**3GPP TSG-RAN WG3 #129R3-255831**

**Bangaluru, India, 25th – 29th August 2025**

**Agenda Item: 11.4**

**Source: Lenovo, Ericsson, CATT, Nokia, Huawei**

**Title: (TP to BLCR to 37.483) Introduction of Data Collection ID in Bearer Context Modification procedure**

**Document for: Discussion and Approval**

# 1 TP to 37.483

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8.3.2 Bearer Context Modification (gNB-CU-CP initiated)

8.3.2.1 General

The purpose of the Bearer Context Modification procedure is to allow the gNB-CU-CP to modify a bearer context in the gNB-CU-UP. The procedure uses UE-associated signalling.

8.3.2.2 Successful Operation

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**Figure 8.3.2.2-1: Bearer Context Modification procedure: Successful Operation.**

The gNB-CU-CP initiates the procedure by sending the BEARER CONTEXT MODIFICATION REQUEST message to the gNB-CU-UP. If the gNB-CU-UP succeeds to modify the bearer context, it replies to the gNB-CU-CP with the BEARER CONTEXT MODIFICATION RESPONSE message.

The gNB-CU-UP shall report to the gNB-CU-CP, in the BEARER CONTEXT MODIFICATION RESPONSE message, the result for all the requested resources in the following way:

For E-UTRAN:

* - A list of DRBs which are successfully established shall be included in the *DRB Setup List* IE;
* - A list of DRBs which failed to be established shall be included in the *DRB Failed List* IE;
* - A list of DRBs which are successfully modified shall be included in the *DRB Modified List* IE;
* - A list of DRBs which failed to be modified shall be included in the *DRB Failed To Modify List* IE;

For NG-RAN:

* - A list of PDU Session Resources which are successfully established shall be included in the *PDU Session Resource Setup List* IE;
* - A list of PDU Session Resources which failed to be established shall be included in the *PDU Session Resource Failed List* IE;
* - A list of PDU Session Resources which are successfully modified shall be included in the *PDU Session Resource Modified List* IE;
* - A list of PDU Session Resources which failed to be modified shall be included in the *PDU Session Resource Failed To Modify List* IE;
* - For each successfully established or modified PDU Session Resource, a list of DRBs which are successfully established shall be included in the *DRB Setup List* IE;
* - For each successfully established or modified PDU Session Resource, a list of DRBs which failed to be established shall be included in the *DRB Failed List* IE;
* - For each successfully modified PDU Session Resource, a list of DRBs which are successfully modified shall be included in the *DRB Modified List* IE;
* - For each successfully modified PDU Session Resource, a list of DRBs which failed to be modified shall be included in the *DRB Failed To Modify List* IE;
* - For each successfully established or modified DRB, a list of QoS Flows which are successfully established shall be included in the *Flow Setup List* IE;
* - For each successfully established or modified DRB, a list of QoS Flows which failed to be established shall be included in the *Flow Failed List* IE;

When the gNB-CU-UP reports the unsuccessful establishment of a PDU Session Resource, DRB or QoS Flow the cause value should be precise enough to enable the gNB-CU-CP to know the reason for the unsuccessful establishment.

**\*\*\*\*\*\*\*\*\* Text Skipped \*\*\*\*\*\*\*\*\*\*\*\***

**Interactions with DL Data Notification procedure:**

If the *MT-SDT Information Request* IE is included in the BEARER CONTEXT MODIFICATION REQUEST message and the value is set to 'true', the gNB-CU-UP shall, if supported, store it and report the *MT-SDT Information* IE in the DL DATA NOTIFICATION message as specified in TS 38.401 [2].

If the *SDT Data Size Threshold* IE is included in the BEARER CONTEXT MODIFICATION REQUEST message, the gNB-CU-UP shall, if supported, store it and act as specified in TS 38.401 [2].

**Interaction with the Bearer Context Modification (gNB-CU-CP initiated)**

If the BEARER CONTEXT MODIFICATION REQUEST message includes for a DRB in the *DRB To Modify List* IE the *PDCP SN Status Request IE* set to “requested” and if the gNB-CU-UP has not yet received a SDAP end marker packet for a QoS flow which has been previously re-configured to another DRB by means of a gNB-CU-CP initiated Bearer Context Modification procedure, the gNB-CU-UP shall includes the QoS Flow Identifier of that QoS flow in the *Old QoS Flow List - UL End Marker expected* IE in the *PDU Session Resource Modified List* IE in the BEARER CONTEXT MODIFICATION RESPONSE message.

**Interaction with the Data Collection Reporting and the Data Collection Reporting Initiation procedures:**

If the *Data Collection ID* IE is contained in the BEARER CONTEXT MODIFICATION REQUEST message, the gNB-CU-UP shall, if supported, report to the gNB-CU-CP, after successful bearer context modification via the Data Collection Reporting procedure, the requested information configured via the previous Data Collection Reporting Initiation procedure corresponding to the *gNB-CU-CP Measurement ID* IE, allocated by the gNB-CU-CP, and the *gNB-CU-UP Measurement ID* IE, allocated by the gNB-CU-UP.

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#### 9.2.2.4 BEARER CONTEXT MODIFICATION REQUEST

This message is sent by the gNB-CU-CP to request the gNB-CU-UP to modify a bearer context.

Direction: gNB-CU-CP → gNB-CU-UP

| **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-CP UE E1AP ID | M |  | 9.3.1.4 |  | YES | reject |
| gNB-CU-UP UE E1AP ID | M |  | 9.3.1.5 |  | YES | reject |
| Security Information | O |  | 9.3.1.10 |  | YES | reject |
| UE DL Aggregate Maximum Bit Rate | O |  | Bit Rate 9.3.1.20 |  | YES | reject |
| UE DL Maximum Integrity Protected Data Rate | O |  | Bit Rate 9.3.1.20 | The Bit Rate is a portion of the UE’s Maximum Integrity Protected Data Rate, and is enforced by the gNB-CU-UP node. | YES | reject |
| Bearer Context Status Change | O |  | ENUMERATED (Suspend, Resume, …, ResumeforSDT) | Indicates the status of the Bearer Context  *NOTE: This IE is not applicable to eNB-CP/eNB-UP*. | YES | reject |
| New UL TNL Information Required | O |  | ENUMERATED (required, …) | Indicates that new UL TNL information has been requested to be provided. | YES | reject |
| UE Inactivity Timer | O |  | Inactivity Timer  9.3.1.54 | Included if the Activity Notification Level is set to "UE". | YES | reject |
| Data Discard Required | O |  | ENUMERATED (required, …) | Indicate to discard the DL user data in case of RAN paging failure. | YES | ignore |
| CHOICE *System* | O |  |  |  | YES | reject |
| *>E-UTRAN* |  |  |  |  |  |  |
| >>DRB To Setup List | O |  | DRB To Setup Modification List E-UTRAN  9.3.3.7 |  | YES | reject |
| >>DRB To Modify List | O |  | DRB To Modify List E-UTRAN  9.3.3.8 |  | YES | reject |
| >>DRB To Remove List | O |  | DRB To Remove List E-UTRAN  9.3.3.9 |  | YES | reject |
| >>Subscriber Profile ID for RAT/Frequency priority | O |  | 9.3.1.69 |  | YES | ignore |
| >>Additional RRM Policy Index | O |  | 9.3.1.70 |  | YES | ignore |
| *>NG-RAN* |  |  |  |  |  |  |
| >>PDU Session Resource To Setup List | O |  | PDU Session Resource To Setup Modification List  9.3.3.10 |  | YES | reject |
| >>PDU Session Resource To Modify List | O |  | 9.3.3.11 |  | YES | reject |
| >>PDU Session Resource To Remove List | O |  | 9.3.3.12 |  | YES | reject |
| RAN UE ID | O |  | OCTET STRING (SIZE(8)) |  | YES | ignore |
| gNB-DU ID | O |  | 9.3.1.65 |  | YES | ignore |
| Activity Notification Level | O |  | 9.3.1.67 |  | YES | ignore |
| MDT Polluted Measurement Indicator | O |  | ENUMERATED (IDC, no-IDC, …) | Indication on whether MDT Measurement affect (e.g. IDC) is undertake or not. | YES | ignore |
| UE Slice Maximum Bit Rate List | O |  | 9.3.1.102 |  | YES | ignore |
| SCG Activation Status | O |  | 9.3.1.105 |  | YES | ignore |
| SDT Continue ROHC | O |  | ENUMERATED (true, …) | Indicates ROHC should be continued for SDT DRBs. This IE corresponds to information provided in the *sdt-DRB-ContinueROHC* contained in the *SDT-Config* IE as defined in TS 38.331 [10]. | YES | reject |
| Management Based MDT PLMN Modification List | O |  | MDT PLMN Modification List  9.3.1.129 |  | YES | ignore |
| Inactivity Information Request | O |  | ENUMERATED (true, …) | Indicates to gNB-CU-UP to report the UE Inactivity Information | YES | ignore |
| MT-SDT Information Request | O |  | ENUMERATED (true, …) | Indicates to request the report of MT-SDT Information. | YES | ignore |
| SDT Data Size Threshold | O |  | INTEGER (1.. 192000, ...) | Unit: byte. | YES | ignore |
| Data Collection ID | O |  | 9.3.1.dd |  | YES | ignore |

|  |  |
| --- | --- |
| **Range bound** | **Explanation** |
| maxnoofDRBs | Maximum no. of DRBs for a UE. Value is 32. |
| maxnoofPDUSessionResource | Maximum no. of PDU Sessions for a UE. Value is 256. |

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### 9.4.4 PDU Definitions

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-- BEARER CONTEXT MODIFICATION

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-- Bearer Context Modification Request

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

BearerContextModificationRequest ::= SEQUENCE {

protocolIEs ProtocolIE-Container { { BearerContextModificationRequestIEs} },

...

}

BearerContextModificationRequestIEs E1AP-PROTOCOL-IES ::= {

{ ID id-gNB-CU-CP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-CP-UE-E1AP-ID PRESENCE mandatory }|

{ ID id-gNB-CU-UP-UE-E1AP-ID CRITICALITY reject TYPE GNB-CU-UP-UE-E1AP-ID PRESENCE mandatory }|

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

{ ID id-UEDLAggregateMaximumBitRate CRITICALITY reject TYPE BitRate PRESENCE optional }|

{ ID id-UEDLMaximumIntegrityProtectedDataRate CRITICALITY reject TYPE BitRate PRESENCE optional }|

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

{ ID id-New-UL-TNL-Information-Required CRITICALITY reject TYPE New-UL-TNL-Information-Required PRESENCE optional }|

{ ID id-UE-Inactivity-Timer CRITICALITY reject TYPE Inactivity-Timer PRESENCE optional }|

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

{ ID id-System-BearerContextModificationRequest CRITICALITY reject TYPE System-BearerContextModificationRequest PRESENCE optional }|

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

{ ID id-GNB-DU-ID CRITICALITY ignore TYPE GNB-DU-ID PRESENCE optional }|

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

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

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

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

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

{ ID id-ManagementBasedMDTPLMNModificationList CRITICALITY ignore TYPE MDTPLMNModificationList PRESENCE optional}|

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

{ ID id-MT-SDT-Information-Request CRITICALITY ignore TYPE MT-SDT-Information-Request PRESENCE optional }|

{ ID id-SDT-data-size-threshold CRITICALITY ignore TYPE SDT-data-size-threshold PRESENCE optional }|

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

...

}

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