**3GPP TSG SA WG4 Meeting #129-e *S4-241445***

**Online, August 19 2024- August 23 2024**

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| *CR-Form-v12.3* |
| **Pseudo CHANGE REQUEST** |
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|  | **TR 26.822** | **CR** | **-** | **rev** | **-** | **Current version:** | **0.1.1** |  |
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| *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 |  | Core Network |  |

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| ***Title:***  | [FS\_5G\_RTP] Improvements to text on description of KI#2 QoS Handling Requirements for Lonely PDU |
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| ***Source to WG:*** | Huawei, Hisilicon  |
| ***Source to TSG:*** | SA WG4 |
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| ***Work item code:*** | FS\_5G\_RTP\_Ph2 |  | ***Date:*** | 11/8/2024 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | 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 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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
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| ***Reason for change:*** | More elaboration on how to deal with this key issue is needed |
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| ***Summary of change:*** | Extend the study to not only the effects of lonely pdu but also the identification and mitigation and the appropriate handling of this case. |
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| ***Consequences if not approved:*** | Incomplete study of this key issue, resulting in unresolved questions from SA2 and potentially incompatilbity between the SA4 and SA2 approaches of PDU Set handling |
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| ***Clauses affected:*** | 5.2 |
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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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| \*\*\*\*Change 1\*\*\*\* |

## 5.2 Key Issue #2: QoS handling requirements for lonely PDU

### 5.2.1 Description

In the FS\_5G\_RTP\_Ph2, one objective is to study “ issues around "lonely" PDU, as identified by SA2”.

In the LS from SA2, S2-2313691/S4-240168, SA4 was asked the following questions:

*SA2 in Rel-18 has agreed that the PSA UPF marks, in the downlink, each N6-unmarked PDU (lonely PDU) with PDU Set information into a PDU Set over N3/N9. As a consequence, RAN will apply the PDU Set QoS parameters, e.g. apply the PDU Set Delay Budget (which is assumed to be larger than the PDB, if applicable) for the lonely PDU.*

*Questions: Will applying PDU Set QoS parameters to these lonely PDUs pose any issue from application perspective? If yes, what is the issue?*

*SA2 will not change the agreement to map N6-unmarked PDUs to PDU Sets over N3/N9 in Rel-18. However, since this topic may be in the scope of the FS\_XRM\_Ph2 study, SA2 would like to get feedback from SA4 on the questions above.*

For a single PDU which doesn't belong to any PDU Set, the 5GS handles such lonely PDU as a single PDU Set following the PDU Set QoS parameters. Furthermore, a lonely PDU does not carry the RTP header extension for PDU Set marking defined in TS 26.522 and thus cannot convey any PDU Set Information to the 5GS. It is proposed to study:

- whether there is any issue when applying PDU Set QoS parameters to the lonely PDUs from the application layer perspective?

 - with PDU Set marking to provide PDU Set information (e.g. considering overhead of marking and processing for the lone pdu case)

- without PDU Set marking to provide PDU Set information (e.g. considering explicit guidelines for handling unmarked packets)

- Study and detail the scenarios when such lonely PDU may arise, e.g RTP/RTCP multiplexing, unmarked packets, incomplete sender implementation, existing guidelines for PDU Set marking.

- Develop solutions to handle the issue of missing PDU Set Information in case of lonely PDUs

- Study the benefits of marking versus not marking of lonely PDUs into PDU Sets

NOTE: Both the marking in DL direction and at the UE for uplink direction should be considered.

NOTE: An answer to questions from SA2 in liaisons on this matter should be provided when concluding this key issue. If a solution requires changes or clarifications to SA2 specifications, SA2 should be informed in time.

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| \*\*\*End of Changes\*\*\* |