3GPP TSG-RAN WG3 #114-e R3-216084

1-11 Nov 2021

Online

**Title:** TP for SCG BL CR to TS38.423

**Source:** ZTE

**Agenda item:** 14.2

**Document for:** Approval

# Text Proposal for TS38.423

**--------------------------------------------------Start of the change---------------------------------------------------**

8.3.1 S-NG-RAN node Addition Preparation

8.3.1.1 General

The purpose of the S-NG-RAN node Addition Preparation procedure is to request the S-NG-RAN node to allocate resources for dual connectivity operation for a specific UE.

The procedure uses UE-associated signalling.

8.3.1.2 Successful Operation

****

**Figure 8.3.1.2-1: S-NG-RAN node Addition Preparation, successful operation**

The M-NG-RAN node initiates the procedure by sending the S-NODE ADDITION REQUEST message to the S-NG-RAN node.

When the M-NG-RAN node sends the S-NODE ADDITION REQUEST message, it shall start the timer TXnDCprep.

<Unrelated part omitted>

For each DRB configured as MN-terminated split bearer/SCG bearer, if the *QoS Mapping Information* IE is included in the *DRBs Admitted List* IE in the *PDU Session Resource Setup Response Info – MN terminated* IE of the S-NODE ADDITION REQUEST ACKNOWLEDGE message, the M-NG-RAN node shall, if supported, use it to set DSCP and/or flow label fields for the downlink IP packets which are transmitted from M-NG-RAN node to S-NG-RAN node through the GTP tunnels indicated by the *UP Transport Layer Information* IE.

If the *SCG Activation Request* IE is included in the S-NODE ADDITION REQUEST message, the S-NG-RAN node may use it to configure SCG resources as specified in TS 37.340 [8], and if supported, shall include the *SCG Activation Status* IE in the S-NODE ADDITION REQUEST ACKNOWLEDGE message.

*Editor’s note: Partial rejection is allowed if the MN indicate that SCG may be deactivated. FFS whether partial rejection is allowed if the MN indicates SCG deactivation.*

**Interactions with the S-NG-RAN node Reconfiguration Completion procedure:**

If the S-NG-RAN node admits at least one PDU session resource, the S-NG-RAN node shall start the timer TXnDCoverall when sending the S-NODE ADDITION REQUEST ACKNOWLEDGE message to the M-NG-RAN node. The reception of the S-NODE RECONFIGURATION COMPLETE message shall stop the timer TXnDCoverall.

**Interaction with the Activity Notification procedure**

Upon receiving an S-NODE ADDITION REQUEST message containing the *Desired Activity Notification Level* IE, the S-NG-RAN node shall, if supported, use this information to decide whether to trigger subsequent Activation

**-----------------------------------------------------Next change-----------------------------------------------------------**

8.3.3 M-NG-RAN node initiated S-NG-RAN node Modification Preparation

8.3.3.1 General

This procedure is used to enable an M-NG-RAN node to request an S-NG-RAN node to either modify the UE context at the S-NG-RAN node or to query the current SCG configuration for supporting delta signalling in M-NG-RAN node initiated S-NG-RAN node change, or to provide the S-RLF-related information to the S-NG-RAN node.

The procedure uses UE-associated signalling.

8.3.3.2 Successful Operation

****

**Figure 8.3.3.2-1: M-NG-RAN node initiated S-NG-RAN node Modification Preparation, successful operation**

The M-NG-RAN node initiates the procedure by sending the S-NODE MODIFICATION REQUEST message to the S-NG-RAN node.

When the M-NG-RAN node sends the S-NODE MODIFICATION REQUEST message, it shall start the timer TXnDCprep.

<Unrelated part omitted>

For each DRB configured as SN-terminated split bearer/MCG bearer, if the *QoS Mapping Information* IE is included in the *DRBs To Be Modified List* IE in the *PDU Session Resource Modification Info – SN terminated* IE of the S-NODE MODIFICATION REQUEST message, the S-NG-RAN node shall, if supported, use it to set DSCP and/or flow label fields for the downlink IP packets which are transmitted from S-NG-RAN node to M-NG-RAN node through the GTP tunnels indicated by the *UP Transport Layer Information* IE.

If the *SCG Activation Request* IE is included in the S-NODE MODIFICATION REQUEST message, the S-NG-RAN node may use it to configure SCG resources as specified in TS 37.340 [8], and if supported, shall include the *SCG Activation Status* IE in the S-NODE MODIFICATION REQUEST ACKNOWLEDGE message.

**Interactions with the S-NG-RAN node Reconfiguration Completion procedure:**

If the S-NG-RAN node admits a modification of the UE context requiring the M-NG-RAN node to report about the success of the RRC connection reconfiguration procedure, the S-NG-RAN node shall start the timer TXnDCoverall when sending the S-NODE MODIFICATION REQUEST ACKNOWLEDGE message to the M-NG-RAN node. The reception of the S-NG-RAN node RECONFIGURATION COMPLETE message shall stop the timer TXnDCoverall.

**Interaction with the Activity Notification procedure**

Upon receiving an S-NODE MODIFICATION REQUEST message containing the *Desired Activity Notification Level* IE, the S-NG-RAN node shall, if supported, use this information to decide whether to trigger subsequent Activity Notification procedures, or stop or modify ongoing triggering of these procedures due to a previous request.

**Interaction with the Xn-U Address Indication procedure**

For QoS flow mapped to DRBs configured with an SN terminated bearer option and removed from the SDAP in the S-NG-RAN node the S-NG-RAN node may provides data forwarding related information in the S-NODE MODIFICATION REQUEST ACKNOWLEDGE within the *Data Forwarding and offloading Info from source NG-RAN node* IE, in which case the M-NG-RAN node may decide to provide data forwarding addresses to the S-NG-RAN node and trigger the Xn-U Address Indication procedure as specified in TS 37.340 [8].

For QoS flow offloading from the S-NG-RAN node to the M-NG-RAN, the S-NG-RAN node may provide the data forwarding related information in the S-NODE MODIFICATION REQUEST ACKNOWLEDGE within the *Data Forwarding and offloading Info from source NG-RAN node* IE, in which case the M-NG-RAN node may decide to provide data forwarding addresses to the S-NG-RAN node and trigger the Xn-U Address Indication procedure as specified in TS 37.340 [8].

**Interactions with the S-NG-RAN node initiated S-NG-RAN node Modification:**

If the *SN triggered* IE set to "TRUE" is included in the S-NODE MODIFICATION REQUEST message, the S-NG-RAN node shall consider that the procedure has been initiated in response to the previously initiated S-NG-RAN node initiated S-NG-RAN node Modification procedure.

**-----------------------------------------------------Next change-----------------------------------------------------------**

8.3.4 S-NG-RAN node initiated S-NG-RAN node Modification

8.3.4.1 General

This procedure is used by the S-NG-RAN node to modify the UE context in the S-NG-RAN node.

The procedure uses UE-associated signalling.

8.3.4.2 Successful Operation

****

**Figure 8.3.4.2-1: S-NG-RAN node initiated S-NG-RAN node Modification, successful operation.**

The S-NG-RAN node initiates the procedure by sending the S-NODE MODIFICATION REQUIRED message to the M-NG-RAN node.

When the S-NG-RAN node sends the S-NODE MODIFICATION REQUIRED message, it shall start the timer TXnDCoverall.

<Unrelated part omitted>

For each DRB configured as SN-terminated split bearer/MCG bearer, if the *QoS Mapping Information* IE is included in the *DRBs Admitted to be Setup or Modified List* IE in the *PDU Session Resource Modification Confirm Info – SN terminated* IE of the S-NODE MODIFICATION CONFIRM message, the S-NG-RAN node shall, if supported, use it to set DSCP and/or flow label fields for the downlink IP packets which are transmitted from S-NG-RAN node to M-NG-RAN node through the GTP tunnels indicated by the *UP Transport Layer Information* IE.

If the *SCG Activation Status* IE is included in the S-NODE MODIFICATION REQUIRED message, the M-NG-RAN node shall consider that the S-NG-RAN node is about to reconfigure the SCG resources as specified in TS 37.340 [8].

**Interaction with the S-NG-RAN node Addition Preparation procedure:**

If the *SCG Activation Request* IE was included in the S-NODE ADDITION REQUEST message, the S-NG-RAN node may use the *SCG Activation Status* IE in the S-NG-RAN node initiated S-NG-RAN node Modification procedure.

*Editor’s note: FFS on the IE name in the S-NODE MODIFICATION REQUIRED message.*

**Interaction with the M-NG-RAN node initiated S-NG-RAN node Modification Preparation procedure:**

If applicable, as specified in TS 37.340 [8], the S-NG-RAN node may receive, after having initiated the S-NG-RAN node initiated S-NG-RAN node Modification procedure, the S-NODE MODIFICATION REQUEST message including the *measGapConfig* IE as defined in TS 38.331 [10] within the *M-NG-RAN node to S-NG-RAN node Container* IE.

If applicable, the S-NG-RAN node may receive, after having initiated the S-NG-RAN node initiated S-NG-RAN node Modification procedure, the S-NODE MODIFICATION REQUEST message including the *SN triggered* IE.

**-----------------------------------------------------Next change-----------------------------------------------------------**

9.1.2.1 S-NODE ADDITION REQUEST

This message is sent by the M-NG-RAN node to the S-NG-RAN node to request the preparation of resources for dual connectivity operation for a specific UE.

Direction: M-NG-RAN node → S-NG-RAN node.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| M-NG-RAN node UE XnAP ID | M |  | NG-RAN node UE XnAP ID 9.2.3.16 | Allocated at the M-NG-RAN node | YES | reject |
| UE Security Capabilities | M |  | 9.2.3.49 |  | YES | reject |
| S-NG-RAN node Security Key | M |  | 9.2.3.51 |  | YES | reject |
| S-NG-RAN node UE Aggregate Maximum Bit Rate | M |  | UE Aggregate Maximum Bit Rate  9.2.3.17 | The UE Aggregate Maximum Bit Rate is split into M-NG-RAN node UE Aggregate Maximum Bit Rate and S-NG-RAN node UE Aggregate Maximum Bit Rate which are enforced by M-NG-RAN node and S-NG-RAN node respectively. | YES | reject |
| Selected PLMN | O |  | PLMN Identity  9.2.2.4 | The selected PLMN of the SCG in the S-NG-RAN node. | YES | ignore |
| Mobility Restriction List | O |  | 9.2.3.53 |  | YES | ignore |
| Index to RAT/Frequency Selection Priority | O |  | 9.2.3.23 |  | YES | reject |
| **PDU Session Resources To Be Added List** |  | *1* |  |  | YES | reject |
| **>PDU Session Resources To Be Added Item** |  | *1 .. <maxnoofPDUSessions>* |  | NOTE: If neither the  *PDU Session Resource Setup Info – SN terminated* IE  nor the  *PDU Session Resource Setup Info – MN terminated* IE is present in a *PDU Session Resources To Be Added Item* IE, abnormal conditions as specified in clause 8.3.1.4 apply. | – |  |
| >>PDU Session ID | M |  | 9.2.3.18 |  | – |  |
| >>S-NSSAI | M |  | 9.2.3.21 |  | – |  |
| >>S-NG-RAN node PDU Session Aggregate Maximum Bit Rate | O |  | PDU Session Aggregate Maximum Bit Rate 9.2.3.69 |  | – |  |
| >>PDU Session Resource Setup Info – SN terminated | O |  | 9.2.1.5 |  | – |  |
| >>PDU Session Resource Setup Info – MN terminated | O |  | 9.2.1.7 |  | – |  |
| M-NG-RAN node to S-NG-RAN node Container | M |  | OCTET STRING | Includes the *CG-ConfigInfo* message as defined in subclause 11.2.2 of TS 38.331 [10] | YES | reject |
| S-NG-RAN node UE XnAP ID | O |  | NG-RAN node UE XnAP ID  9.2.3.16 | Allocated at the S-NG-RAN node | YES | reject |
| Expected UE Behaviour | O |  | 9.2.3.81 |  | YES | ignore |
| Requested Split SRBs | O |  | ENUMERATED (srb1, srb2, srb1&2, ...) | Indicates that resources for Split SRBs are requested. | YES | reject |
| PCell ID | O |  | Global NG-RAN Cell Identity  9.2.2.27 |  | YES | reject |
| Desired Activity Notification Level | O |  | 9.2.3.77 |  | YES | ignore |
| Available DRB IDs | C-ifSNterminated |  | DRB List  9.2.1.29 | Indicates the list of DRB IDs that the S-NG-RAN node may use for SN-terminated bearers. | YES | reject |
| S-NG-RAN node Maximum Integrity Protected Data Rate Uplink | O |  | Bit Rate  9.2.3.4 | The S-NG-RAN node Maximum Integrity Protected Data Rate Uplink is a portion of the UE’s Maximum Integrity Protected Data Rate in the Uplink, which is enforced by the S-NG-RAN node for the UE’s SN terminated PDU sessions. If the *S-NG-RAN node Maximum Integrity Protected Data Rate Downlink* IE is not present, this IE applies to both UL and DL. | YES | reject |
| S-NG-RAN node Maximum Integrity Protected Data Rate Downlink | O |  | Bit Rate  9.2.3.4 | The S-NG-RAN node Maximum Integrity Protected Data Rate Downlink is a portion of the UE’s Maximum Integrity Protected Data Rate in the Downlink, which is enforced by the S-NG-RAN node for the UE’s SN terminated PDU sessions. | YES | reject |
| Location Information at S-NODE reporting | O |  | ENUMERATED (pscell, ...) | Indicates that the user’s Location Information at S-NODE is to be provided. | YES | ignore |
| MR-DC Resource Coordination Information | O |  | 9.2.2.33 | Information used to coordinate resource utilisation between M-NG-RAN node and S-NG-RAN node. | YES | ignore |
| Masked IMEISV | O |  | 9.2.3.32 |  | YES | ignore |
| NE-DC TDM Pattern | O |  | 9.2.2.38 |  | YES | ignore |
| SN Addition Trigger Indication | O |  | ENUMERATED (SN change, inter-MN HO, intra-MN HO, ...) | This IE indicates the trigger for S-NG-RAN node Addition Preparation procedure | YES | reject |
| Trace Activation | O |  | 9.2.3.55 |  | YES | ignore |
| Requested Fast MCG recovery via SRB3 | O |  | ENUMERATED (true, ...) | Indicates that the resources for fast MCG recovery via SRB3 are requested. | YES | ignore |
| UE Radio Capability ID | O |  | 9.2.3.138 |  | YES | reject |
| SCG Activation Request | O |  | 9.2.3.xxx |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofPDUSessions | Maximum no. of PDU sessions. Value is 256 |

|  |  |
| --- | --- |
| **Condition** | **Explanation** |
| ifSNterminated | This IE shall be present if there is at least one *PDU Session Resource Setup Info – SN terminated* in the *PDU Session Resources To Be Added List* IE. |

**-----------------------------------------------------Next change-----------------------------------------------------------**

9.1.2.2 S-NODE ADDITION REQUEST ACKNOWLEDGE

This message is sent by the S-NG-RAN node to confirm the M-NG-RAN node about the S-NG-RAN node addition preparation.

Direction: S-NG-RAN node → M-NG-RAN node.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| M-NG-RAN node UE XnAP ID | M |  | NG-RAN node UE XnAP ID  9.2.3.16 | Allocated at the M-NG-RAN node | YES | reject |
| S-NG-RAN node UE XnAP ID | M |  | NG-RAN node UE XnAP ID  9.2.3.16 | Allocated at the S-NG-RAN node | YES | reject |
| **PDU Session Resources Admitted To Be Added List** |  | *1* |  |  | YES | ignore |
| **>PDU Session Resources Admitted To Be Added Item** |  | *1 .. <maxnoofPDUSessions>* |  | NOTE: If neither the  *PDU Session Resource Setup Response Info – SN terminated* IE  nor the  *PDU Session Resource Setup Response Info – MN terminated* IE is present in a *PDU Session Resources Admitted to be Added Item* IE, abnormal conditions as specified in clause 8.3.1.4 apply. | – |  |
| >>PDU Session ID | M |  | 9.2.3.18 |  | – |  |
| >>PDU Session Resource Setup Response Info – SN terminated | O |  | 9.2.1.6 |  | – |  |
| >>PDU Session Resource Setup Response Info – MN terminated | O |  | 9.2.1.8 |  | – |  |
| **PDU Session Resources Not Admitted List** | O |  |  |  | YES | ignore |
| >PDU Session Resources Not Admitted List – SN terminated | O |  | PDU Session Resources Not Admitted List  9.2.1.3 |  | – |  |
| >PDU Session Resources Not Admitted List – MN terminated | O |  | PDU Session Resources Not Admitted List  9.2.1.3 |  | – |  |
| S-NG-RAN node to M-NG-RAN node Container | M |  | OCTET STRING | Includes the *CG-Config* message as defined in subclause 11.2.2 of TS 38.331 [10]. | YES | reject |
| Admitted Split SRBs | O |  | ENUMERATED (srb1, srb2, srb1&2, ...) | Indicates admitted SRBs | YES | reject |
| RRC Config Indication | O |  | 9.2.3.72 |  | YES | reject |
| Criticality Diagnostics | O |  | 9.2.3.3 |  | YES | ignore |
| Location Information at S-NODE | O |  | Target Cell Global ID  9.2.3.25 | Contains information to support localisation of the UE | YES | ignore |
| MR-DC Resource Coordination Information | O |  | 9.2.2.33 | Information used to coordinate resource utilisation between M-NG-RAN node and S-NG-RAN node. | YES | ignore |
| Available fast MCG recovery via SRB3 | O |  | ENUMERATED (true, ...) | Indicates the fast MCG recovery via SRB3 isenabled. | YES | ignore |
| SCG Activation Status | O |  | 9.2.3.xxy |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofPDUSessions | Maximum no. of PDU sessions. Value is 256 |

**-----------------------------------------------------Next change-----------------------------------------------------------**

9.1.2.5 S-NODE MODIFICATION REQUEST

This message is sent by the M-NG-RAN node to the S-NG-RAN node to either request the preparation to modify S-NG-RAN node resources for a specific UE, or to query for the current SCG configuration, or to provide the S-RLF-related information to the S-NG-RAN node.

Direction: M-NG-RAN node → S-NG-RAN node.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | | **Criticality** | **Assigned Criticality** |
| Message Type | M |  | 9.2.3.1 |  | | YES | reject |
| M-NG-RAN node UE XnAP ID | M |  | NG-RAN node UE XnAP ID 9.2.3.16 | Allocated at the M-NG-RAN node | | YES | reject |
| S-NG-RAN node UE XnAP ID | M |  | NG-RAN node UE XnAP ID  9.2.3.16 | Allocated at the S-NG-RAN node | | YES | reject |
| Cause | M |  | 9.2.3.2 |  | | YES | ignore |
| PDCP Change Indication | O |  | 9.2.3.74 |  | | YES | ignore |
| Selected PLMN | O |  | PLMN Identity  9.2.2.4 | The selected PLMN of the SCG in the S-NG-RAN node. | | YES | ignore |
| Mobility Restriction List | O |  | 9.2.3.53 |  | | YES | ignore |
| SCG Configuration Query | O |  | 9.2.3.27 |  | | YES | ignore |
| **UE Context Information** |  | *0..1* |  |  | | YES | reject |
| >UE Security Capabilities | O |  | 9.2.3.49 |  | | – |  |
| >S-NG-RAN node Security Key | O |  | 9.2.3.51 |  | | – |  |
| >S-NG-RAN node UE Aggregate Maximum Bit Rate | O |  | UE Aggregate Maximum Bit Rate  9.2.3.17 |  | | – |  |
| >Index to RAT/Frequency Selection Priority | O |  | 9.2.3.23 |  | | – |  |
| >Lower Layer presence status change | O |  | 9.2.3.60 |  | | – |  |
| **>PDU Session Resources To Be Added List** |  | *0..1* |  |  | | – |  |
| **>>PDU Session Resources To Be Added Item** |  | *1 .. <maxnoofPDUSessions>* |  | NOTE: If neither the  *PDU Session Resource Setup Info – SN terminated* IE  nor the  *PDU Session Resource Setup Info – MN terminated* IE is present in a *PDU Session Resources To Be Added Item* IE, abnormal conditions as specified in clause 8.3.3.4 apply. | | – |  |
| >>>PDU Session ID | M |  | 9.2.3.18 |  | | – |  |
| >>>S-NSSAI | M |  | 9.2.3.21 |  | | – |  |
| >>>S-NG-RAN node PDU Session Aggregate Maximum Bit Rate | O |  | PDU Session Aggregate Maximum Bit Rate  9.2.3.69 |  | | – |  |
| >>>PDU Session Resource Setup Info – SN terminated | O |  | 9.2.1.5 |  | | – |  |
| >>>PDU Session Resource Setup Info – MN terminated | O |  | 9.2.1.7 |  | | – |  |
| >>>PDU Session Expected UE Activity Behaviour | O |  | Expected UE Activity Behaviour  9.2.3.82 | Expected UE Activity Behaviour for the PDU Session. | | YES | ignore |
| **>PDU Session Resources To Be Modified List** |  | *0..1* |  |  | | – |  |
| **>>PDU Session Resources To Be Modified Item** |  | *1 .. <maxnoofPDUSessions>* |  | NOTE: If neither the  *PDU Session Resource Modification Info – SN terminated* IE  nor the  *PDU Session Resource Modification Info – MN terminated* IE is present in a *PDU Session Resources To Be Modified Item* IE, abnormal conditions as specified in clause 8.3.3.4 apply. | | – |  |
| >>>PDU Session ID | M |  | 9.2.3.18 |  | | – |  |
| >>>S-NG-RAN node PDU Session Aggregate Maximum Bit Rate | O |  | PDU Session Aggregate Maximum Bit Rate  9.2.3.69 |  | | – |  |
| >>>PDU Session Resource Modification Info – SN terminated | O |  | 9.2.1.9 |  | | – |  |
| >>>PDU Session Resource Modification Info – MN terminated | O |  | 9.2.1.11 |  | | – |  |
| >>>S-NSSAI | O |  | 9.2.3.21 |  | | YES | reject |
| >>>PDU Session Expected UE Activity Behaviour | O |  | Expected UE Activity Behaviour  9.2.3.82 | Expected UE Activity Behaviour for the PDU Session. | | YES | ignore |
| >PDU Session Resources To Be Released List | O |  | PDU session List with Cause  9.2.1.26 |  | | – |  |
| M-NG-RAN node to S-NG-RAN node Container | O |  | OCTET STRING | Includes the *CG-ConfigInfo* message as defined in subclause 11.2.2. of TS 38.331 [10]. | | YES | ignore |
| Requested Split SRBs | O |  | ENUMERATED (srb1, srb2, srb1&2, ...) | Indicates that resources for Split SRBs are requested. | | YES | ignore |
| Requested Split SRBs release | O |  | ENUMERATED (srb1, srb2, srb1&2, ...) | Indicates that resources for Split SRBs are requested to be released. | | YES | ignore |
| Desired Activity Notification Level | O |  | 9.2.3.77 | |  | YES | ignore |
| Additional DRB IDs | O |  | DRB List  9.2.1.29 | | Indicates additional list of DRB IDs that the S-NG-RAN node may use for SN-terminated bearers. | YES | reject |
| S-NG-RAN node Maximum Integrity Protected Data Rate Uplink | O |  | Bit Rate  9.2.3.4 | | The S-NG-RAN node Maximum Integrity Protected Data Rate Uplink is a portion of the UE’s Maximum Integrity Protected Data Rate in the Uplink, which is enforced by the S-NG-RAN node for the UE’s SN terminated PDU sessions. If the *S-NG-RAN node Maximum Integrity Protected Data Rate Downlink* IE is not present, this IE applies to both UL and DL. | YES | reject |
| S-NG-RAN node Maximum Integrity Protected Data Rate Downlink | O |  | Bit Rate  9.2.3.4 | | The S-NG-RAN node Maximum Integrity Protected Data Rate Downlink is a portion of the UE’s Maximum Integrity Protected Data Rate in the Downlink, which is enforced by the S-NG-RAN node for the UE’s SN terminated PDU sessions. | YES | reject |
| Location Information at S-NODE reporting | O |  | ENUMERATED (pscell, ...) | | Indicates that the user’s Location Information at S-NODE is to be provided. | YES | ignore |
| MR-DC Resource Coordination Information | O |  | 9.2.2.33 | | Information used to coordinate resource utilisation between M-NG-RAN node and S-NG-RAN node. | YES | ignore |
| PCell ID | O |  | Global NG-RAN Cell Identity  9.2.2.27 | |  | YES | reject |
| NE-DC TDM Pattern | O |  | 9.2.2.38 | |  | YES | ignore |
| Requested Fast MCG recovery via SRB3 | O |  | ENUMERATED (true, ...) | | Indicates that the resources for fast MCG recovery via SRB3 are requested. | YES | ignore |
| Requested Fast MCG recovery via SRB3 Release | O |  | ENUMERATED (true, ...) | | Indicates that resources for fast MCG recovery via SRB3 are requested to be released. | YES | ignore |
| SN triggered | O |  | ENUMERATED (TRUE ...) | |  | YES | ignore |
| SCG Activation Request | O |  | 9.2.3.xxx | |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofPDUSessions | Maximum no. of PDU sessions. Value is 256 |

**-----------------------------------------------------Next change-----------------------------------------------------------**

9.1.2.6 S-NODE MODIFICATION REQUEST ACKNOWLEDGE

This message is sent by the S-NG-RAN node to confirm the M-NG-RAN node’s request to modify the S-NG-RAN node resources for a specific UE.

Direction: S-NG-RAN node → M-NG-RAN node.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| M-NG-RAN node UE XnAP ID | M |  | NG-RAN node UE XnAP ID  9.2.3.16 | Allocated at the M-NG-RAN node | YES | ignore |
| S-NG-RAN node UE XnAP ID | M |  | NG-RAN node UE XnAP ID  9.2.3.16 | Allocated at the S-NG-RAN node | YES | ignore |
| **PDU Session Resources Admitted List** |  | *0..1* |  |  | YES | ignore |
| **>PDU Session Resources Admitted To Be Added List** |  | *0..1* |  |  | – |  |
| **>>PDU Session Resources Admitted To Be Added Item** |  | *1 .. <maxnoofPDUSessions>* |  | NOTE: If neither the  *PDU Session Resource Setup Response Info – SN terminated* IE  nor the  *PDU Session Resource Setup Response Info – MN terminated* IE is present in a *PDU Session Resources Admitted To Be Added Item* IE, abnormal conditions as specified in clause 8.3.3.4 apply. | – |  |
| >>>PDU Session ID | M |  | 9.2.3.18 |  | – |  |
| >>>PDU Session Resource Setup Response Info – SN terminated | O |  | 9.2.1.6 |  | – |  |
| >>>PDU Session Resource Setup Response Info – MN terminated | O |  | 9.2.1.8 |  | – |  |
| **>PDU Session Resources Admitted To Be Modified List** |  | *0..1* |  |  | – |  |
| **>>PDU Session Resources Admitted To Be Modified Item** |  | *1 .. <maxnoofPDUSessions>* |  | NOTE: If neither the  *PDU Session Resource Modification Response Info – SN terminated* IE  nor the  *PDU Session Resource Modification Response Info – MN terminated* IE is present in a *PDU Session Resources Admitted To Be Modified Item* IE, abnormal conditions as specified in clause 8.3.3.4 apply. | – |  |
| >>>PDU Session ID | M |  | 9.2.3.18 |  | – |  |
| >>>PDU Session Resource Modification Response Info – SN terminated | O |  | 9.2.1.10 |  | – |  |
| >>>PDU Session Resource Modification Response Info – MN terminated | O |  | 9.2.1.12 |  | – |  |
| **>PDU Session Resources Admitted To Be Released List** |  | *0..1* |  |  | – |  |
| >>PDU Session Resources admitted to be released List – SN terminated | O |  | PDU session List with data forwarding request info  9.2.1.24 |  | – |  |
| >>PDU Session Resources admitted to be released List – MN terminated | O |  | PDU session List with data Cause  9.2.1.26 |  | – |  |
| **PDU Session Resources Not Admitted to be Added List** | O |  | PDU session List  9.2.1.27 |  | YES | ignore |
| S-NG-RAN node to M-NG-RAN node Container | O |  | OCTET STRING | Includes the *CG-Config* message as defined in subclause 11.2.2 of TS 38.331 [10]. | YES | ignore |
| Admitted Split SRBs | O |  | ENUMERATED (srb1, srb2, srb1&2, ...) | Indicates admitted SRBs | YES | ignore |
| Admitted Split SRBs release | O |  | ENUMERATED (srb1, srb2, srb1&2, ...) | Indicates admitted SRBs release | YES | ignore |
| Criticality Diagnostics | O |  | 9.2.3.3 |  | YES | ignore |
| Location Information at S-NODE | O |  | Target Cell Global ID  9.2.3.25 | Contains information to support localisation of the UE | YES | ignore |
| MR-DC Resource Coordination Information | O |  | 9.2.2.33 | Information used to coordinate resource utilisation between M-NG-RAN node and S-NG-RAN node. | YES | Ignore |
| **PDU Session Resources with Data Forwarding List** |  | *0..1* |  |  | YES | ignore |
| **>**PDU Session Resources with Data Forwarding List – SN terminated | M |  | PDU session List with data forwarding request info  9.2.1.24 |  | – |  |
| RRC Config Indication | O |  | 9.2.3.72 |  | YES | reject |
| Available fast MCG recovery via SRB3 | O |  | ENUMERATED {true, ...} | Indicates the fast MCG recovery via SRB3 isenabled. | YES | ignore |
| Release fast MCG recovery via SRB3 | O |  | ENUMERATED {true, ...} | Indicates the fast MCG recovery via SRB3 is released. | YES | ignore |
| SCG Activation Status | O |  | 9.2.3.xxy |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofPDUSessions | Maximum no. of PDU sessions. Value is 256 |

**-----------------------------------------------------Next change-----------------------------------------------------------**

9.1.2.8 S-NODE MODIFICATION REQUIRED

This message is sent by the S-NG-RAN node to the M-NG-RAN node to request the modification of S-NG-RAN node resources for a specific UE.

Direction: S-NG-RAN node → M-NG-RAN node.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| Message Type | M |  | 9.2.3.1 |  | YES | reject |
| M-NG-RAN node UE XnAP ID | M |  | NG-RAN node UE XnAP ID  9.2.3.16 | Allocated at the M-NG-RAN node | YES | reject |
| S-NG-RAN node UE XnAP ID | M |  | NG-RAN node UE XnAP ID  9.2.3.16 | Allocated at the S-NG-RAN node | YES | reject |
| Cause | M |  | 9.2.3.2 |  | YES | ignore |
| PDCP Change Indication | O |  | 9.2.3.74 |  | YES | ignore |
| **PDU Session Resources To Be Modified List** |  | *0..1* |  |  | YES | ignore |
| **>PDU Session Resources To Be Modified Item** |  | *1 .. <maxnoofPDUSessions>* |  | NOTE: If neither the  *PDU Session Resource Modification Required Info – SN terminated* IE  nor the  *PDU Session Resource Modification Required Info – MN terminated* IE is present in a *PDU Session Resources To Be Modified Item* IE, abnormal conditions as specified in clause 8.3.4.4 apply. | – |  |
| >>PDU Session ID | M |  | 9.2.3.18 |  | – |  |
| >>PDU Session Resource Modification Required Info – SN terminated | O |  | 9.2.1.20 |  | – |  |
| >>PDU Session Resource Modification Required Info – MN terminated | O |  | 9.2.1.22 |  | – |  |
| **PDU Session Resources To Be Released List** |  | *0..1* |  |  | YES | ignore |
| **>PDU Session Resources To Be Released Item** |  | *1 .. <maxnoofPDUSessions>* |  |  | – |  |
| >PDU sessions to be released List – SN terminated | O |  | PDU session List with data forwarding request info  9.2.1.24 |  | – |  |
| >PDU sessions to be released List – MN terminated | O |  | PDU session List with Cause  9.2.1.26 |  | – |  |
| S-NG-RAN node to M-NG-RAN node Container | O |  | OCTET STRING | Includes the *CG-Config* message as defined in subclause 11.2.2 of TS 38.331 [10]. | YES | ignore |
| Spare DRB IDs | O |  | DRB List  9.2.1.29 | Indicates the list of unnecessary DRB IDs that had been used by the S-NG-RAN node. | YES | ignore |
| Required Number of DRB IDs | O |  | Number of DRBs  9.2.3.78 | Indicates the number of DRB IDs that the S-NG-RAN node requests more. | YES | ignore |
| Location Information at S-NODE | O |  | Target Cell Global ID  9.2.3.25 | Contains information to support localisation of the UE | YES | ignore |
| MR-DC Resource Coordination Information | O |  | 9.2.2.33 | Information used to coordinate resource utilisation between M-NG-RAN node and S-NG-RAN node. | YES | Ignore |
| RRC Config Indication | O |  | 9.2.3.72 |  | YES | reject |
| SCG Indicator | O |  | ENUMERATED(released,...) |  | YES | ignore |
| SCG Activation Status | O |  | 9.2.3.xxx |  | YES | ignore |

*Editor’s note: FFS on the IE name in the S-NODE MODIFICATION REQUIRED message.*

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofPDUSessions | Maximum no. of PDU sessions. Value is 256 |

**-----------------------------------------------------Next change-----------------------------------------------------------**

9.2.3.xxx SCG Activation Status

The *SCG Activation Status* IE indicates the status of SCG resources.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE Type and Reference** | **Semantics Description** |
| SCG Activation Status | M |  | ENUMERATED (SCG  activated, SCG deactivated, …) |  |

9.2.3.xxy SCG Activation Request

The *SCG Activation Request* IE indicates whether the SCG resources are needed to be activated.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** |
| SCG Activation Request | M |  | ENUMERATED (SCG needed, SCG not needed) |  |

**------------------------------------------------------ASN.1 changes---------------------------------------------------**