**3GPP TSG-RAN WG3 Meeting #125 *R3-244704***

**Maastricht, NL, 19 - 23 Aug, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.423** | **CR** | **1253** | **rev** | **3** | **Current version:** | **18.2.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Correction of QoS Flow List | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, Deutsche Telekom, CATT, Ericsson, ZTE, Nokia | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Core, TEI18 | | | | |  | ***Date:*** | | | 2024-08-09 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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)*  *Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The *Old QoS Flow List - UL End Marker expected* IE is included in the *DRBs Subject To Status Transfer List* IE to indicate those QoS flows that have not yet received UL SDAP end markers, and refers to the **QoS Flow List 9.2.1.4a** where there is no *QoS Flow Mapping Indication* IE included.  However, in the ASN.1, the QoSFlows-List includes the qosFlowMappingIndication.  There is no need to include the *QoS flow Mapping Indication* IE in the *Old QoS Flow List - UL End Marker expected* IE since only QoS flows with uplink may receive the UL SDAP end markers but not downlink only QoS flows. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | To be backward compatible, the correction retains the current protocol functions and aligns the tabular representation of the relevant IEs accordingly:   * 9.2.1.4a: add the optional *QoS Flow Mapping Indication* IE in the *QoS Flow List* IE. * 9.2.1.15: replace the current (explicit definition) of the *QoS Flow List* IE in the *DRB to QoS Flow Mapping List* IE with a reference to 9.2.1.4a QoS Flow List. * 9.2.1.14: update the semantic descriptions of *the Old QoS Flow List – UL End Marker expected* IE, stating that the *QoS Flow Mapping Indication* IE should be ignored if received.   Impact Analysis:  Impact assessment towards the previous version of the specification (same release):  The CR has isolated impact to the SN Status Transfer procedure from functional point of view towards implementations that have not interpreted the specification as explicated in this CR. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Inconsistency between the ASN.1 and the tabular representation of the *QoS Flow List* IE. Missing specification in case the *QoS Flow Mapping Indication* IE is included in the *DRBs Subject to Status Transfer List* IE for downlink only QoS flows. | | | | | | | | |
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| ***Clauses affected:*** | | 9.2.1.14, 9.2.1.4a, 9.2.1.15 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | Initial version: R3-241692  Rev1: R3-243184  Resubmission to RAN3-124 meeting.  Rev2: R3-244074  Update the category and release on the cover page to rel-18 CR.  Update based on online comments, e.g., with changes in 9.2.1.15.  Rev3: R3-244704  Update the semantic descriptions of the *Old QoS Flow List - UL End Marker expected* IE. | | | | | | | | |

*CHANGES START*

<<<<<<<<<<<<<<<<<<<< Unmodified Text Omitted >>>>>>>>>>>>>>>>>>>>

#### 9.2.1.14 DRBs Subject To Status Transfer List

This IE contains a list of DRBs containing information about PDCP SN status.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| **DRBs Subject To Status Transfer Item** |  | *1 .. <maxnoofDRBs>* |  |  | – |  |
| >DRB ID | M |  | 9.2.3.33 |  | – |  |
| >CHOICE PDCP Status Transfer UL | M |  |  |  | – |  |
| >>*12 bits* |  |  |  |  |  |  |
| >>>Receive Status Of PDCP SDU | O |  | BIT STRING (1.. 2048) | The IE is used in case of 12-bit long PDCP-SN.  The first bit indicates the status of the SDU after the First Missing UL PDCP SDU.  The Nth bit indicates the status of the UL PDCP SDU in position (N + First Missing SDU Number) modulo (1 + the maximum value of the PDCP-SN).  0: PDCP SDU has not been received.  1: PDCP SDU has been received correctly. | – |  |
| >>>UL COUNT Value | M |  | COUNT Value for PDCP SN Length 12  9.2.3.36 | PDCP-SN and Hyper Frame Number of the first missing UL SDU in case of 12-bit long PDCP-SN | – |  |
| >>*18 bits* |  |  |  |  |  |  |
| >>>Receive Status Of PDCP SDU | O |  | BIT STRING (1.. 131072) | The IE is used in case of 18-bit long PDCP-SN.  The first bit indicates the status of the SDU after the First Missing UL PDCP SDU.  The Nth bit indicates the status of the UL PDCP SDU in position (N + First Missing SDU Number) modulo (1 + the maximum value of the PDCP-SN).  0: PDCP SDU has not been received.  1: PDCP SDU has been received correctly. | – |  |
| >>>UL COUNT Value | M |  | COUNT Value for PDCP SN Length 18  9.2.3.37 | PDCP-SN and Hyper Frame Number of the first missing UL SDU in case of 18-bit long PDCP-SN | – |  |
| >CHOICE *PDCP Status Transfer DL* | M |  |  |  | – |  |
| >>*12 bits* |  |  |  |  |  |  |
| >>>Receive Status Of PDCP SDU | O |  | BIT STRING (1.. 2048) | This IE is not used in this version of the specification. | – |  |
| >>>DL COUNT Value | M |  | COUNT Value for PDCP SN Length 12  9.2.3.36 | PDCP-SN and Hyper Frame Number that the target NG-RAN node (handover) or the NG-RAN node to which the DRB context is transferred (dual connectivity) should assign for the next DL SDU not having an SN yet in case of 12-bit long PDCP-SN. | – |  |
| >>*18 bits* |  |  |  |  |  |  |
| >>>Receive Status Of PDCP SDU | O |  | BIT STRING (1.. 131072) | This IE is not used in this version of the specification. | – |  |
| >>>DL COUNT Value | M |  | COUNT Value for PDCP SN Length 18  9.2.3.37 | PDCP-SN and Hyper Frame Number that the target NG-RAN node (handover) or the NG-RAN node to which the DRB context is transferred (dual connectivity) should assign for the next DL SDU not having an SN yet in case of 18-bit long PDCP-SN. | – |  |
| >Old QoS Flow List - UL End Marker expected | O |  | QoS Flow List  9.2.1.4a | This IE is included to be used for indicating that the source NG-RAN node has initiated QoS flow re-mapping and has not yet received SDAP end markers, as described in TS 38.300 [9].  In this version of the specification, the *QoS Flow Mapping Indication* IE is not included by the sending node and ignored if received in the *Old QoS Flow List - UL End Marker expected* IE. | YES | reject |

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| --- | --- |
| Range bound | Explanation |
| maxnoofDRBs | Maximum no. of DRBs allowed towards one UE. Value is 32. |

<<<<<<<<<<<<<<<<<<<< Unmodified Text Omitted >>>>>>>>>>>>>>>>>>>>

#### 9.2.1.4a QoS Flow List

This IE contains information regarding a list of QoS flows.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| **QoS Flow Item** |  | *1..<maxnoofQoSFlows>* |  |  |
| >QoS Flow Identifier | M |  | 9.2.3.10 |  |
| >QoS Flow Mapping Indication | O |  | 9.2.3.79 |  |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofQoSFlows | Maximum no. of QoS flows allowed within one PDU session. Value is 64. |

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#### 9.2.1.15 DRB to QoS Flow Mapping List

This IE contains a list of DRBs containing information about the mapped QoS flows.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| **DRBs to QoS Flow Mapping Item** |  | *1 .. <maxnoofDRBs>* |  |  | – |  |
| >DRB ID | M |  | 9.2.3.33 |  | – |  |
| >QoS Flows List | M |  | 9.2.1.4a |  | – |  |
| >RLC Mode | O |  | 9.2.3.28 | Indicates the RLC mode for PDCP transfer between M-NG-RAN node and S-NG-RAN node. | – |  |
| >DAPS Request Information | O |  | 9.2.1.33 |  | YES | ignore |

|  |  |
| --- | --- |
| Range bound | Explanation |
| maxnoofDRBs | Maximum no. of DRBs allowed towards one UE. Value is 32. |
| maxnoofQoSFlows | Maximum no. of QoS flows allowed within one PDU session. Value is 64. |

<<<<<<<<<<<<<<<<<<<< Unmodified Text Omitted >>>>>>>>>>>>>>>>>>>>

### 9.3.5 Information Element definitions

-- ASN1START

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-- Information Element Definitions

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

XnAP-IEs {

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

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

<<<<<<<<<<<<<<<<<<<< For Information Only >>>>>>>>>>>>>>>>>>>>

DRBsSubjectToStatusTransfer-List ::= SEQUENCE (SIZE (1..maxnoofDRBs)) OF DRBsSubjectToStatusTransfer-Item

DRBsSubjectToStatusTransfer-Item ::= SEQUENCE {

drbID DRB-ID,

pdcpStatusTransfer-UL DRBBStatusTransferChoice,

pdcpStatusTransfer-DL DRBBStatusTransferChoice,

iE-Extension ProtocolExtensionContainer { {DRBsSubjectToStatusTransfer-Item-ExtIEs} } OPTIONAL,

...

}

DRBsSubjectToStatusTransfer-Item-ExtIEs XNAP-PROTOCOL-EXTENSION ::= {

{ ID id-OldQoSFlowMap-ULendmarkerexpected CRITICALITY reject EXTENSION QoSFlows-List PRESENCE optional },

...

}

<<<<<<<<<<<<<<<<<<<< For Information Only >>>>>>>>>>>>>>>>>>>>

DRBToQoSFlowMapping-List ::= SEQUENCE (SIZE (1..maxnoofDRBs)) OF DRBToQoSFlowMapping-Item

DRBToQoSFlowMapping-Item ::= SEQUENCE {

drb-ID DRB-ID,

qosFlows-List QoSFlows-List,

rLC-Mode RLCMode OPTIONAL,

iE-Extension ProtocolExtensionContainer { {DRBToQoSFlowMapping-Item-ExtIEs} } OPTIONAL,

...

}

DRBToQoSFlowMapping-Item-ExtIEs XNAP-PROTOCOL-EXTENSION ::= {

{ ID id-DAPSRequestInfo CRITICALITY ignore EXTENSION DAPSRequestInfo PRESENCE optional },

...

}

<<<<<<<<<<<<<<<<<<<< For Information Only >>>>>>>>>>>>>>>>>>>>

QoSFlows-List ::= SEQUENCE (SIZE (1..maxnoofQoSFlows)) OF QoSFlow-Item

QoSFlow-Item ::= SEQUENCE {

qfi QoSFlowIdentifier,

qosFlowMappingIndication QoSFlowMappingIndication OPTIONAL,

iE-Extension ProtocolExtensionContainer { {QoSFlow-Item-ExtIEs} } OPTIONAL,

...

}

QoSFlow-Item-ExtIEs XNAP-PROTOCOL-EXTENSION ::= {

...

}

*CHANGES END*