**3GPP TSG-SA4 Meeting #-RTC SWG AH *S4aR250150***

**Paris, France, 3rd Sep 2025 - 5th Sep 2025**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.522** | **CR** | **0027** | **rev** | **-** | **Current version:** | **19.1.0** |  |
|  | | | | | | | | |
| *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 | **x** | Radio Access Network |  | Core Network | **x** |

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| ***Title:*** | Corrections to Annex A.3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_RTP\_Ph2 | | | | |  | ***Date:*** | | | 2025-08-29 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
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| ***Reason for change:*** | | Some corrections to Annex A. | | | | | | | | |
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| ***Summary of change:*** | | * Fix reference pointer to [22] * Add note on PDU set importance derivation based on relative PDU set importance and the common sparse but important nature of unmarked pdu in common scenarios. | | | | | | | | |
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| ***Consequences if not approved:*** | | No good guideline on setting PDU Set importance, work item objectives not met. | | | | | | | | |
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| ***Clauses affected:*** | | A.3 | | | | | | | | |
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|  | | **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:*** | |  | | | | | | | | |

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| \*\* CHANGE \*\* |

# A.3 Obtaining PDU Set information when N6 marked and unmarked PDUs co-exist (informative)

A guideline is provided to support the case where both marked and unmarked packets exist in a stream to which RTP HE for PDU Set marking is applied. In certain cases, some packets in a stream contain the RTP HE for PDU Set marking while some packets do not. An example could be a stream of multiplexed audio and video packets with only video packets marked. In this case the video stream RTP packets include RTP HE for PDU Set marking for each RTP packet but the audio stream RTP Packets might not contain the RTP HE for PDU Set marking. Another example could be RTCP packets multiplexed in a stream, since it is not possible to add an RTP HE to RTCP packets.

NOTE: Guidelines for PDU Set handling of unmarked video packets at the UPF are available in annex A.2, this clause considers the case of marked and unmarked packets with PDU Set Information.

In this case, the 5G System UPF network entity needs to map both marked and unmarked packets to PDU Sets including the PDU Set information, as PDU Set QoS handling, when enabled, is applied to all packets in a QoS flow. An example guideline for determining PDU Set information at the UPF from either the RTP HE for PDU Set marking or an unmarked PDU is given in Table A.3-1.

The middle column indicates how the UPF can derive PDU Set information for packets that include the RTP HE for PDU Set marking. The right column indicates how the UPF can derive PDU Set information for unmarked packets (N6 – unmarked PDUs). The left column lists the PDU Set information parameters as defined in TS 23.501 [12] set in the GTP-U header see TS 38.415 [22] by the UPF.

Table A.3-1: Determining PDU Set information at UPF from RTP HE for PDU Set Marking and unmarked PDU

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| --- | --- | --- |
| PDU Set information (PDU Session User Plane Protocol) [22] | RTP HE for PDU Set marking | N6-Unmarked PDU |
| PDU Set Importance | Set by interpreting PSI field RTP HE | Set by 5G System to a preconfigured value based on the payload/packet type (RTP Payload or RTCP packet type) |
| PDU Set Size | Optionally transmitted in additional PSSize field and derived from this field, | PDU Size |
| End of Data Burst | Can be set by EoDB flag | N/A for unmarked PDU |
| PDU Sequence Number (within a PDU Set) | From PDU Sequence Number in RTP HE | Set to 0 |
| PDU Set Sequence Number | Separate number space, e.g. PSSN field from RTP HE with most significant bit is set to 0 (another partition is also possible) | Separate number space e.g. set by UPF with most significant bit set to 1 (another partition is also possible) |
| End of PDU Set | End of the PDU Set in RTP HE | Always 1 |

PDU Set Importance can be set based on a preconfigured value in the 5G System for unmarked PDUs and from the RTP HE for PDU Set marking for marked PDUs.

NOTE 1: Given that N6-unmarked PDU’s are often sparse and low bandwidth but critical for the service, a good strategy for the UPF could be to set the PSI to a sufficiently low value considering the PSI values found in the marked stream.

PDU Set Size can be derived from the RTP HE if available, otherwise it us up to the UPF implementation, for unmarked packets it equals the PDU Size (assuming single packet per PDU Set in these cases).

PDU Sequence Number (within a PDU Set) could be retrieved from the PSN in the RTP HE, or when no RTP HE is present (unmarked PDU), it can be set to 0 as only a single PDU is present in the PDU Set.

Deriving the PDU Set Sequence Number includes some additional steps to enable using a different number space for marked and unmarked PDUs. As an example, the UPF can only use the 9 least significant bits of the PSSN field of the RTP HE to number the marked PDUs. In addition, for unmarked PDUs it can set the most significant bit of PSSN in PDU Set information to 1. Other number space separations are also possible up to the UPF implementation.

NOTE 2: When unmarked PDUs are present, the PSSN field in the RTP HE for PDU Set marking cannot map directly to PSSN for PDU Set information, as the UPF needs to assign sequence numbers to both marked and unmarked PDUs.

NOTE 3: This solution shows how the PSSN can be mapped at the UPF from packets carrying the RTP HE for PDU Set marking, as well as from those that do not. Other solutions can be equally valid and applicable by the UPF. This example is included to illustrate this issue, as in practice, both marked and unmarked packets can co-exist.

End of Data Burst can not be indicated for unmarked PDUs. End of PDU Set for unmarked PDUs is always equal to 1 since there is only one PDU in the PDU Set.

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| \*\* END of CHANGES \*\* |