**3GPP TSG- Meeting #**

**, Greece, 26 February –**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network |  |

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| ***Title:*** | UE Context identification after successful cell switch | | | | | | | | | |
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| ***Source to WG:*** | Google, Inc. | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_Mob\_enh-Core | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | A |  | | | | | ***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 can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | * Cell RNTI can identify a UE context and a RRC connection. It is also used to help validate the UE in case of RRC connection resumption, RNA update, or RRC connection re-establishment as described in TS 38.331 and TS 33.501. For conditional mobility like LTM, a base station could prepare multiple configurations and assign corresponding C-RNTIs to be used. Once the UE fulfills a condition or is commanded to apply one of the prepared configuration, a corresponding C-RNTI shall be applied for that cell group. It is noticed that the C-RNTI IE is optional in the UE Context Setup Response message and the UE Context Modification Response message. However, as only receiving side behavior is described for C-RNTI and captured in the current TS 38.473 for the UE context response messages (**i.e., during the preparation phase)**, it is not clear, upon execution, whether and how the CU determines the C-RNTI to use from the multiple C-RNTIs for the UE. * This issue was brought up (R3-237468) during the discussion of Rel-18 LTM but some companies would like to discuss its impact also to the conditional mobility in earlier releases. Although this issue might have existed since the introduction of conditional mobility, it is more profound when the prepared configurations can be kept for subsequent mobility (i.e., LTM or subsequent CPAC). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * Clarify in the procedure texts that * the gNB-CU receives the C-RNTI IE from the gNB-DU in the UE CONTEXT SETUP RESPONSE message when the UE CONTEXT SETUP REQUEST message concerns a reconfiguration with sync. * the gNB-CU receives the *C-RNTI* IE from the gNB-DU in the UE CONTEXT MODIFICATION RESPONSE message when the UE CONTEXT MODIFICATION REQUEST message concerns a reconfiguration with sync. * Clarify that, upon reception of the Access Success message, the gNB-CU considers that the corresponding UE Context is active and the C-RNTI is used * Clarify in the semantics of the C-RNTI IE in the UE CONTEXT SETUP RESPONSE and UE CONTEXT MODIFICATION RESPONSE that the This IE is included if the gNB-DU regards the request as a reconfiguration with sync.   Imapct analysis:  This CR has isolated impact on the provision of C-RNTI IE and the Access Success procedure. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | After execution of conditional mobility (legacy, LTM, or subsequent CPAC), without a clear guidance how the C-RNTI is determined, the CU might lose track of the exact C-RNTI and fail in validating a UE during an RRC connection re-establishment or a RRC state transitions. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.3.1.2, 8.3.4.2, 8.3.8.2, 9.2.2.2, 9.2.2.8 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... 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:*** | |  | | | | | | | | |

8.3.1 UE Context Setup

8.3.1.1 General

The purpose of the UE Context Setup procedure is to establish the UE Context including, among others, SRB,DRB, BH RLC channel, Uu Relay RLC channel, PC5 Relay RLC channel, and SL DRB configuration. The procedure uses UE-associated signalling.

8.3.1.2 Successful Operation

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**Figure** **8.3.1.2-1: UE Context Setup Request procedure: Successful Operation**

The gNB-CU initiates the procedure by sending UE CONTEXT SETUP REQUEST message to the gNB-DU. If the gNB-DU succeeds to establish the UE context, it replies to the gNB-CU with UE CONTEXT SETUP RESPONSE. If no UE-associated logical F1-connection exists, the UE-associated logical F1-connection shall be established as part of the procedure. Except for RACH based SDT and UE configured with BWP specific ServingCellMO, the gNB-CU shall perform RRC Reconfiguration or RRC connection resume to send UE to the RRC\_CONNECTED state as described in TS 38.331 [8], and in this case, the *CellGroupConfig* IE shall transparently be signaled to the UE as specified in TS 38.331 [8]. In the cases of RACH based SDT procedure and UE configured with BWP specific ServingCellMO, the *CellGroupConfig* IE shall be ignored by the gNB-CU.

**<<<<<< SKIP UNCHANGED >>>>>>**

If the *C-RNTI* IE is included in the UE CONTEXT SETUP RESPONSE, the gNB-CU shall consider that the C-RNTI has been allocated by the gNB-DU for this UE context. The gNB-CU receives the *C-RNTI* IE from the gNB-DU in the UE CONTEXT SETUP RESPONSE message if the UE CONTEXT SETUP REQUEST message concerns a reconfiguration with sync.

**<<<<<< SKIP UNCHANGED, NEXT CHANGE >>>>>>**

8.3.4 UE Context Modification (gNB-CU initiated)

8.3.4.1 General

The purpose of the UE Context Modification procedure is to modify the established UE Context, e.g., establishing, modifying and releasing radio resources or sidelink resources. This procedure is also used to command the gNB-DU to stop data transmission for the UE for mobility (see TS 38.401 [4]). The procedure uses UE-associated signalling.

8.3.4.2 Successful Operation

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**Figure 8.3.4.2-1: UE Context Modification procedure. Successful operation**

The UE CONTEXT MODIFICATION REQUEST message is initiated by the gNB-CU.

Upon reception of the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall perform the modifications, and if successful reports the update in the UE CONTEXT MODIFICATION RESPONSE message.

If the *SpCell ID* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall replace any previously received value and regard it as a reconfiguration with sync as defined in TS 38.331 [8]. If the *ServCellIndex* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall take this into account for the indicated SpCell. If the *SpCell UL Configured* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall configure UL for the indicated SpCell accordingly. If the *servingCellMO* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall configure servingCellMO for the indicated SpCell accordingly. If the *servingCellMO List* IE is included in the UE CONTEXT SETUP MODIFICATION REQUEST message, the gNB-DU shall, if supported, configure servingCellMO after determining the list of BWPs for the UE and include the list of servingCellMOs that have been encoded in *CellGroupConfig* IE as *ServingCellMO-encoded-in-CGC List* IE in theUE CONTEXT MODIFICATION RESPONSE message.

**<<<<<< SKIP UNCHANGED >>>>>>**

If the *C-RNTI* IE is included in the UE CONTEXT MODIFICATION RESPONSE, the gNB-CU shall consider that the C-RNTI has been allocated by the gNB-DU for this UE context. The gNB-CU receives the *C-RNTI* IE from the gNB-DU in the UE CONTEXT MODIFICATION RESPONSE message if the UE CONTEXT MODIFICATION REQUEST message concerns a reconfiguration with sync.

**<<<<<< SKIP UNCHANGED, NEXT CHANGE >>>>>>**

8.3.8 Access Success

8.3.8.1 General

The purpose of the Access Success procedure is to enable the gNB-DU to inform the gNB-CU of which cell the UE has successfully accessed during conditional handover or conditional PSCell addition or conditional PSCell change or LTM or subsequent CPAC. The procedure uses UE-associated signalling.

8.3.8.2 Successful Operation

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**Figure 8.3.8.2-1: Access Success procedure. Successful operation.**

The gNB-DU initiates the procedure by sending a ACCESS SUCCESS message.

Upon reception of the ACCESS SUCCESS message, the gNB-CU shall consider that the UE successfully accessed the cell indicated by the included *NR CGI* IE in this gNB-DU and consider all the other CHO preparations or conditional PSCell addition or conditional PSCell change or subsequent CPAC preparations accepted for this UE under the same UE-associated signaling connection in this gNB-DU as cancelled. Upon reception of the ACCESS SUCCESS message, the gNB-CU shall consider that the UE context corresponding to the included *NR CGI* IE is active and the corresponding C-RNTI is used.

**Interaction with other procedure:**

The gNB-CU may initiate UE Context Release procedure toward the other signalling connections or other candidate gNB-DUs for this UE, if any.

8.3.8.3 Abnormal Conditions

If the ACCESS SUCCESS message refers to a context that does not exist, the gNB-CU shall ignore the message.

**<<<<<< SKIP UNCHANGED, NEXT CHANGE >>>>>>**

9.2.2.2 UE CONTEXT SETUP RESPONSE

This message is sent by the gNB-DU to confirm the setup of a UE context.

Direction: gNB-DU → gNB-CU.

| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| gNB-CU UE F1AP ID | M |  | 9.3.1.4 |  | YES | reject |
| gNB-DU UE F1AP ID | M |  | 9.3.1.5 |  | YES | reject |
| DU To CU RRC Information | M |  | 9.3.1.26 |  | YES | reject |
| C-RNTI | O |  | 9.3.1.32 | C-RNTI allocated at the gNB-DU. This IE is included if the gNB-DU regards the request as a reconfiguration with sync. | YES | ignore |
| Resource Coordination Transfer Container | O |  | OCTET STRING | Includes the *SgNB Resource Coordination Information* IE as defined in subclause 9.2.117 of TS 36.423 [9] for EN-DC case or *MR-DC Resource Coordination Information* IE as defined in TS 38.423 [28] for NGEN-DC and NE-DC cases. | YES | ignore |
| Full Configuration | O |  | ENUMERATED (full, ...) |  | YES | reject |
| **DRB Setup List** |  | *0..1* |  | The List of DRBs which are successfully established. | YES | ignore |
| **>DRB Setup Item Iist** |  | *1 .. <maxnoofDRBs>* |  |  | EACH | ignore |
| >>DRB ID | M |  | 9.3.1.8 |  | - |  |
| >>LCID | O |  | 9.3.1.35 | LCID for the primary path or for the split secondary path for fallback to split bearer if PDCP duplication is applied. | - |  |
| **>>DL UP TNL Information to be setup List** |  | *1* |  |  | - |  |
| **>>>DL UP TNL Information to Be Setup Item IEs** |  | *1 .. <maxnoofDLUPTNLInformation>* |  |  | - |  |
| >>>>DL UP TNL Information | M |  | UP Transport Layer Information  9.3.2.1 | gNB-DU endpoint of the F1 transport bearer. For delivery of DL PDUs. | - |  |
| **>>Additional PDCP Duplication TNL List** |  | *0..1* |  |  | YES | ignore |
| **>>>Additional PDCP Duplication TNL Items** |  | *1 .. <maxnoofAdditionalPDCPDuplicationTNL>* |  |  | EACH | ignore |
| >>>>Additional PDCP Duplication UP TNL Information | M |  | UP Transport Layer Information  9.3.2.1 | gNB-DU endpoint of the F1 transport bearer. For delivery of DL PDUs. | - |  |
| >>>>BH Information | O |  | 9.3.1.114 | This IE is not used in this version of the specification. | YES | ignore |
| >>Current QoS Parameters Set Index | O |  | Alternative QoS Parameters Set Index  9.3.1.123 | Index to the currently fulfilled alternative QoS parameters set. | YES | ignore |
| >>TSC Traffic Characteristics Feedback | O |  | 9.3.1.302 |  | YES | ignore |
| >>ECN Marking or Congestion Information Reporting Status | O |  | 9.3.1.322 |  | YES | ignore |
| **SRB Failed to Setup List** |  | *0..1* |  |  | YES | ignore |
| **>SRB Failed to Setup Item** |  | *1 .. <maxnoofSRBs>* |  |  | EACH | ignore |
| >>SRB ID | M |  | 9.3.1.7 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **DRB Failed to Setup List** |  | *0..1* |  |  | YES | ignore |
| **>DRB Failed to Setup Item** |  | *1 .. <maxnoofDRBs>* |  |  | EACH | ignore |
| >>DRB ID | M |  | 9.3.1.8 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **SCell Failed To Setup List** |  | *0..1* |  |  | YES | ignore |
| **>SCell Failed to Setup Item** |  | *1 .. <maxnoofSCells>* |  |  | EACH | ignore |
| >>SCell ID | M |  | NR CGI 9.3.1.12 | SCell Identifier in gNB | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| Inactivity Monitoring Response | O |  | ENUMERATED (not-supported, ...) |  | YES | reject |
| Criticality Diagnostics | O |  | 9.3.1.3 |  | YES | ignore |
| **SRB Setup List** |  | *0..1* |  |  | YES | ignore |
| **>SRB Setup Item** |  | *1 .. <maxnoofSRBs>* |  |  | EACH | ignore |
| >>SRB ID | M |  | 9.3.1.7 |  | - |  |
| >>LCID | M |  | 9.3.1.35 | LCID for the primary path if PDCP duplication is applied | - |  |
| **BH RLC Channel Setup List** |  | *0..1* |  | The list of BH RLC channels which are successfully established. | YES | ignore |
| **>BH RLC Channel Setup Item** |  | *1 .. <maxnoofBHRLCChannels>* |  |  | EACH | ignore |
| >>BH RLC CH ID | M |  | 9.3.1.113 |  | - |  |
| **BH RLC Channel Failed to be Setup List** |  | *0..1* |  | The list of BH RLC channels whose setup has failed. | YES | ignore |
| **>BH RLC Channel Failed to be Setup Item** |  | *1 .. <maxnoofBHRLCChannels>* |  |  | EACH | ignore |
| >>BH RLC CH ID | M |  | 9.3.1.113 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **SL DRB Setup List** |  | *0..1* |  | The List of SL DRBs which are successfully established. | YES | ignore |
| **>SL DRB Setup Item IEs** |  | *1 .. <maxnoofSLDRBs>* |  |  | EACH | ignore |
| >>SL DRB ID | M |  | 9.3.1.120 |  | - |  |
| **SL DRB Failed To Setup List** |  | *0..1* |  |  | EACH | ignore |
| **>SL DRB Failed To Setup Item IE** |  | *1 .. <maxnoofSLDRBs>* |  |  | EACH | ignore |
| >>SL DRB ID | M |  | 9.3.1.120 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| Requested Target Cell ID | O |  | NR CGI 9.3.1.12 | Special Cell indicated in the UE CONTEXT SETUP REQUEST message. | YES | reject |
| SCG Activation Status | O |  | 9.3.1.234 |  | YES | ignore |
| **Uu RLC Channel Setup List** |  | *0..1* |  |  | YES | ignore |
| **>Uu RLC Channel Setup Item IEs** |  | *1 .. <maxnoofUuRLCChannels>* |  |  | - |  |
| >>Uu RLC Channel ID | M |  | 9.3.1.266 |  | - |  |
| **Uu RLC Channel Failed to be Setup List** |  | *0..1* |  |  | YES | ignore |
| **>Uu RLC Channel Failed to be Setup Item IEs** |  | *1 .. <maxnoofUuRLCChannels>* |  |  | - |  |
| >>Uu RLC Channel ID | M |  | 9.3.1.266 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **PC5 RLC Channel Setup List** |  | *0..1* |  |  | YES | ignore |
| **>PC5 RLC Channel Setup Item IEs** |  | *1 .. <maxnoofPC5RLCChannels>* |  |  | - |  |
| >>PC5 RLC Channel ID | M |  | 9.3.1.265 |  | - |  |
| >>Remote UE Local ID | O |  | 9.3.1.267 | This IE is not used in this version of the specification. |  |  |
| **PC5 RLC Channel Failed to be Setup List** |  | *0..1* |  |  | YES | ignore |
| **>PC5 RLC Channel Failed to be Setup Item IEs** |  | *1 .. <maxnoofPC5RLCChannels>* |  |  | - |  |
| >>PC5 RLC Channel ID | M |  | 9.3.1.265 |  | - |  |
| >>Remote UE Local ID | O |  | 9.3.1.267 | This IE is not used in this version of the specification. | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **ServingCellMO-encoded-in-CGC List** |  | *0..1* |  |  | YES | ignore |
| **>ServingCellMO-encoded-in-CGC Item IEs** |  | *1 .. <maxNrofBWPs>* |  | The servingCellMO which has been encoded in *CellGroupConfig* IE. | EACH | ignore |
| >>servingCellMO | M |  | INTEGER (1..64) |  | - |  |
| >>BWP ID | M |  | INTEGER (0..4) |  | YES | ignore |
| **UE Multicast MRB Setup List** |  | *0..1* |  |  | YES | reject |
| **>UE Multicast MRB Setup Item IEs** |  | *1 .. <maxnoofMRBsforUE>* |  |  | EACH | reject |
| >>MRB ID | M |  | 9.3.1.224 | MRB ID for the UE. | - |  |
| >>Multicast F1-U Context Reference CU | M |  | 9.3.2.13 |  | - |  |
| Dedicated SI Delivery Indication | O |  | ENUMERATED (true, ...) |  | YES | ignore |
| **Configured BWP List** |  | 0..1 |  | This IE is present when the gNB-DU configures at least one BWP with NCD-SSB or without SSB. | YES | ignore |
| **>Configured BWP Item IEs** |  | *1 .. <maxNrofBWPs*> |  |  | EACH | ignore |
| >>BWP-Id | M |  | INTEGER (0..4) | The IE is used to refer to one BWP. | - |  |
| >>BWP Location And Bandwidth | M |  | INTEGER (0..37949) | The IE type range is the same as the *locationAndBandwidth* IE in *BWP* IE as specified in TS 38.331 [8]. |  |  |
| **Early Sync Information** |  | *0..1* |  |  | YES | ignore |
| >TCI States Configurations List | M |  | 9.3.1.293 |  | - |  |
| >RACH Configuration | O |  | OCTET STRING | Includes the *EarlyUL-SyncConfig*  IE, as defined in TS 38.331 [8]. | - |  |
| **LTM Configuration** |  | *0..1* |  |  | YES | ignore |
| >SSB Information Item | M |  |  |  | - |  |
| >>SSB Time/Frequency Configuration | M |  | 9.3.1.203 |  | - |  |
| >>NR PCI | M |  | INTEGER (0..1007) |  | - |  |
| >LTM Reference Configuration | O |  | OCTET STRING | Includes the *CellGroupConfig*  IE, as defined in TS 38.331 [8]. | - |  |
| >LTM Complete Configuration Indicator | O |  | ENUMERATED (complete, ...) |  | - |  |

|  |  |
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| **Range bound** | **Explanation** |
| maxnoofSCells | Maximum no. of SCells allowed towards one UE, the maximum value is 32. |
| maxnoofSRBs | Maximum no. of SRB allowed towards one UE, the maximum value is 8. |
| maxnoofDRBs | Maximum no. of DRB allowed towards one UE, the maximum value is 64. |
| maxnoofDLUPTNLInformation | Maximum no. of DL UP TNL Information allowed towards one DRB, the maximum value is 2. |
| maxnoofBHRLCChannels | Maximum no. of BH RLC channels allowed towards one IAB-node, the maximum value is 65536. |
| maxnoofSLDRBs | Maximum no. of SL DRB allowed for NR sidelink communication per UE, the maximum value is 512. |
| maxnoofAdditionalPDCPDuplicationTNL | Maximum no. of additional UP TNL Information allowed towards one DRB, the maximum value is 2. |
| maxnoofUuRLCChannels | Maximum no. of Uu Relay RLC channels for L2 U2N relaying or L2 N3C relaying per Relay UE, the maximum value is 32. |
| maxnoofPC5RLCChannels | Maximum no. of PC5 Relay RLC channels allowed for L2 U2N relaying per Remote UE or Relay UE, the maximum value is 512. |
| maxNrofBWPs | Maximum number of BWPs per serving cell, the maximum value is 8. |
| maxnoofMRBsforUE | Maximum no. of multicast MRB allowed towards one UE, the maximum value is 64. |

**<<<<<< SKIP UNCHANGED, NEXT CHANGE >>>>>>**

9.2.2.8 UE CONTEXT MODIFICATION RESPONSE

This message is sent by the gNB-DU to confirm the modification of a UE context.

Direction: gNB-DU → gNB-CU.

| **IE/Group Name** | **Presence** | **Range** | **IE type and reference** | **Semantics description** | **Criticality** | **Assigned Criticality** |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| gNB-CU UE F1AP ID | M |  | 9.3.1.4 |  | YES | reject |
| gNB-DU UE F1AP ID | M |  | 9.3.1.5 |  | YES | reject |
| Resource Coordination Transfer Container | O |  | OCTET STRING | Includes the *SgNB Resource Coordination Information* IE as defined in subclause 9.2.117 of TS 36.423 [9] for EN-DC case or *MR-DC Resource Coordination Information* IE as defined in TS 38.423 [28] for NGEN-DC and NE-DC cases. | YES | ignore |
| DU To CU RRC Information | O |  | 9.3.1.26 |  | YES | reject |
| **DRB Setup List** |  | *0..1* |  | The List of DRBs which are successfully established. | YES | ignore |
| **>DRB Setup Item IEs** |  | *1 .. <maxnoofDRBs>* |  |  | EACH | ignore |
| >>DRB ID | M |  | 9.3.1.8 |  | - |  |
| >>LCID | O |  | 9.3.1.35 | LCID for the primary path or for the split secondary path for fallback to split bearer if PDCP duplication is applied. | - |  |
| **>>DL UP TNL Information to be setup List** |  | *1* |  |  | - |  |
| **>>>DL UP TNL Information to Be Setup Item IEs** |  | *1 .. <maxnoofDLUPTNLInformation>* |  |  | - |  |
| >>>>DL UP TNL Information | M |  | UP Transport Layer Information  9.3.2.1 | gNB-DU endpoint of the F1 transport bearer. For delivery of DL PDUs. | - |  |
| **>>Additional PDCP Duplication TNL List** |  | *0..1* |  |  | YES | ignore |
| **>>>Additional PDCP Duplication TNL Items** |  | *1 .. <* *maxnoofAdditionalPDCPDuplicationTNL>* |  |  | EACH | ignore |
| >>>>Additional PDCP Duplication UP TNL Information | M |  | UP Transport Layer Information  9.3.2.1 | gNB-DU endpoint of the F1 transport bearer. For delivery of DL PDUs. | - |  |
| >>>>BH Information | O |  | 9.3.1.114 | This IE is not used in this version of the specification. | YES | ignore |
| >>Current QoS Parameters Set Index | O |  | Alternative QoS Parameters Set Index  9.3.1.123 | Index to the currently fulfilled alternative QoS parameters set. | YES | ignore |
| >>TSC Traffic Characteristics Feedback | O |  | 9.3.1.302 |  | YES | ignore |
| >>ECN Marking or Congestion Information Reporting Status | O |  | 9.3.1.322 |  | YES | ignore |
| **DRB Modified List** |  | *0..1* |  | The List of DRBs which are successfully modified. | YES | ignore |
| **>DRB Modified Item IEs** |  | *1 .. <maxnoofDRBs>* |  |  | EACH | ignore |
| >>DRB ID | M |  | 9.3.1.8 |  | - |  |
| >>LCID | O |  | 9.3.1.35 | LCID for the primary path or for the split secondary path for fallback to split bearer if PDCP duplication is applied. | - |  |
| **>>DL UP TNL Information to be setup List** |  | *1* |  |  | - |  |
| **>>>DL UP TNL Information to Be Setup Item IEs** |  | *1 .. <maxnoofDLUPTNLInformation>* |  |  | - |  |
| >>>>DL UP TNL Information | M |  | UP Transport Layer Information  9.3.2.1 | gNB-DU endpoint of the F1 transport bearer. For delivery of DL PDUs. | - |  |
| >>RLC Status | O |  | 9.3.1.69 | Indicates the RLC has been re-established at the gNB-DU. | YES | ignore |
| **>>Additional PDCP Duplication TNL List** |  | *0..1* |  |  | YES | ignore |
| **>>>Additional PDCP Duplication TNL Items** |  | *1 .. <* *maxnoofAdditionalPDCPDuplicationTNL>* |  |  | EACH | ignore |
| >>>>Additional PDCP Duplication UP TNL Information | M |  | UP Transport Layer Information  9.3.2.1 | gNB-DU endpoint of the F1 transport bearer. For delivery of DL PDUs. | - |  |
| >>>>BH Information | O |  | 9.3.1.114 | This IE is not used in this version of the specification. | YES | ignore |
| >>Current QoS Parameters Set Index | O |  | Alternative QoS Parameters Set Index  9.3.1.123 | Index to the currently fulfilled alternative QoS parameters set. | YES | ignore |
| >>TSC Traffic Characteristics Feedback | O |  | 9.3.1.302 |  | YES | ignore |
| >>ECN Marking or Congestion Information Reporting Status | O |  | 9.3.1.322 |  | YES | ignore |
| **SRB Failed to be Setup List** |  | *0..1* |  | The List of SRBs which are failed to be established. | YES | ignore |
| **>SRB Failed to be Setup Item IEs** |  | *1 .. <maxnoofSRBs>* |  |  | EACH | ignore |
| >>SRB ID | M |  | 9.3.1.7 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **DRB Failed to be Setup List** |  | *0..1* |  | The List of DRBs which are failed to be setup. | YES | ignore |
| **>DRB Failed to be Setup Item IEs** |  | *1 .. <maxnoofDRBs>* |  |  | EACH | ignore |
| >>DRB ID | M |  | 9.3.1.8 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **SCell Failed To Setup List** |  | *0..1* |  |  | YES | ignore |
| **>SCell Failed to Setup Item** |  | *1 .. <maxnoofSCells>* |  |  | EACH | ignore |
| >>SCell ID | M |  | NR CGI 9.3.1.12 | SCell Identifier in gNB | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **DRB Failed to be Modified List** |  | 0..1 |  | The List of DRBs which are failed to be modified. | YES | ignore |
| **>DRB Failed to be Modified Item IEs** |  | *1 .. <maxnoofDRBs>* |  |  | EACH | ignore |
| >>DRB ID | M |  | 9.3.1.8 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| Inactivity Monitoring Response | O |  | ENUMERATED (Not-supported, ...) |  | YES | reject |
| Criticality Diagnostics | O |  | 9.3.1.3 |  | YES | ignore |
| C-RNTI | O |  | 9.3.1.32 | C-RNTI allocated at the gNB-DU. This IE is included if the gNB-DU regards the request as a reconfiguration with sync. | YES | ignore |
| Associated SCell List | O |  | 9.3.1.77 |  | YES | ignore |
| **SRB Setup List** |  | *0..1* |  |  | YES | ignore |
| **>SRB Setup Item** |  | *1 .. <maxnoofSRBs>* |  |  | EACH | ignore |
| >>SRB ID | M |  | 9.3.1.7 |  | - |  |
| >>LCID | M |  | 9.3.1.35 | LCID for the primary path if PDCP duplication is applied | - |  |
| **SRB Modified List** |  | *0..1* |  |  | YES | ignore |
| **>SRB Modified Item** |  | *1 .. <maxnoofSRBs>* |  |  | EACH | ignore |
| >>SRB ID | M |  | 9.3.1.7 |  | - |  |
| >>LCID | M |  | 9.3.1.35 | LCID for the primary path if PDCP duplication is applied | - |  |
| Full Configuration | O |  | ENUMERATED (full, ...) |  | YES | reject |
| **BH RLC Channel Setup List** |  | *0..1* |  | The list of BH RLC channels which are successfully established. | YES | ignore |
| **>BH RLC Channel Setup Item** |  | *1 .. <maxnoofBHRLCChannels>* |  |  | EACH | ignore |
| >>BH RLC CH ID | M |  | 9.3.1.113 |  | - |  |
| **BH RLC Channel Failed to be Setup List** |  | *0..1* |  | The list of BH RLC channels whose setup has failed. | YES | ignore |
| **>BH RLC Channel Failed to be Setup Item** |  | *1 .. <maxnoofBHRLCChannels>* |  |  | EACH | ignore |
| >>BH RLC CH ID | M |  | 9.3.1.113 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **BH RLC Channel Modified List** |  | *0..1* |  | The list of BH RLC channels which are successfully modified. | YES | ignore |
| **>BH RLC Channel Modified Item** |  | *1 .. <maxnoofBHRLCChannels>* |  |  | EACH | ignore |
| >>BH RLC CH ID | M |  | 9.3.1.113 |  | - |  |
| **BH RLC Channel Failed to be Modified List** |  | *0..1* |  | The list of BH RLC channels whose modification has failed. | YES | ignore |
| **>BH RLC Channel Failed to be Modified Item** |  | *1 .. <maxnoofBHRLCChannels>* |  |  | EACH | ignore |
| >>BH RLC CH ID | M |  | 9.3.1.113 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **SL DRB Setup List** |  | *0..1* |  | The List of SL DRBs which are successfully established. | YES | ignore |
| **>SL DRB Setup Item IEs** |  | *1 .. <maxnoofSLDRBs>* |  |  | EACH | ignore |
| >>SL DRB ID | M |  | 9.3.1.120 |  | - |  |
| **SL DRB Modified List** |  | *0..1* |  | The List of SL DRBs which are successfully modified. | YES | ignore |
| **>SL DRB Modified Item IEs** |  | *1 .. <maxnoofSLDRBs>* |  |  | EACH | ignore |
| >>SL DRB ID | M |  | 9.3.1.120 |  | - |  |
| **SL DRB Failed To Setup List** |  | *0..1* |  | The List of SL DRBs which are failed to be setup. | YES | ignore |
| **>SL DRB Failed To Setup Item** |  | *1 .. <maxnoofSLDRBs>* |  |  | EACH | ignore |
| >>SL DRB ID | M |  | 9.3.1.120 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **SL DRB Failed To be Modified List** |  | *0..1* |  | The List of SL DRBs which are failed to be modified. | YES | ignore |
| **>SL DRB Failed To be Modified Item** |  | *1 .. <maxnoofSLDRBs>* |  |  | EACH | ignore |
| >>SL DRB ID | M |  | 9.3.1.120 |  | - |  |
| >>cause | O |  | 9.3.1.2 |  | - |  |
| Requested Target Cell ID | O |  | NR CGI 9.3.1.12 | Special Cell or PSCell ID in the *CPAC MCG Information* IE indicated in the UE CONTEXT MODIFICATION REQUEST message. | YES | reject |
| SCG Activation Status | O |  | 9.3.1.234 |  | YES | ignore |
| **Uu RLC Channel Setup List** |  | *0..1* |  |  | YES | ignore |
| **>Uu RLC Channel Setup Item IEs** |  | *1 .. <maxnoofUuRLCChannels>* |  |  | - |  |
| >>Uu RLC Channel ID | M |  | 9.3.1.266 |  |  |  |
| **Uu RLC Channel Failed to be Setup List** |  | *0..1* |  |  | YES | ignore |
| **>Uu RLC Channel Failed to be Setup Item IEs** |  | *1 .. <maxnoofUuRLCChannels>* |  |  | - |  |
| >>Uu RLC Channel ID | M |  | 9.3.1.266 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **Uu RLC Channel Modified List** |  | *0..1* |  |  | YES | ignore |
| **>Uu RLC Channel Modified Item IEs** |  | *1 .. <maxnoofUuRLCChannels>* |  |  | - |  |
| >>Uu RLC Channel ID | M |  | 9.3.1.266 |  | - |  |
| **Uu RLC Channel Failed to be Modified List** |  | *0..1* |  |  | YES | ignore |
| **>Uu RLC Channel Failed to be Modified Item IEs** |  | *1 .. <maxnoofUuRLCChannels>* |  |  | - |  |
| >>Uu RLC Channel ID | M |  | 9.3.1.266 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **PC5 RLC Channel Setup List** |  | *0..1* |  |  | YES | ignore |
| **>PC5 RLC Channel Setup Item IEs** |  | *1 .. <maxnoofPC5RLCChannels>* |  |  | - |  |
| >>PC5 RLC Channel ID | M |  | 9.3.1.265 |  | - |  |
| >>Remote UE Local ID | O |  | 9.3.1.267 |  | - |  |
| **PC5 RLC Channel Failed to be Setup List** |  | *0..1* |  |  | YES | ignore |
| **>PC5 RLC Channel Failed to be Setup Item IEs** |  | *1 .. <maxnoofPC5RLCChannels>* |  |  | - |  |
| >>PC5 RLC Channel ID | M |  | 9.3.1.265 |  | - |  |
| >>Remote UE Local ID | O |  | 9.3.1.267 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| **PC5 RLC Channel Modified List** |  | *0..1* |  |  | YES | ignore |
| **>PC5 RLC Channel Modified Item IEs** |  | *1 .. <maxnoofPC5RLCChannels>* |  |  | - |  |
| >>PC5 RLC Channel ID | M |  | 9.3.1.265 |  | - |  |
| >>Remote UE Local ID | O |  | 9.3.1.267 |  | - |  |
| **PC5 RLC Channel Failed to be Modified List** |  | *0..1* |  |  | YES | ignore |
| **>PC5 RLC Channel Failed to be Modified Item IEs** |  | *1 .. <maxnoofPC5RLCChannels>* |  |  | - |  |
| >>PC5 RLC Channel ID | M |  | 9.3.1.265 |  | - |  |
| >>Remote UE Local ID | O |  | 9.3.1.267 |  | - |  |
| >>Cause | O |  | 9.3.1.2 |  | - |  |
| SDT Bearer Configuration Info | O |  | 9.3.1.277 |  | YES | ignore |
| **UE Multicast MRB Setup List** |  | *0..1* |  |  | YES | reject |
| **>UE Multicast MRB Setup Item IEs** |  | *1 .. <maxnoofMRBsforUE>* |  |  | EACH | reject |
| >>MRB ID | M |  | 9.3.1.224 | MRB ID for the UE. | - |  |
| >>Multicast F1-U Context Reference CU | M |  | 9.3.2.13 |  | - |  |
| **ServingCellMO-encoded-in-CGC List** |  | *0..1* |  |  | YES | ignore |
| **>****ServingCellMO-encoded-in-CGC Item IEs** |  | *1 .. <maxNrofBWPs>* |  | The servingCellMO which has been encoded in *CellGroupConfig* IE. | - |  |
| >>servingCellMO | M |  | INTEGER (1..64) |  | - |  |
| >>BWP ID | M |  | INTEGER (0..4) |  | YES | ignore |
| Dedicated SI Delivery Indication | O |  | ENUMERATED (true, ...) |  | YES | ignore |
| **Configured BWP List** |  | 0..1 |  | This IE is present when the gNB-DU configures at least one BWP with NCD-SSB or without SSB. | YES | ignore |
| **>Configured BWP Item IEs** |  | *1 .. <maxNrofBWPs*> |  |  | EACH | ignore |
| >>BWP-Id | M |  | INTEGER (0..4) | The IE is used to refer to one BWP. | - |  |
| >>BWP Location And Bandwidth | M |  | INTEGER (0..37949) | The IE type range is the same as the *locationAndBandwidth* IE in *BWP* IE as specified in TS 38.331 [8]. |  |  |
| **Early Sync Information** |  | *0..1* |  |  | YES | ignore |
| >TCI States Configurations List | M |  | 9.3.1.293 |  | - |  |
| >RACH Configuration | O |  | OCTET STRING | Includes the *EarlyUL-SyncConfig*  IE, as defined in TS 38.331 [8]. | - |  |
| **LTM Configuration** |  | *0..1* |  |  | YES | ignore |
| >SSB Information Item | M |  |  |  | - |  |
| >>SSB Time/Frequency Configuration | M |  | 9.3.1.203 |  | - |  |
| >>NR PCI | M |  | INTEGER (0..1007) |  | - |  |
| >LTM Reference Configuration | O |  | OCTET STRING | Includes the *CellGroupConfig*  IE, as defined in TS 38.331 [8]. | - |  |
| >LTM Complete Configuration Indicator | O |  | ENUMERATED (complete, ...) |  | - |  |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofSRBs | Maximum no. of SRB allowed towards one UE, the maximum value is 8. |
| maxnoofDRBs | Maximum no. of DRB allowed towards one UE, the maximum value is 64. |
| maxnoofDLUPTNLInformation | Maximum no. of DL UP TNL Information allowed towards one DRB, the maximum value is 2. |
| maxnoofSCells | Maximum no. of SCells allowed towards one UE, the maximum value is 32. |
| maxnoofBHRLCChannels | Maximum no. of BH RLC channels allowed towards one IAB-node, the maximum value is 65536. |
| maxnoofSLDRBs | Maximum no. of SL DRB allowed for NR sidelink communication per UE, the maximum value is 512. |
| maxnoofAdditionalPDCPDuplicationTNL | Maximum no. of additional UP TNL Information allowed towards one DRB, the maximum value is 2. |
| maxnoofUuRLCChannels | Maximum no. of Uu Relay RLC channels for L2 U2N relaying or L2 N3C relaying per Relay UE, the maximum value is 32. |
| maxnoofPC5RLCChannels | Maximum no. of PC5 Relay RLC channels allowed for L2 U2N relaying per Remote UE or Relay UE, the maximum value is 512. |
| maxNrofBWPs | Maximum number of BWPs per serving cell, the maximum value is 8. |
| maxnoofMRBsforUE | Maximum no. of multicast MRB allowed towards one UE, the maximum value is 32. |

**<<<<<< END OF CHANGE >>>>**