**3GPP TSG-RAN WG3 Meeting #127bis R3-25xxxx**

**Wuhan, China, 7th – 11th April 2025**

**Agenda item: 12.2**

**Source: Nokia, Nokia Shanghai Bell, Ericsson**

**Title: (TP for TS 38.423) Introduction of WAB-MT Identifier in XnAP**

**Document for: Discussion and Decision**

# 1 Introduction

This contribution proposes TS 38.423 TP to capture following agreements:

**Include a WAB-MT Identifier in the XN SETUP REQUEST, XN SETUP RESPONSE, NG-RAN NODE CONFIGURATION UPDATE and NG-RAN NODE CONFIGURATION UPDATE ACK e.g. for colocation discovery for resource multiplexing or for WAB node indication.**

# Annex A – Text proposal for TS 38.423

**----- Start of Change -----**

### 8.4.1 Xn Setup

#### 8.4.1.1 General

The purpose of the Xn Setup procedure is to exchange application level configuration data needed for two NG-RAN nodes to interoperate correctly over the Xn-C interface.

NOTE 1: If Xn-C signalling transport is shared among multiple Xn-C interface instances, one Xn Setup procedure is issued per Xn-C interface instance to be setup, i.e. several Xn Setup procedures may be issued via the same TNL association after that TNL association has become operational.

NOTE 2: Exchange of application level configuration data also applies between two NG-RAN nodes in case the SN (i.e. the gNB) does not broadcast system information other than for radio frame timing and SFN, as specified in the TS 37.340 [8]. How to use this information when this option is used is not explicitly specified.

The procedure uses non UE-associated signalling.

#### 8.4.1.2 Successful Operation



Figure 8.4.1.2: Xn Setup, successful operation

The NG-RAN node1 initiates the procedure by sending the XN SETUP REQUEST message to the candidate NG-RAN node2. The candidate NG-RAN node2 replies with the XN SETUP RESPONSE message.

**----- Unmodified part skipped -----**

If the *Barring Exemption for Emergency Call Information* IE is included in the *Served Cell Information NR* IE in the XN SETUP REQUEST message or the XN SETUP RESPONSE message, the receiving NG-RAN node may use this information to determine a suitable target in case of subsequent outgoing mobility during emergency call.

If the *Identifier of WAB-MT* IE is included in the XN SETUP REQUEST message or in the XN SETUP RESPONSE message, the receiving NG-RAN node shall, if supported, consider the information therein for discovering the co-location of a WAB-gNB and a WAB-MT or for WAB node indication.

**Interactions with other procedures:**

If the NG-RAN node1 receives a XN SETUP RESPONSE message containing a Local NG-RAN Node Identifieridentical to the Local NG-RAN Node Identifier included in the corresponding XN SETUP REQUEST message, the NG-RAN node1 may initiate the NG-RAN node Configuration Update procedure including in the NG-RAN NODE CONFIGURATION UPDATE message a new Local NG-RAN Node Identifier, different from the Local NG-RAN Node Identifierof each of its neighbour NG-RAN Nodes.

**----- Next Change -----**

### 8.4.2 NG-RAN node Configuration Update

#### 8.4.2.1 General

The purpose of the NG-RAN node Configuration Update procedure is to update application level configuration data needed for two NG-RAN nodes to interoperate correctly over the Xn-C interface.

NOTE: Update of application level configuration data also applies between two NG-RAN nodes in case the SN (i.e. the gNB) does not broadcast system information other than for radio frame timing and SFN, as specified in the TS 37.340 [8]. How to use this information when this option is used is not explicitly specified.

The procedure uses non UE-associated signalling.

#### 8.4.2.2 Successful Operation



Figure 8.4.2.2-1: NG-RAN node Configuration Update, successful operation

The NG-RAN node1 initiates the procedure by sending the NG-RAN NODE CONFIGURATION UPDATE message to a peer NG-RAN node2.

**----- Unmodified part skipped -----**

If the *TAI NSAG Support List*IE is contained in the NG-RAN NODE CONFIGURATION UPDATE message, the NG-RAN node shall, if supported, take this IE into account for slice aware cell reselection.

If the *TAI Slice Unavailable Cell List*IE is contained in the NG-RAN NODE CONFIGURATION UPDATE message, the NG-RAN node2 shall, if supported, take this IE into account to deduce slice resource allocation.

If the *Identifier of WAB-MT* IE is included in the NG-RAN NODE CONFIGURATION UPDATE message or in the NG-RAN NODE CONFIGURATION UPDATE ACKNOWLEDGE message, the receiving NG-RAN node shall, if supported, consider the information therein for discovering the co-location of a WAB-gNB and a WAB-MT or for WAB node indication.

**Update of Served Cell Information NR:**

- If *Served Cells NR To Add* IE is contained in the NG-RAN NODE CONFIGURATION UPDATE message, NG-RAN node2 shall add cell information according to the information in the *Served Cell Information* *NR* IE.

- If *Served Cells NR To Modify* IE is contained in the NG-RAN NODE CONFIGURATION UPDATE message, NG-RAN node2 shall modify information of cell indicated by *Old NR-CGI* IE according to the information in the *Served Cell Information* *NR* IE.

#### 

**----- Next Change -----**

#### 9.1.3.1 XN SETUP REQUEST

This message is sent by a NG-RAN node to a neighbouring NG-RAN node to transfer application data for an Xn-C interface instance.

Direction: NG-RAN node1 à NG-RAN node2.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| Global NG-RAN Node ID | M |  | 9.2.2.3 |  | YES | reject |
| TAI Support List | M |  | 9.2.3.20 | List of supported TAs and associated characteristics. | YES | reject |
| AMF Region Information | M |  | 9.2.3.83 | Contains a list of all the AMF Regions to which the NG-RAN node belongs. | YES | reject |
| **List of Served Cells NR** |  | *0 .. <maxnoofCellsinNG-RAN node>* |  | Contains a list of cells served by the gNB. If a partial list of cells is signalled, it contains at least one cell per carrier configured at the gNB | YES | reject |
| >Served Cell Information NR | M |  | 9.2.2.11 |  | – |  |
| >Neighbour Information NR | O |  | 9.2.2.13 |  | – |  |
| >Neighbour Information E-UTRA | O |  | 9.2.2.14 |  | – |  |
| >Served Cell Specific Info Request | O |  | 9.2.2.102 |  | YES | ignore |
| **List of Served Cells E-UTRA** |  | *0 .. <maxnoofCellsinNG-RAN node>* |  | Contains a list of cells served by the ng-eNB. If a partial list of cells is signalled, it contains at least one cell per carrier configured at the ng-eNB | YES | reject |
| >Served Cell Information E-UTRA | M |  | 9.2.2.12 |  | – |  |
| >Neighbour Information NR | O |  | 9.2.2.13 |  | – |  |
| >Neighbour Information E-UTRA | O |  | 9.2.2.14 |  | – |  |
| >SFN Offset | O |  | 9.2.2.75 | Associated with the *ECGI* IE in the *Served Cell Information E-UTRA* IE | YES | ignore |
| Interface Instance Indication | O |  | 9.2.2.39 |  | YES | reject |
| TNL Configuration Info | O |  | 9.2.3.96 |  | YES | ignore |
| Partial List Indicator NR | O |  | Partial List Indicator  9.2.2.46 | Value “partial” indicates that a partial list of cells is included in the *List of Served Cells* *NR* IE. | YES | ignore |
| Cell and Capacity Assistance Information NR | O |  | 9.2.2.41 | Contains NR cell related assistance information. | YES | ignore |
| Partial List Indicator E-UTRA | O |  | Partial List Indicator  9.2.2.46 | Value “partial” indicates that a partial list of cells is included in the *List of Served Cells E-UTRA.* | YES | ignore |
| Cell and Capacity Assistance Information E-UTRA | O |  | 9.2.2.42 | Contains E-UTRA cell related assistance information. | YES | ignore |
| Local NG-RAN Node Identifier | O |  | 9.2.2.101 |  | YES | ignore |
| **Neighbour NG-RAN Node List** |  | *0..<maxnoofNeighbourNG-RAN nodes>* |  |  | YES | ignore |
| >Global NG-RAN Node ID | M |  | 9.2.2.3 |  | – |  |
| >Local NG-RAN Node Identifier | M |  | 9.2.2.101 |  | – |  |
| Identifier of WAB-MT | O |  | FFS | Contains the identifier of the WAB-MT co-located with the NG-RAN node, assigned by the BH-gNB. | YES | ignore |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofCellsinNG-RAN node | Maximum no. cells that can be served by a NG-RAN node. Value is 16384. |
| maxnoofNeighbourNG-RAN nodes | Maximum no. of neighbour NG-RAN nodes. Value is 256. |

#### 9.1.3.2 XN SETUP RESPONSE

This message is sent by a NG-RAN node to a neighbouring NG-RAN node to transfer application data for an Xn-C interface instance.

Direction: NG-RAN node2 à NG-RAN node1.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| Global NG-RAN Node ID | M |  | 9.2.2.3 |  | YES | reject |
| TAI Support List | M |  | 9.2.3.20 | List of supported TAs and associated characteristics. | YES | reject |
| **List of Served Cells NR** |  | *0 .. <**maxnoofCellsinNG-RAN node>* |  | Contains a list of cells served by the gNB. If a partial list of cells is signalled, it contains at least one cell per carrier configured at the gNB | YES | reject |
| >Served Cell Information NR | M |  | 9.2.2.11 |  | – |  |
| >Neighbour Information NR | O |  | 9.2.2.13 |  | – |  |
| >Neighbour Information E-UTRA | O |  | 9.2.2.14 |  | – |  |
| >Served Cell Specific Info Request | O |  | 9.2.2.102 | This IE is not used in this version of the specification. | YES | ignore |
| **List of Served Cells E-UTRA** |  | *0 .. <maxnoofCellsinNG-RAN node>* |  | Contains a list of cells served by the ng-eNB. If a partial list of cells is signalled, it contains at least one cell per carrier configured at the gNB | YES | reject |
| >Served Cell Information E-UTRA | M |  | 9.2.2.12 |  | – |  |
| >Neighbour Information NR | O |  | 9.2.2.13 |  | – |  |
| >Neighbour Information E-UTRA | O |  | 9.2.2.14 |  | – |  |
| >SFN Offset | O |  | 9.2.2.75 | Associated with the *ECGI* IE in the *Served Cell Information E-UTRA* IE | YES | ignore |
| Criticality Diagnostics | O |  | 9.2.3.3 |  | YES | ignore |
| AMF Region Information | O |  | 9.2.3.83 | Contains a list of all the AMF Regions to which the NG-RAN node belongs. | YES | reject |
| Interface Instance Indication | O |  | 9.2.2.39 |  | YES | reject |
| TNL Configuration Info | O |  | 9.2.3.96 |  | YES | ignore |
| Partial List Indicator NR | O |  | Partial List Indicator  9.2.2.46 | Value “partial” indicates that a partial list of cells is included in the *List of Served Cells* *NR* IE. | YES | ignore |
| Cell and Capacity Assistance Information NR | O |  | 9.2.2.41 | Contains NR cell related assistance information. | YES | ignore |
| Partial List Indicator E-UTRA | O |  | Partial List Indicator  9.2.2.46 | Value “partial” indicates that a partial list of cells is included in the *List of Served Cells E-UTRA.* | YES | ignore |
| Cell and Capacity Assistance Information E-UTRA | O |  | 9.2.2.42 | Contains E-UTRA cell related assistance information. | YES | ignore |
| Local NG-RAN Node Identifier | O |  | 9.2.2.101 |  | YES | ignore |
| **Neighbour NG-RAN Node List** |  | *0..<maxnoofNeighbourNG-RAN nodes>* |  |  | YES | ignore |
| >Global NG-RAN Node ID | M |  | 9.2.2.3 |  | – |  |
| >Local NG-RAN Node Identifier | M |  | 9.2.2.101 |  | – |  |
| Identifier of WAB-MT | O |  | FFS | Contains the identifier of the WAB-MT co-located with the NG-RAN node, assigned by the BH-gNB. | YES | ignore |

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| --- | --- |
| Range bound | Explanation |
| maxnoofCellsinNG-RAN node | Maximum no. cells that can be served by a NG-RAN node. Value is 16384. |
| maxnoofNeighbourNG-RAN nodes | Maximum no. of neighbour NG-RAN nodes. Value is 256. |

**----- Next Change -----**

#### 9.1.3.4 NG-RAN NODE CONFIGURATION UPDATE

This message is sent by a NG-RAN node to a neighbouring NG-RAN node to transfer updated information for an Xn-C interface instance.

Direction: NG-RAN node1 à NG-RAN node2.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| TAI Support List | O |  | 9.2.3.20 | List of supported TAs and associated characteristics. | GLOBAL | reject |
| CHOICE *Initiating NodeType* | M |  |  |  | YES | ignore |
| *>gNB* |  |  |  |  |  |  |
| >>Served Cells To Update NR | O |  | 9.2.2.15 |  | YES | ignore |
| >>Cell Assistance Information NR | O |  | 9.2.2.17 |  | YES | ignore |
| >>Cell Assistance Information E-UTRA | O |  | 9.2.2.43 |  | YES | ignore |
| >>Served Cell Specific Info Request | O |  | 9.2.2.102 |  | YES | ignore |
| *>ng-eNB* |  |  |  |  |  |  |
| >>Served Cells to Update E-UTRA | O |  | 9.2.2.16 |  | YES | ignore |
| >>Cell Assistance Information NR | O |  | 9.2.2.17 |  | YES | ignore |
| >>Cell Assistance Information E-UTRA | O |  | 9.2.2.43 |  | YES | ignore |
| **TNLA To Add List** |  | *0..1* |  |  | YES | ignore |
| **>TNLA To Add Item** |  | *1..<maxnoofTNLAssociations>* |  |  | – |  |
| >>TNLA Transport Layer Information | M |  | CP Transport Layer Information  9.2.3.31 | CP Transport Layer Information of NG-RAN node1 | – |  |
| >>TNL Association Usage | M |  | 9.2.3.84 |  | – |  |
| **TNLA To Update List** |  | *0..1* |  |  | YES | ignore |
| **>TNLA To Update Item** |  | *1..<maxnoofTNLAssociations>* |  |  | – |  |
| >>TNLA Transport Layer Information | M |  | CP Transport Layer Information  9.2.3.31 | CP Transport Layer Information of NG-RAN node1 | – |  |
| >>TNL Association Usage | O |  | 9.2.3.84 |  | – |  |
| **TNLA To Remove List** |  | *0..1* |  |  | YES | ignore |
| **>TNLA To Remove Item** |  | *1..<maxnoofTNLAssociations>* |  |  | – |  |
| >>TNLA Transport Layer Information | M |  | CP Transport Layer Information  9.2.3.31 | CP Transport Layer Information of NG-RAN node1 | – |  |
| Global NG-RAN Node ID | O |  | 9.2.2.3 |  | YES | reject |
| AMF Region Information To Add | O |  | AMF Region Information  9.2.3.83 | List of all added AMF Regions to which the NG-RAN node belongs. | YES | reject |
| AMF Region Information To Delete | O |  | AMF Region Information  9.2.3.83 | List of all deleted AMF Regions to which the NG-RAN node belongs. | YES | reject |
| Interface Instance Indication | O |  | 9.2.2.39 |  | YES | reject |
| TNL Configuration Info | O |  | 9.2.3.96 |  | YES | ignore |
| **Coverage Modification List** |  | *0 .. 1* |  | List of cells with modified coverage. | GLOBAL | reject |
| **>Coverage Modification Item** |  | *0 .. <maxnoofCellsinNG-RAN node>* |  |  | – |  |
| >>Global NG-RAN Cell Identity | M |  | Global Cell Identity  9.2.2.73 | Global Cell Identity of the cell to be modified. In this version of the specification, only a NG-RAN cell identifier can be included. | – |  |
| >>Cell Coverage State | M |  | INTEGER (0..63, …) | Value ‘0’ indicates that the cell is inactive. Other values Indicates that the cell is active and also indicates the coverage configuration of the concerned cell. | – |  |
| >>Cell Deployment Status Indicator | O |  | ENUMERATED(pre-change-notification, ...) | Indicates the Cell Coverage State is planned to be used at the next reconfiguration. | – |  |
| **>>Cell Replacing Info** | C-ifCellDeploymentStatusIndicatorPresent |  |  |  | – |  |
| **>>>Replacing Cells** |  | *0 .. <maxnoofCellsinNG-RAN node>* |  |  | – |  |
| >>>>Global NG-RAN Cell Identity |  |  | Global Cell Identity  9.2.2.73 | Global Cell Identity of a cell that may replace all or part of the coverage of the cell to be modified. In this version of the specification, only a NG-RAN cell identifier can be included. | – |  |
| **>>SSB Coverage Modification List** |  | *0..1* |  | List of SSB beams with modified coverage. | – |  |
| **>>>SSB Coverage Modification Item** |  | *0..<maxnoofSSBAreas>* |  |  | – |  |
| >>>>SSB Index | M |  | INTEGER (0..63) | Identifier of the SSB beam to be modified. | – |  |
| >>>>SSB Coverage State | M |  | INTEGER (0..15, …) | Value ‘0’ indicates that the SSB beam is inactive. Other values Indicates that the SSB beam is active and also indicates the coverage configuration of the concerned SSB beam. | – |  |
| >>Coverage Modification Cause | O |  | ENUMERATED (coverage, cell edge capacity, ..., network energy saving) | Indicates the reason for the coverage modification in NG-RAN node1. | YES | ignore |
| Local NG-RAN Node Identifier | O |  | 9.2.2.101 |  | YES | ignore |
| **Neighbour NG-RAN Node List** |  | *0..<maxnoofNeighbourNG-RAN nodes>* |  |  | YES | ignore |
| *>*Global NG-RAN Node ID | M |  | 9.2.2.3 |  | – |  |
| >Local NG-RAN Node Identifier | M |  | 9.2.2.101 |  | – |  |
| Local NG-RAN Node Identifier Removal | O |  | Local NG-RAN Node Identifier  9.2.2.101 |  | YES | ignore |
| Identifier of WAB-MT | O |  | FFS | Contains the identifier of the WAB-MT co-located with the NG-RAN node, assigned by the BH-gNB. | YES | ignore |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofTNLAssociations | Maximum numbers of TNL Associations between the NG RAN nodes. Value is 32. |
| maxnoofCellsinNG-RAN node | Maximum no. cells that can be served by a NG-RAN node. Value is 16384. |
| maxnoofSSBAreas | Maximum no. SSB Areas that can be served by a cell. Value is 64. |
| maxnoofNeighbourNG-RAN nodes | Maximum no. of neighbour NG-RAN nodes. Value is 256. |

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| --- | --- |
| Condition | Explanation |
| ifCellDeploymentStatusIndicatorPresent | This IE shall be present if the *Cell Deployment Status Indicator* IE is present. |

**----- Next Change -----**

#### 9.1.3.5 NG-RAN NODE CONFIGURATION UPDATE ACKNOWLEDGE

This message is sent by a neighbouring NG-RAN node to a peer node to acknowledge update of information for a TNL association.

Direction: NG-RAN node2 🡪 NG-RAN node1.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| CHOICE *Responding NodeType* | M |  |  |  | YES | ignore |
| >*ng-eNB* |  |  |  |  |  |  |
| **>>Served E-UTRA Cells** |  | *0 .. < maxnoofCellsinNG-RANnode>* |  | Complete or limited list of cells served by an ng-eNB, if requested by NG-RAN node1. | YES | ignore |
| >>>Served Cell Information E-UTRA | M |  | 9.2.2.12 |  | – |  |
| >>>Neighbour Information NR | O |  | 9.2.2.13 | NR neighbours. | – |  |
| >>>Neighbour Information E-UTRA | O |  | 9.2.2.14 | E-UTRA neighbours | – |  |
| >>>SFN Offset | O |  | 9.2.2.75 | Associated with the *ECGI* IE in the *Served Cell Information E-UTRA* IE | YES | ignore |
| >>Partial List Indicator E-UTRA | O |  | Partial List Indicator  9.2.2.46 | Value “partial” indicates that a partial list of cells is included in the *Served E-UTRA Cells* IE | YES | ignore |
| >>Cell and Capacity Assistance Information E-UTRA | O |  | 9.2.2.42 | Contains E-UTRA cell related assistance information. | YES | ignore |
| >*gNB* |  |  |  |  |  |  |
| **>>Served NR Cells** |  | *0 .. < maxnoofCellsinNG-RANnode>* |  | Complete or limited list of cells served by a gNB, if requested by NG-RAN node1. | – |  |
| >>>Served Cell Information NR | M |  | 9.2.2.11 |  | – |  |
| >>>Neighbour Information NR | O |  | 9.2.2.13 | NR neighbours. | – |  |
| >>>Neighbour Information E-UTRA | O |  | 9.2.2.14 | E-UTRA neighbours | – |  |
| >>>Served Cell Specific Info Request | O |  | 9.2.2.102 |  | YES | ignore |
| >>Partial List Indicator NR | O |  | Partial List Indicator  9.2.2.46 | Value “partial” indicates that a partial list of cells is included in the *Served NR Cells* IE | YES | ignore |
| >>Cell and Capacity Assistance Information NR | O |  | 9.2.2.41 | Contains NR cell related assistance information. | YES | ignore |
| **TNLA Setup List** |  | *0..1* |  |  | YES | ignore |
| **>TNLA Setup Item** |  | *1..<maxnoofTNLAssociations>* |  |  | – |  |
| >>TNLA Transport Layer Address | M |  | CP Transport Layer Information  9.2.3.31 | CP Transport Layer Information as received from NG-RAN node1 | – |  |
| **TNLA Failed to Setup List** |  | *0..1* |  |  | YES | ignore |
| **>TNLA Failed To Setup Item** |  | *1..<maxnoofTNLAssociations>* |  |  | – |  |
| >>TNLA Transport Layer Address | M |  | CP Transport Layer Information  9.2.3.31 | CP Transport Layer Information as received from NG-RAN node1 | – |  |
| >>Cause | M |  | 9.2.3.2 |  | – |  |
| Criticality Diagnostics | O |  | 9.2.3.3 |  | YES | ignore |
| Interface Instance Indication | O |  | 9.2.2.39 |  | YES | reject |
| TNL Configuration Info | O |  | 9.2.3.96 |  | YES | ignore |
| Local NG-RAN Node Identifier | O |  | 9.2.2.101 |  | YES | ignore |
| **Neighbour NG-RAN Node List** |  | *0..<maxnoofNeighbourNG-RAN nodes>* |  |  | YES | ignore |
| >Global NG-RAN Node ID | M |  | 9.2.2.3 |  | – |  |
| >Local NG-RAN Node Identifier | M |  | 9.2.2.101 |  | – |  |
| Local NG-RAN Node Identifier Removal |  |  | Local NG-RAN Node Identifier  9.2.2.101 |  | YES | ignore |
| Identifier of WAB-MT | O |  | FFS | Contains the identifier of the WAB-MT co-located with the NG-RAN node, assigned by the BH-gNB. | YES | ignore |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofCellsinNGRANnode | Maximum no. cells that can be served by an NG-RAN node.  Value is 16384. |
| maxnoofTNLAssociations | Maximum numbers of TNL Associations between NG-RAN nodes. Value is 32. |
| maxnoofNeighbourNG-RAN nodes | Maximum no. of neighbour NG-RAN nodes. Value is 256. |

**----- Next Change -----**

### 9.3.4 PDU Definitions

-- ASN1START

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-- PDU definitions for XnAP.

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

XnAP-PDU-Contents {

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

ngran-access (22) modules (3) xnap (2) version1 (1) xnap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

--

-- IE parameter types from other modules.

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

IMPORTS

ActivationIDforCellActivation,

AMF-Region-Information,

<<<<<<<<<<<<<<<<<<<< Unaffected part is skipped >>>>>>>>>>>>>>>>>>>>

SLPositioning-Ranging-Services-Info,

PDUSessionsListToBeReleased-UPError,

UserPlaneFailureIndication,

SRSPositioningConfigOrActivationRequest,

NRPPaPositioningInformation,

WAB-MT-ID

FROM XnAP-IEs

<<<<<<<<<<<<<<<<<<<< Unaffected part is skipped >>>>>>>>>>>>>>>>>>>>

id-UserPlaneFailureIndication,

id-SRSPositioningConfigOrActivationRequest,

id-NRPPaPositioningInformation,

id-WAB-MT-ID,

maxnoofCellsinNG-RANnode,

maxnoofDRBs,

maxnoofPDUSessions,

maxnoofQoSFlows,

maxnoofServedCellsIAB,

<<<<<<<<<<<<<<<<<<<< Unaffected part is skipped >>>>>>>>>>>>>>>>>>>>

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-- XN SETUP REQUEST

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

XnSetupRequest ::= SEQUENCE {

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

...

}

XnSetupRequest-IEs XNAP-PROTOCOL-IES ::= {

{ ID id-GlobalNG-RAN-node-ID CRITICALITY reject TYPE GlobalNG-RANNode-ID PRESENCE mandatory}|

{ ID id-TAISupport-list CRITICALITY reject TYPE TAISupport-List PRESENCE mandatory}|

{ ID id-AMF-Region-Information CRITICALITY reject TYPE AMF-Region-Information PRESENCE mandatory}|

{ ID id-List-of-served-cells-NR CRITICALITY reject TYPE ServedCells-NR PRESENCE optional }|

{ ID id-List-of-served-cells-E-UTRA CRITICALITY reject TYPE ServedCells-E-UTRA PRESENCE optional }|

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

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

{ ID id-PartialListIndicator-NR CRITICALITY ignore TYPE PartialListIndicator PRESENCE optional }|

{ ID id-CellAndCapacityAssistanceInfo-NR CRITICALITY ignore TYPE CellAndCapacityAssistanceInfo-NR PRESENCE optional }|

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

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

{ ID id-Local-NG-RAN-Node-Identifier CRITICALITY ignore TYPE Local-NG-RAN-Node-Identifier PRESENCE optional }|

{ ID id-Neighbour-NG-RAN-Node-List CRITICALITY ignore TYPE Neighbour-NG-RAN-Node-List PRESENCE optional }|

{ ID id-WAB-MT-ID CRITICALITY ignore TYPE WAB-MT-ID PRESENCE optional },

...

}

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

--

-- XN SETUP RESPONSE

--

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

XnSetupResponse ::= SEQUENCE {

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

...

}

XnSetupResponse-IEs XNAP-PROTOCOL-IES ::= {

{ ID id-GlobalNG-RAN-node-ID CRITICALITY reject TYPE GlobalNG-RANNode-ID PRESENCE mandatory}|

{ ID id-TAISupport-list CRITICALITY reject TYPE TAISupport-List PRESENCE mandatory}|

{ ID id-List-of-served-cells-NR CRITICALITY reject TYPE ServedCells-NR PRESENCE optional }|

{ ID id-List-of-served-cells-E-UTRA CRITICALITY reject TYPE ServedCells-E-UTRA PRESENCE optional }|

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

{ ID id-AMF-Region-Information CRITICALITY reject TYPE AMF-Region-Information PRESENCE optional }|

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

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

{ ID id-PartialListIndicator-NR CRITICALITY ignore TYPE PartialListIndicator PRESENCE optional }|

{ ID id-CellAndCapacityAssistanceInfo-NR CRITICALITY ignore TYPE CellAndCapacityAssistanceInfo-NR PRESENCE optional }|

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

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

{ ID id-Local-NG-RAN-Node-Identifier CRITICALITY ignore TYPE Local-NG-RAN-Node-Identifier PRESENCE optional }|

{ ID id-Neighbour-NG-RAN-Node-List CRITICALITY ignore TYPE Neighbour-NG-RAN-Node-List PRESENCE optional }|

{ ID id-WAB-MT-ID CRITICALITY ignore TYPE WAB-MT-ID PRESENCE optional },

...

}

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

--

-- XN SETUP FAILURE

--

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

XnSetupFailure ::= SEQUENCE {

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

...

}

XnSetupFailure-IEs XNAP-PROTOCOL-IES ::= {

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

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

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

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

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

...

}

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

--

-- NG-RAN NODE CONFIGURATION UPDATE

--

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

NGRANNodeConfigurationUpdate ::= SEQUENCE {

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

...

}

NGRANNodeConfigurationUpdate-IEs XNAP-PROTOCOL-IES ::= {

{ ID id-TAISupport-list CRITICALITY reject TYPE TAISupport-List PRESENCE optional }|

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

{ ID id-TNLA-To-Add-List CRITICALITY ignore TYPE TNLA-To-Add-List PRESENCE optional }|

{ ID id-TNLA-To-Remove-List CRITICALITY ignore TYPE TNLA-To-Remove-List PRESENCE optional }|

{ ID id-TNLA-To-Update-List CRITICALITY ignore TYPE TNLA-To-Update-List PRESENCE optional }|

{ ID id-GlobalNG-RAN-node-ID CRITICALITY reject TYPE GlobalNG-RANNode-ID PRESENCE optional }|

{ ID id-AMF-Region-Information-To-Add CRITICALITY reject TYPE AMF-Region-Information PRESENCE optional }|

{ ID id-AMF-Region-Information-To-Delete CRITICALITY reject TYPE AMF-Region-Information PRESENCE optional }|

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

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

{ ID id-Coverage-Modification-List CRITICALITY reject TYPE Coverage-Modification-List PRESENCE optional }|

{ ID id-Local-NG-RAN-Node-Identifier CRITICALITY ignore TYPE Local-NG-RAN-Node-Identifier PRESENCE optional }|

{ ID id-Neighbour-NG-RAN-Node-List CRITICALITY ignore TYPE Neighbour-NG-RAN-Node-List PRESENCE optional }|

{ ID id-Local-NG-RAN-Node-Identifier-Removal CRITICALITY ignore TYPE Local-NG-RAN-Node-Identifier PRESENCE optional }|

{ ID id-WAB-MT-ID CRITICALITY ignore TYPE WAB-MT-ID PRESENCE optional },

...

}

ConfigurationUpdateInitiatingNodeChoice ::= CHOICE {

gNB ProtocolIE-Container { {ConfigurationUpdate-gNB} },

ng-eNB ProtocolIE-Container { {ConfigurationUpdate-ng-eNB} },

choice-extension ProtocolIE-Single-Container { {ServedCellsToUpdateInitiatingNodeChoice-ExtIEs} }

}

ServedCellsToUpdateInitiatingNodeChoice-ExtIEs XNAP-PROTOCOL-IES ::= {

...

}

ConfigurationUpdate-gNB XNAP-PROTOCOL-IES ::= {

{ ID id-servedCellsToUpdate-NR CRITICALITY ignore TYPE ServedCellsToUpdate-NR PRESENCE optional }|

{ ID id-cellAssistanceInfo-NR CRITICALITY ignore TYPE CellAssistanceInfo-NR PRESENCE optional }|

{ ID id-cellAssistanceInfo-EUTRA CRITICALITY ignore TYPE CellAssistanceInfo-EUTRA PRESENCE optional }|

{ ID id-ServedCellSpecificInfoReq-NR CRITICALITY ignore TYPE ServedCellSpecificInfoReq-NR PRESENCE optional},

...

}

ConfigurationUpdate-ng-eNB XNAP-PROTOCOL-IES ::= {

{ ID id-servedCellsToUpdate-E-UTRA CRITICALITY ignore TYPE ServedCellsToUpdate-E-UTRA PRESENCE optional }|

{ ID id-cellAssistanceInfo-NR CRITICALITY ignore TYPE CellAssistanceInfo-NR PRESENCE optional }|

{ ID id-cellAssistanceInfo-EUTRA CRITICALITY ignore TYPE CellAssistanceInfo-EUTRA PRESENCE optional },

...

}

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

--

-- NG-RAN NODE CONFIGURATION UPDATE ACKNOWLEDGE

--

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

NGRANNodeConfigurationUpdateAcknowledge ::= SEQUENCE {

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

...

}

NGRANNodeConfigurationUpdateAcknowledge-IEs XNAP-PROTOCOL-IES ::= {

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

{ ID id-TNLA-Setup-List CRITICALITY ignore TYPE TNLA-Setup-List PRESENCE optional }|

{ ID id-TNLA-Failed-To-Setup-List CRITICALITY ignore TYPE TNLA-Failed-To-Setup-List PRESENCE optional }|

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

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

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

{ ID id-Local-NG-RAN-Node-Identifier CRITICALITY ignore TYPE Local-NG-RAN-Node-Identifier PRESENCE optional }|

{ ID id-Neighbour-NG-RAN-Node-List CRITICALITY ignore TYPE Neighbour-NG-RAN-Node-List PRESENCE optional }|

{ ID id-Local-NG-RAN-Node-Identifier-Removal CRITICALITY ignore TYPE Local-NG-RAN-Node-Identifier PRESENCE optional }|

{ ID id-WAB-MT-ID CRITICALITY ignore TYPE WAB-MT-ID PRESENCE optional },

...

}

RespondingNodeTypeConfigUpdateAck ::= CHOICE {

ng-eNB RespondingNodeTypeConfigUpdateAck-ng-eNB,

gNB RespondingNodeTypeConfigUpdateAck-gNB,

choice-extension ProtocolIE-Single-Container { {RespondingNodeTypeConfigUpdateAck-ExtIEs} }

}

RespondingNodeTypeConfigUpdateAck-ExtIEs XNAP-PROTOCOL-IES ::= {

...

}

RespondingNodeTypeConfigUpdateAck-ng-eNB ::= SEQUENCE {

iE-Extension ProtocolExtensionContainer { {RespondingNodeTypeConfigUpdateAck-ng-eNB-ExtIEs} } OPTIONAL,

...

}

RespondingNodeTypeConfigUpdateAck-ng-eNB-ExtIEs XNAP-PROTOCOL-EXTENSION ::= {

{ ID id-List-of-served-cells-E-UTRA CRITICALITY ignore EXTENSION ServedCells-E-UTRA PRESENCE optional }|

{ ID id-PartialListIndicator-EUTRA CRITICALITY ignore EXTENSION PartialListIndicator PRESENCE optional }|

{ ID id-CellAndCapacityAssistanceInfo-EUTRA CRITICALITY ignore EXTENSION CellAndCapacityAssistanceInfo-EUTRA PRESENCE optional },

...

}

RespondingNodeTypeConfigUpdateAck-gNB ::= SEQUENCE {

served-NR-Cells ServedCells-NR OPTIONAL,

iE-Extension ProtocolExtensionContainer { {RespondingNodeTypeConfigUpdateAck-gNB-ExtIEs} } OPTIONAL,

...

}

RespondingNodeTypeConfigUpdateAck-gNB-ExtIEs XNAP-PROTOCOL-EXTENSION ::= {

{ ID id-PartialListIndicator-NR CRITICALITY ignore EXTENSION PartialListIndicator PRESENCE optional }|

{ ID id-CellAndCapacityAssistanceInfo-NR CRITICALITY ignore EXTENSION CellAndCapacityAssistanceInfo-NR PRESENCE optional },

...

}

**----- Next Change -----**

### 9.3.5 Information Element definitions

-- ASN1START

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

--

-- Information Element Definitions

--

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

XnAP-IEs {

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

ngran-access (22) modules (3) xnap (2) version1 (1) xnap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

<<<<<<<<<<<<<<<<<<<< Unaffected part is skipped >>>>>>>>>>>>>>>>>>>>

-- W

WAB-MT-ID ::= FFS

WLANMeasurementConfiguration ::= SEQUENCE {

wlanMeasConfig WLANMeasConfig,

wlanMeasConfigNameList WLANMeasConfigNameList OPTIONAL,

wlan-rssi ENUMERATED {true, ...} OPTIONAL,

wlan-rtt ENUMERATED {true, ...} OPTIONAL,

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

...

}

**----- Next Change -----**

### 9.3.7 Constant definitions

-- ASN1START

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

--

-- Constant definitions

--

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

<<<<<<<<<<<<<<<<<<<< Unaffected part is skipped >>>>>>>>>>>>>>>>>>>>

id-SRSPositioningConfigOrActivationRequest ProtocolIE-ID ::= 473

id-NRPPaPositioningInformation ProtocolIE-ID ::= 474

id-WAB-MT-ID ProtocolIE-ID ::= a

END

-- ASN1STOP

**----- End of Change -----**