action based on operator policy. [RAN3]
 |

To support N2 indication from gNB to CN for 2Rx XR devices, TS 38.413 should be enhanced. Currently, the UE Radio Capability Indication procedure is used to provide the AMF with UE radio capability-related information. It can be extended to indicate whether the UE is a 2Rx XR device or not. |
|  |  |
| ***Summary of change:*** | Add a new IE to indicate 2Rx XR devices in the UE RADIO CAPABILITY INFO INDICATION message. |
|  |  |
| ***Consequences if not approved:*** | NGAP indication for 2Rx XR devices from RAN to CN is not supported. |
|  |  |
| ***Clauses affected:*** | 3.1, 8.14.1.2, 9.2.13.1, 9.4.4, 9.4.5, 9.4.7 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 38.300 CR  |
| ***affected:*** |  | **x** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **x** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | Rev 1: update the semantics description to remove the “whether” |

*CHANGES START*

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

**ACL functionality:** as defined in TS 36.413 [16].

**CAG cell:** as defined in TS 38.300 [8].

**DAPS Handover**: as defined in TS 38.300 [8].

**Elementary Procedure:** NGAP consists of Elementary Procedures (EPs). An Elementary Procedure is a unit of interaction between the NG-RAN node and the AMF. These Elementary Procedures are defined separately and are intended to be used to build up complete sequences in a flexible manner. If the independence between some EPs is restricted, it is described under the relevant EP description. Unless otherwise stated by the restrictions, the EPs may be invoked independently of each other as standalone procedures, which can be active in parallel. The usage of several NGAP EPs together or together with EPs from other interfaces is specified in stage 2 specifications (e.g., TS 38.401 [2], TS 38.410 [3] and TS 38.300 [8]).

An EP consists of an initiating message and possibly a response message. Two kinds of EPs are used:

- **Class 1:** Elementary Procedures with response (success and/or failure).

- **Class 2:** Elementary Procedures without response.

For Class 1 EPs, the types of responses can be as follows:

Successful:

- A signalling message explicitly indicates that the elementary procedure successfully completed with the receipt of the response.

Unsuccessful:

- A signalling message explicitly indicates that the EP failed.

- On time supervision expiry (i.e., absence of expected response).

Successful and Unsuccessful:

- One signalling message reports both successful and unsuccessful outcome for the different included requests. The response message used is the one defined for successful outcome.

Class 2 EPs are considered always successful.

**en-gNB**: as defined in TS 37.340 [32].

**gNB:** as defined in TS 38.300 [8].

**MBS session resource**: as defined in TS 38.401 [2].

**Mobile IAB-node**: as defined in TS 38.300 [8].

**Mobile IAB-MT**: as defined in TS 38.300 [8].

**NB-IoT:** as defined in TS 36.300 [17].

**ng-eNB:** as defined in TS 38.300 [8].

**NG-RAN node:** as defined in TS 38.300 [8].

**Non-CAG cell:** as defined in TS 38.300 [8].

**PDU session resource:** as defined in TS 38.401 [2].

**Public Network Integrated NPN:** as defined in TS 23.501 [9].

**Stand-alone Non-Public Network:** as defined in TS 23.501 [9].

**2Rx non-RedCap XR UE:** as defined in TS 38.300 [8].

*NEXT CHANGE*

### 8.14.1 UE Radio Capability Info Indication

#### 8.14.1.1 General

The purpose of the UE Radio Capability Info Indication procedure is to enable the NG-RAN node to provide to the AMF UE radio capability-related information. The procedure uses UE-associated signalling.

#### 8.14.1.2 Successful Operation



Figure 8.14.1.2-1: UE radio capability info indication

The NG-RAN node controlling a UE-associated logical NG connection initiates the procedure by sending a UE RADIO CAPABILITY INFO INDICATION message to the AMF including the UE radio capability information.

The UE RADIO CAPABILITY INFO INDICATION message may also include paging specific UE radio capability information within the *UE Radio Capability for Paging* IE. If the *UE Radio Capability for Paging* IE includes the *UE Radio Capability for Paging of NR* IE and the *UE Radio Capability for Paging of E-UTRA* IE, the AMF shall, if supported, use it as specified in TS 23.501 [9].

The UE radio capability information received by the AMF shall replace previously stored corresponding UE radio capability information in the AMF for the UE, as described in TS 23.501 [9].

If the UE RADIO CAPABILITY INFO INDICATION message includes the *UE Radio Capability – E-UTRA Format* IE, the AMF shall, if supported, use it as specified in TS 23.501 [9].

If the UE RADIO CAPABILITY INFO INDICATION message includes the *XR Device with 2Rx* IE, the AMF shall, if supported, store this information and use it accordingly.

*NEXT CHANGE*

#### 9.2.13.1 UE RADIO CAPABILITY INFO INDICATION

This message is sent by the NG-RAN node to provide UE radio capability related information to the AMF.

Direction: NG-RAN node → AMF

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Message Type | M |  | 9.3.1.1 |  | YES | ignore |
| AMF UE NGAP ID | M |  | 9.3.3.1 |  | YES | reject |
| RAN UE NGAP ID | M |  | 9.3.3.2 |  | YES | reject |
| UE Radio Capability | M |  | 9.3.1.74 |  | YES | ignore |
| UE Radio Capability for Paging | O |  | 9.3.1.68 |  | YES | ignore |
| UE Radio Capability – E-UTRA Format | O |  | 9.3.1.74a |  | YES | ignore |
| XR Device with 2Rx | O |  | ENUMERATED (true, …) | Indicates the UE is a 2Rx non-RedCap XR UE. | YES | ignore |

*NEXT CHANGE*

### 9.4.4 PDU Definitions

-- ASN1START

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

--

-- PDU definitions for NGAP.

--

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

NGAP-PDU-Contents {

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

ngran-Access (22) modules (3) ngap (1) version1 (1) ngap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

--

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

IMPORTS

 A2X-PC5-QoS-Parameters,

 AerialUEsubscriptionInformation,

 AllowedNSSAI,

 AMFName,

 AMFSetID,

 AMF-TNLAssociationSetupList,

 AMF-TNLAssociationToAddList,

 AMF-TNLAssociationToRemoveList,

 AMF-TNLAssociationToUpdateList,

 AMF-UE-NGAP-ID,

 AssistanceDataForPaging,

 AssociatedSessionID,

 AuthenticatedIndication,

 BroadcastCancelledAreaList,

 BroadcastCompletedAreaList,

 BroadcastTransportFailureTransfer,

 BroadcastTransportRequestTransfer,

 BroadcastTransportResponseTransfer,

 CancelAllWarningMessages,

 Cause,

 CellIDListForRestart,

 CEmodeBrestricted,

 CEmodeBSupport-Indicator,

 CNAssistedRANTuning,

 ConcurrentWarningMessageInd,

 CoreNetworkAssistanceInformationForInactive,

 CPTransportLayerInformation,

 CriticalityDiagnostics,

 DataCodingScheme,

 DirectForwardingPathAvailability,

 DL-CP-SecurityInformation,

 DL-Signalling,

 EarlyStatusTransfer-TransparentContainer,

 EDT-Session,

 EmergencyAreaIDListForRestart,

 EmergencyFallbackIndicator,

 EN-DCSONConfigurationTransfer,

 EndIndication,

 Enhanced-CoverageRestriction,

 EUTRA-CGI,

 EUTRA-PagingeDRXInformation,

 Extended-AMFName,

 Extended-ConnectedTime,

 Extended-RANNodeName,

 FiveGCAction,

 FiveG-ProSeAuthorized,

 FiveG-ProSePC5QoSParameters,

 FiveG-S-TMSI,

 GlobalRANNodeID,

 GUAMI,

 HandoverFlag,

 HandoverType,

 IAB-Authorized,

 IABNodeIndication,

 IAB-Supported,

 IMSVoiceSupportIndicator,

 IndexToRFSP,

 InfoOnRecommendedCellsAndRANNodesForPaging,

 IntersystemSONConfigurationTransfer,

 LAI,

 LocationReportingRequestType,

 LTE-A2X-ServicesAuthorized,

 LTEM-Indication,

 LTEUESidelinkAggregateMaximumBitrate,

 LTEV2XServicesAuthorized,

 MaskedIMEISV,

 MBS-AreaSessionID,

 MBS-DistributionReleaseRequestTransfer,

 MBS-DistributionSetupRequestTransfer,

 MBS-DistributionSetupResponseTransfer,

 MBS-DistributionSetupUnsuccessfulTransfer,

 MBS-ServiceArea,

 MBS-SessionID,

 MBSSessionReleaseResponseTransfer,

 MBSSessionSetupOrModFailureTransfer,

 MBSSessionSetupOrModRequestTransfer,

 MBSSessionSetupOrModResponseTransfer,

 MDTPLMNList,

 MDTPLMNModificationList,

 MessageIdentifier,

 MobileIAB-Authorized,

 MobileIABNodeIndication,

 MobileIAB-Supported,

 MobilityRestrictionList,

 MulticastGroupPagingAreaList,

 MulticastSessionActivationRequestTransfer,

 MulticastSessionDeactivationRequestTransfer,

 MulticastSessionUpdateRequestTransfer,

 NAS-PDU,

 NASSecurityParametersFromNGRAN,

 NB-IoT-DefaultPagingDRX,

 NB-IoT-PagingDRX,

 NB-IoT-Paging-eDRXInfo,

 NB-IoT-UEPriority,

 NetworkControlledRepeaterAuthorized,

 NewSecurityContextInd,

 NGRAN-CGI,

 NGRAN-TNLAssociationToRemoveList,

 NGRANTraceID,

 NID,

 NoPDUSessionIndication,

 NotifySourceNGRANNode,

 NPN-AccessInformation,

 NR-A2X-ServicesAuthorized,

 NR-CGI,

 NR-PagingeDRXInformation,

 NRPPa-PDU,

 NRUESidelinkAggregateMaximumBitrate,

 NRV2XServicesAuthorized,

 NumberOfBroadcastsRequested,

 OverloadResponse,

 OverloadStartNSSAIList,

 PagingAssisDataforCEcapabUE,

 PagingCause,

 PagingDRX,

 PagingOrigin,

 PagingPolicyDifferentiation,

 PagingPriority,

 Partially-Allowed-NSSAI,

 PC5QoSParameters,

 PDUSessionAggregateMaximumBitRate,

 PDUSessionResourceAdmittedList,

 PDUSessionResourceFailedToModifyListModCfm,

 PDUSessionResourceFailedToModifyListModRes,

 PDUSessionResourceFailedToResumeListRESReq,

 PDUSessionResourceFailedToResumeListRESRes,

 PDUSessionResourceFailedToSetupListCxtFail,

 PDUSessionResourceFailedToSetupListCxtRes,

 PDUSessionResourceFailedToSetupListHOAck,

 PDUSessionResourceFailedToSetupListPSReq,

 PDUSessionResourceFailedToSetupListSURes,

 PDUSessionResourceHandoverList,

 PDUSessionResourceListCxtRelCpl,

 PDUSessionResourceListCxtRelReq,

 PDUSessionResourceListHORqd,

 PDUSessionResourceModifyListModCfm,

 PDUSessionResourceModifyListModInd,

 PDUSessionResourceModifyListModReq,

 PDUSessionResourceModifyListModRes,

 PDUSessionResourceNotifyList,

 PDUSessionResourceReleasedListNot,

 PDUSessionResourceReleasedListPSAck,

 PDUSessionResourceReleasedListPSFail,

 PDUSessionResourceReleasedListRelRes,

 PDUSessionResourceResumeListRESReq,

 PDUSessionResourceResumeListRESRes,

 PDUSessionResourceSecondaryRATUsageList,

 PDUSessionResourceSetupListCxtReq,

 PDUSessionResourceSetupListCxtRes,

 PDUSessionResourceSetupListHOReq,

 PDUSessionResourceSetupListSUReq,

 PDUSessionResourceSetupListSURes,

 PDUSessionResourceSuspendListSUSReq,

 PDUSessionResourceSwitchedList,

 PDUSessionResourceToBeSwitchedDLList,

 PDUSessionResourceToReleaseListHOCmd,

 PDUSessionResourceToReleaseListRelCmd,

 PEIPSassistanceInformation,

 PLMNIdentity,

 PLMNSupportList,

 PrivacyIndicator,

 PWSFailedCellIDList,

 QMCConfigInfo,

 QMCDeactivation,

 RANNodeName,

 RANPagingPriority,

 RANStatusTransfer-TransparentContainer,

 RANTimingSynchronisationStatusInfo,

 RAN-TSSRequestType,

 RAN-TSSScope,

 RAN-UE-NGAP-ID,

 RedCapIndication,

 RedirectionVoiceFallback,

 RelativeAMFCapacity,

 RepetitionPeriod,

 ResetType,

 RGLevelWirelineAccessCharacteristics,

 RIMInformationTransfer,

 RoutingID,

 RRCEstablishmentCause,

 RRCInactiveTransitionReportRequest,

 RRCState,

 SecurityContext,

 SecurityKey,

 SerialNumber,

 ServedGUAMIList,

 SliceSupportList,

 S-NSSAI,

 SONConfigurationTransfer,

 SourceToTarget-AMFInformationReroute,

 SourceToTarget-TransparentContainer,

 SRVCCOperationPossible,

 SupportedTAList,

 Suspend-Request-Indication,

 Suspend-Response-Indication,

 TAI,

 TAIListForPaging,

 TAIListForRestart,

 TargetID,

 TargetNSSAIInformation,

 TargettoSource-Failure-TransparentContainer,

 TargetToSource-TransparentContainer,

 TimeSyncAssistanceInfo,

 TimeToWait,

 TNLAssociationList,

 TraceActivation,

 TrafficLoadReductionIndication,

 TransportLayerAddress,

 UEAggregateMaximumBitRate,

 UE-associatedLogicalNG-connectionList,

 UECapabilityInfoRequest,

 UEContextRequest,

 UE-DifferentiationInfo,

 UE-NGAP-IDs,

 UEPagingIdentity,

 UEPresenceInAreaOfInterestList,

 UERadioCapability,

 UERadioCapabilityForPaging,

 UERadioCapabilityID,

 UERetentionInformation,

 UESecurityCapabilities,

 UESliceMaximumBitRateList,

 UE-UP-CIoT-Support,

 UL-CP-SecurityInformation,

 UnavailableGUAMIList,

 URI-address,

 UserLocationInformation,

 WarningAreaCoordinates,

 WarningAreaList,

 WarningMessageContents,

 WarningSecurityInfo,

 WarningType,

 WUS-Assistance-Information,

 XrDeviceWith2Rx

*------------------------------------- Unchanged Skipped -------------------------------------*

 id-UEAggregateMaximumBitRate,

 id-UE-associatedLogicalNG-connectionList,

 id-UECapabilityInfoRequest,

 id-UEContextRequest,

 id-UE-DifferentiationInfo,

 id-UE-NGAP-IDs,

 id-UEPagingIdentity,

 id-UEPresenceInAreaOfInterestList,

 id-UERadioCapability,

 id-UERadioCapability-EUTRA-Format,

 id-UERadioCapabilityForPaging,

 id-UERadioCapabilityID,

 id-UERetentionInformation,

 id-UESecurityCapabilities,

 id-UESliceMaximumBitRateList,

 id-UE-UP-CIoT-Support,

 id-UL-CP-SecurityInformation,

 id-UnavailableGUAMIList,

 id-UserLocationInformation,

 id-W-AGFIdentityInformation,

 id-WarningAreaCoordinates,

 id-WarningAreaList,

 id-WarningMessageContents,

 id-WarningSecurityInfo,

 id-WarningType,

 id-WUS-Assistance-Information,

 id-XrDeviceWith2Rx

*------------------------------------- Unchanged Skipped -------------------------------------*

UERadioCapabilityInfoIndicationIEs NGAP-PROTOCOL-IES ::= {

 { ID id-AMF-UE-NGAP-ID CRITICALITY reject TYPE AMF-UE-NGAP-ID PRESENCE mandatory }|

 { ID id-RAN-UE-NGAP-ID CRITICALITY reject TYPE RAN-UE-NGAP-ID PRESENCE mandatory }|

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

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

 { ID id-UERadioCapability-EUTRA-Format CRITICALITY ignore TYPE UERadioCapability PRESENCE optional }|

 { ID id-XrDeviceWith2Rx CRITICALITY ignore TYPE XrDeviceWith2Rx PRESENCE optional },

 ...

}

*NEXT CHANGE*

### 9.4.5 Information Element Definitions

-- ASN1START

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

--

-- Information Element Definitions

--

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

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-AssistanceInformationQoE-Meas,

 id-AdditionalCancelledlocationReportingReferenceIDList,

 id-BurstArrivalTimeDownlink,

 id-Cause,

 id-CNPacketDelayBudgetDL,

 id-CNPacketDelayBudgetUL,

 id-CNTypeRestrictionsForEquivalent,

 id-CNTypeRestrictionsForServing,

 id-CommonNetworkInstance,

 id-ConfiguredTACIndication,

 id-CN-MT-CommunicationHandling,

 id-CurrentQoSParaSetIndex,

 id-DAPSRequestInfo,

 id-DAPSResponseInfoList,

 id-DataForwardingNotPossible,

 id-DataForwardingResponseERABList,

 id-DirectForwardingPathAvailability,

 id-DL-NGU-UP-TNLInformation,

 id-DownlinkTLContainer,

 id-EndpointIPAddressAndPort,

 id-EnergySavingIndication,

 id-ExtendedMobilityInformation,

 id-ExtendedPacketDelayBudget,

 id-ExtendedRATRestrictionInformation,

 id-ExtendedReportIntervalMDT,

 id-ExtendedSliceSupportList,

 id-ExtendedTAISliceSupportList,

 id-ExtendedUEIdentityIndexValue,

 id-EUTRA-PagingeDRXInformation,

 id-EquivalentSNPNsList,

 id-GlobalCable-ID,

 id-GlobalRANNodeID,

 id-GlobalTNGF-ID,

 id-GlobalTWIF-ID,

 id-GlobalW-AGF-ID,

 id-GUAMIType,

 id-HashedUEIdentityIndexValue,

 id-IncludeBeamMeasurementsIndication,

 id-IntersystemSONInformationRequest,

 id-IntersystemSONInformationReply,

 id-IntersystemResourceStatusUpdate,

 id-IntersystemMobilityFailureforVoiceFallback,

 id-LastEUTRAN-PLMNIdentity,

 id-LastVisitedPSCellList,

 id-LocationReportingAdditionalInfo,

 id-M4ReportAmount,

 id-M5ReportAmount,

 id-M6ReportAmount,

 id-ExcessPacketDelayThresholdConfiguration,

 id-M7ReportAmount,

 id-MaximumIntegrityProtectedDataRate-DL,

 id-MBS-AreaSessionID,

 id-MBS-QoSFlowsToBeSetupList,

 id-MBS-QoSFlowsToBeSetupModList,

 id-MBS-QoSFlowToReleaseList,

 id-MBS-ServiceArea,

 id-MBS-SessionFSAIDList,

 id-MBS-SessionID,

 id-MBS-ActiveSessionInformation-SourcetoTargetList,

 id-MBS-ActiveSessionInformation-TargettoSourceList,

 id-MBS-AssistanceInformation,

 id-MBS-SessionTNLInfo5GC,

 id-MBS-SupportIndicator,

 id-MBSSessionFailedtoSetupList,

 id-MBSSessionFailedtoSetuporModifyList,

 id-MBSSessionSetupResponseList,

 id-MBSSessionSetuporModifyResponseList,

 id-MBSSessionToReleaseList,

 id-MBSSessionSetupRequestList,

 id-MBSSessionSetuporModifyRequestList,

 id-MDTConfiguration,

 id-MicoAllPLMN,

 id-NetworkInstance,

 id-NGAPIESupportInformationRequestList,

 id-NGAPIESupportInformationResponseList,

 id-NID,

 id-NR-CGI,

 id-NRNTNTAIInformation,

 id-NPN-MobilityInformation,

 id-NPN-PagingAssistanceInformation,

 id-NPN-Support,

 id-NR-PagingeDRXInformation,

 id-OldAssociatedQosFlowList-ULendmarkerexpected,

 id-OnboardingSupport,

 id-PagingAssisDataforCEcapabUE,

 id-PagingCauseIndicationForVoiceService,

 id-PDUSessionAggregateMaximumBitRate,

 id-PduSessionExpectedUEActivityBehaviour,

 id-PDUSessionPairID,

 id-PDUSessionResourceFailedToSetupListCxtFail,

 id-PDUSessionResourceReleaseResponseTransfer,

 id-PDUSessionType,

 id-PEIPSassistanceInformation,

 id-PSCellInformation,

 id-PNI-NPNBasedMDT,

 id-PNI-NPN-AreaScopeofMDT,

 id-QMCConfigInfo,

 id-QosFlowAdditionalInfoList,

 id-QosFlowAddOrModifyRequestList,

 id-QosFlowFailedToSetupList,

 id-QosFlowFeedbackList,

 id-QosFlowParametersList,

 id-QosFlowSetupRequestList,

 id-QosFlowToReleaseList,

 id-QosMonitoringRequest,

 id-QosMonitoringReportingFrequency,

 id-SNPN-CellBasedMDT,

 id-SNPN-TAIBasedMDT,

 id-SNPN-BasedMDT,

 id-SuccessfulHandoverReportList,

 id-SupportedUETypeList,

 id-UEContextReferenceAtSource,

 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-SourceNodeID,

 id-SourceNodeTNLAddrInfo,

 id-SourceTNLAddrInfo,

 id-SurvivalTime,

 id-Selected-Target-SNPN-Identity,

 id-TNLAssociationTransportLayerAddressNGRAN,

 id-TAINSAGSupportList,

 id-TargetHomeENB-ID,

 id-TargetRNC-ID,

 id-TimeBasedHandoverInformation,

 id-TraceCollectionEntityURI,

 id-TSCTrafficCharacteristics,

 id-UEHistoryInformationFromTheUE,

 id-UERadioCapabilityForPaging,

 id-UERadioCapabilityForPagingOfNB-IoT,

 id-UL-NGU-UP-TNLInformation,

 id-UL-NGU-UP-TNLModifyList,

 id-ULForwarding,

 id-ULForwardingUP-TNLInformation,

 id-UplinkTLContainer,

 id-UsedRSNInformation,

 id-UserLocationInformationTNGF,

 id-UserLocationInformationTWIF,

 id-UserLocationInformationW-AGF,

 id-EarlyMeasurement,

 id-BeamMeasurementsReportConfiguration,

 id-DLDiscarding,

 id-TAI,

 id-HFCNode-ID-new,

 id-GlobalCable-ID-new,

 id-FiveGProSeLayer2Multipath,

 id-CandidateRelayUEInformationList,

 id-FiveGProSeLayer2UEtoUERelay,

 id-FiveGProSeLayer2UEtoUERemote,

 id-SuccessfulPSCellChangeReportList,

 id-TargetCellCRNTI,

 id-TimeSinceFailure,

 id-ClockQualityReportingControlInfo,

 id-RANfeedbacktype,

 id-QoSFlowTSCList,

 id-TSCTrafficCharacteristicsFeedback,

 id-ANPacketDelayBudgetUL,

 id-MBSCommServiceType,

 id-IAB-MTUserLocationInformation,

 id-PDUsetQoSParameters,

 id-PDUSetbasedHandlingIndicator,

 id-N6JitterInformation,

 id-ECNMarkingorCongestionInformationReportingRequest,

 id-ECNMarkingorCongestionInformationReportingStatus,

 id-XrDeviceWith2Rx,

*------------------------------------- Unchanged Skipped -------------------------------------*

-- X

XnExtTLAs ::= SEQUENCE (SIZE(1..maxnoofXnExtTLAs)) OF XnExtTLA-Item

XnExtTLA-Item ::= SEQUENCE {

 iPsecTLA TransportLayerAddress OPTIONAL,

 gTP-TLAs XnGTP-TLAs OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { {XnExtTLA-Item-ExtIEs} } OPTIONAL,

 ...

}

XnExtTLA-Item-ExtIEs NGAP-PROTOCOL-EXTENSION ::= {

 { ID id-SCTP-TLAs CRITICALITY ignore EXTENSION SCTP-TLAs PRESENCE optional },

 ...

}

XnGTP-TLAs ::= SEQUENCE (SIZE(1..maxnoofXnGTP-TLAs)) OF TransportLayerAddress

XnTLAs ::= SEQUENCE (SIZE(1..maxnoofXnTLAs)) OF TransportLayerAddress

XnTNLConfigurationInfo ::= SEQUENCE {

 xnTransportLayerAddresses XnTLAs,

 xnExtendedTransportLayerAddresses XnExtTLAs OPTIONAL,

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

 ...

}

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

 ...

}

XrDeviceWith2Rx ::= ENUMERATED {true, ...}

-- Y

-- Z

END

-- ASN1STOP

*NEXT CHANGE*

### 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;

*------------------------------------- Unchanged Skipped -------------------------------------*

 id-TimeBasedHandoverInformation ProtocolIE-ID ::= 420

 id-DLDiscarding ProtocolIE-ID ::= 421

 id-PDUsetQoSParameters ProtocolIE-ID ::= 422

 id-PDUSetbasedHandlingIndicator ProtocolIE-ID ::= 423

 id-N6JitterInformation ProtocolIE-ID ::= 424

 id-ECNMarkingorCongestionInformationReportingRequest ProtocolIE-ID ::= 425

 id-ECNMarkingorCongestionInformationReportingStatus ProtocolIE-ID ::= 426

 id-XrDeviceWith2Rx ProtocolIE-ID ::= xxx

END

-- ASN1STOP

*CHANGES END*