**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 canbe 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)* |
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| ***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.  |
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| ***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.  |
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| ***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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | Initial version: R3-241692Rev1: 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*

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#### 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 129.2.3.36 | 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 189.2.3.37 | 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 129.2.3.36 | 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 189.2.3.37 | 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 List9.2.1.4a | 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.  |

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#### 9.2.1.4a QoS Flow List

This IE contains information regarding a list of QoS flows.

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| --- | --- | --- | --- | --- |
| 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 |  |

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| --- | --- |
| 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. |

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### 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*