**3GPP TSG SA WG4 Meeting #126 *S4-231706***

**Chicago, US, 13 – 17 November 2023**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  | **26.522** | **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:***  | [5G\_RTP] Clarification for PDU Set Importance Guidelines |
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| ***Source to WG:*** | Nokia Corporation, Apple |
| ***Source to TSG:*** | S4 |
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| ***Work item code:*** | 5G\_RTP |  | ***Date:*** | 7 November 2023 |
|  |  |  |  |  |
| ***Category:*** |  |  | ***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)* |
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| ***Reason for change:*** | There are ongoing discussion in RAN2 about PSI-based discarding mechanisms for PDU Sets. The PSI ranges given in TS 26.522 may be misinterpreted by RAN2, since the current text says that the PDU Sets with PSI values 14 and 15 can be discarded, if needed, while not making any statement on the discardability of the PDU Sets that are assigned other PSI values. |
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| ***Summary of change:*** | This pCR clarifes that PDU Sets with any PSI value can be discarded by the RAN. |
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| ***Consequences if not approved:*** | RAN2 may misinterpret the PSI value such that they consider only the PDU Sets with PSI value 14 and 15 discardable. |
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| ***Clauses affected:*** |  |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  |  |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  |  |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  |  |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **First Change** |

4.4.2.6.2.5 PSI mapping based on PDU set dependencies

Senders should consider that multiplexed RTP streams are treated as a single QoS flow and set the PSI field accordingly, i.e., the PSI field for one bitstream will affect the PDU sets in other multiplexed streams as well. In some cases, dependencies may exist across bitstreams even when they are not multiplexed, particularly for XR services.

In case of such dependencies, it may not be enough to have PSI values based on codecs and media types alone. PSI values shall be set in this case based on the following, which are listed in an increasing order of importance, i.e., decreasing order of PSI values.

- The PDU set is considered not necessary for the processing of any other PDU set. Such PDU sets should be assigned the highest PSI values 14-15. When multiplexing, if a PDU set is assigned PSI value of 15, similar PDU sets of all streams should be given value 15 to prevent unfair treatment. If interdependency is known, e.g., in stereo streams (left eye is more important than right eye), then the more important stream can be given the PSI value 14.

- In H.264, these include the PDU sets with an NRI value equal to b00 in the NAL unit header.

- In HEVC, the NAL unit header does not contain a field like NRI that indicates the relative transport priority. Hence, it is up to the application to identify such PDU sets.

- The PDU set is necessary for the processing of some PDU sets of the stream to which it belongs. Such PDU sets should be assigned a PSI value in the range 9-13 (inclusive). The lower end of the range should be used for IDR/IRAP pictures since they are more important for the bitstream.

- In H.264, these include:

- IDR pictures with nal\_unit\_type equal to 5

- Non-IDR pictures with nal\_unit\_type in the range 1 to 4 (inclusive)

- In HEVC, these include:

- IRAP pictures with nal\_unit\_type field assigned a value in the range 16 to 23 (inclusive)

- RADL or RASL pictures with nal\_unit\_type in the range 6 to 9 (inclusive)

- The PDU set is necessary for the processing of all the other PDU sets of the stream to which it belongs. Such PDU sets should be assigned a PSI value in the range 6-8 (inclusive).

- In H.264, these include:

- SPS, PPS, i.e., NAL units with the nal\_unit\_type field equal to 7, 8, 13 or 15

- In HEVC, these include:

- SPS, PPS, VPS, i.e., NAL units with the nal\_unit\_type field in the range 32 to 34 (inclusive)

- The PDU set is necessary for the processing of some PDU sets of the stream to which it belongs and also necessary for the processing of some PDU sets of some other streams to which it does not belong. Such PDU sets should be assigned a PSI value in the range 4-5 (inclusive).

NOTE 1: Values in this and lower range shall be used for assigning PSI values to PDU sets in multiplexed streams or if dependencies exist across non-multiplexed bitstreams. Use cases for those cases are FFS. For single streams, the ranges provided by the previous bullet points shall be used.

NOTE 2: Considerations for multiplexed audio streams are FFS.

- The PDU set is necessary for the processing of all PDU sets of the stream to which it belongs and also of some other streams to which it does not belong. Such PDU sets should be assigned a PSI value in the range 2-3 (inclusive).

- The PDU set is necessary for the processing of all PDU sets of all streams. Such PDU sets should be assigned the lowest PSI value 1.

[Editor’s Note1] Alignment between all the clauses in Guidelines section is required.