**3GPP TSG-RAN WG3 Meeting #123R3-241024**

**Athens, Greece, 26th Feb – 1st Mar 2024**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0042** | **rev** | **1** | **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 | **X** |

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| ***Title:*** | Correction of the PDU Set Information | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Xiaomi, ZTE, Nokia, Nokia Shanghai Bell, Qualcomm Inc., Samsung, Lenovo, NEC, Huawei | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_XR\_enh-Core | | | | |  | ***Date:*** | | | 2024-02-17 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | |  |
|  | *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)* ***S*** *(adding to the sourcing companies’ CR statistics)*  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:*** | | The following PDU set information specified in RAN user plane protocol is not aligned with the information specified in RTP Header Extension  1. the length of EDB is 1 bit and there’s no EDB indicator in RTP.  2. the length of PSSN is 10 bits in RTP.  3. the value 0 in PSI means the sender cannot define the importance in RTP, and value 1 means the lowest importance.  4. the PSSize is in bytes in RTP.  5. the general description of the PDU set information container is not aligned with SA4. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change*** | | 1. Update the container name for PDU set information in 4.1 2. Remove the EDBI 3. Update the length of EDB to 1 bit 4. Update the length of PSSN to 10 bits 5. Update the description and frame format accordingly 6. Update the descriptions in EDB, PSI, PSSN, and PSSize | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The PDU set information frame in GTP-U header extension is not aligned with RTP header extension. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.1, 6.4, 6.4.1, 6.4.1.1, 6.5.2, 6.5.2.1, 6.5.3, 6.5.3.6, 6.5.3.8, 6.5.3.9, 6.5.3.10, 6.5.3.12 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev 1, the following are updated:  - remove the change to PSN.  - merge the text in Section 4.1 and 6.4.1.1 from R3-240124/R3-240219  - change the PSI value meaning: 0 means no importance information, and 1 means the highest importance from R3-240124  - add “in bytes” to the description of the PDU set size from R3-240124. | | | | | | | | |

<<<<<<<<<<<<<<<<<<<< First Change >>>>>>>>>>>>>>>>>>>>

4.1 General aspects

The PDU Session User Plane protocol and PDU Set Information User Plane protocol are located in the User Plane of the Radio Network Layer above the Transport Network Layer of the interface.

Each PDU session User Plane protocol instance and PDU Set Information User Plane protocol instance are associated to one PDU Session.

In this version of the present document, the PDU session user plane protocol data is conveyed by GTP-U protocol means, more specifically, by means of the "PDU Session Container" GTP-U Extension Header as defined in TS 29.281 [3].

In this version of the present document, the PDU set information user plane protocol data is conveyed by GTP-U protocol means, more specifically, by means of the "PDU Set Information Container" GTP-U Extension Header as defined in TS 29.281 [3].

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

## 6.4 Elementary procedures

### 6.4.1 Transfer of DL PDU Set Information

#### 6.4.1.1 Successful operation

The purpose of the Transfer of DL PDU Set Information procedure is to send PDU Set information and indication of End of Data Burst related to a QoS flow from UPF to NG-RAN node or between NG-RAN nodes, or from gNB-CU to gNB-DU.

The DL PDU SET INFORMATION frame includes a QoS Flow Identifier (QFI) field associated with the transferred packet. The NG-RAN shall use the received QFI to determine the QoS flow and QoS profile which are associated with the received packet.

The DL PDU SET INFORMATION frame includes PDU Set Sequence Number, PDU Sequence Number within a PDU Set PDU Set Importance, End of Data Burst and End PDU of the PDU Set as specified in TS 23.501 [5].

The DL PDU SET INFORMATION frame may includePDU Set Size as specified in TS 23.501 [5].

<<<<<<<<<<<<<<<<<<<< Next Change >>>>>>>>>>>>>>>>>>>>

### 6.5.2 Frame format for the PDU Set Information user plane protocol

#### 6.5.2.1 DL PDU SET INFORMATION (PDU Type 0)

This frame format is defined to allow the NG-RAN to receive PDU Set Information and indication of End of Data Burst of a QoS flow.

The following shows the respective DL PDU SET INFORMATION frame.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Bits | | | | | | | | | | | | Number of Octets |
| 7 | 6 | 5 | 4 | 3 | | 2 | | 1 | | 0 | |
| PDU Type (=0) | | | | | EDB | | EPDU | | PSSI | | Spare | 1 |
| QoS Flow Identifier (QFI) | | | | | | | | | PSSN | | | 2 |
| PSSN | | | | | | | | | | | |
| PSN | | | | | | | | | | | | 1 |
| PSSize | | | | | | | | | | | | 0 or 3 |
| Padding | | | | | | | | | | | | 0-3 |

Figure 6.5.2.1-1: DL PDU SET INFORMATION (PDU Type 0) Format

6.5.3 Coding of information elements in frames

6.5.3.1 PDU Type

**Description:** The PDU Type indicates the structure of the PDU Set UP frame. The field takes the value of the PDU Type it identifies; i.e. "0" for PDU Type 0. The PDU type is in bit 4 to bit 7 in the first octet of the frame.

**Value range:** {0= DL PDU SET INFORMATION, 1-15=reserved for future PDU type extensions}.

**Field length:** 4 bits.

6.5.3.2 Spare

**Description:** The spare field is set to "0" by the sender and should not be interpreted by the receiver. This field is reserved for later versions.

**Value range:** (0–2n-1).

**Field Length:** n bits.

6.5.3.3 QoS Flow Identifier (QFI)

**Description:** When present this parameter indicates the QoS Flow Identifier of the QoS flow to which the transferred packet belongs.

**Value range:** {0..26-1}.

**Field length:** 6 bits.

6.5.3.5 PSSI (PDU Set Size indicator)

**Description:** This parameter indicates the presence of PDU Set Size (PSSize).

**Value range:** {0= PSSize not present, 1= PSSize present}.

**Field length:** 1 bit.

6.5.3.6 Void

6.5.3.7 End PDU of the PDU Set (EPDU)

**Description:** This parameter indicates whether the current PDU is the last PDU of the PDU set.

**Value range:** {0= all other PDUs of the PDU Set, 1= last PDU of the PDU set}.

**Field length:** 1 bit.

6.5.3.8 End of Data Burst (EDB)

**Description:** This parameter indicates the end of a Data Burst.

**Value range:** {0 =all other PDUs, 1= the last PDU of a data burst}.

**Field length:** 1 bit.

6.5.3.9 PDU Set Importance (PSI)

**Description:** This parameter indicates the importance of the current PDU Set compared to other PDU Sets within the same QoS flow. Lower values shall indicate a higher importance importance with the exception that value “0” means sender cannot define importance. PDU Set with the highest importance PDU Set is indicated by 1 and the lowest importance PDU Set is indicated by 15.

**Value range:** {0..24-1}.

**Field length:** 4 bits.

6.5.3.10 PDU Set Sequence Number (PSSN)

**Description:** This parameter indicates the sequence number of the PDU Set to which the current PDU belongs acting as an identifier for the PDU Set.

**Value range:** {0..210-1}.

**Field length:** 10 bits.

6.5.3.11 PDU Sequence Number within a PDU Set (PSN)

**Description:** This parameter indicates the sequence number of the current PDU within the PDU Set. The PSN shall be set to 0 for the first PDU in the PDU Set and incremented monotonically for every PDU in the PDU set in order of transmission from the sender.

**Value range:** {0..28-1}.

**Field length:** 1 octet.

6.5.3.12 PDU Set Size (PSSize)

**Description:** This parameter indicates the total size of all PDUs in bytes of the PDU Set to which the current PDU belongs.

**Value range:** {0..224-1}.

**Field length:** 3 octets.

<<<<<<<<<<<<<<<<<<<< End of Change >>>>>>>>>>>>>>>>>>>>