**SA WG2 Meeting #161S2-2403392**

**26 Feb – 1 Mar 2024, Athens, GR *(was S2-2402621)***

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **23.501** | **CR** | **5339** | **rev** | **1** | **Current version:** | **18.4.0** |  |
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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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Incorrect Protocol Description options including SRTP together with RTP Payload Format |
|  |  |
| ***Source to WG:*** | Intel |
| ***Source to TSG:*** | SA2 |
|  |  |
| ***Work item code:*** | XRM |  | ***Date:*** | 2024-02-16 |
|  |  |  |  |  |
| ***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-12 (Release 12)Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | Clause 5.37.5.1: The mention of SRTP in the following three Protocol Description options are confusing because the information inside the RTP Payload Format is encrypted, and therefore, unusable by the UPF:- RTP **or SRTP** without RTP Header Extensions, but **together with RTP Payload Format** (e.g. H.264 [187] or H.265 [188]);- RTP **or SRTP** with RTP Header Extensions for PDU Set Marking as defined in TS 26.522 [179], and **together with RTP Payload Format** (e.g. H.264 [187] or H.265 [188]);- RTP **or SRTP** with other RTP Header Extensions following RFC 8285 [189], and **together with RTP Payload Format** (e.g. H.264 [187] or H.265 [188]).TS 26.522 Annex A uses the the terminology “from RTP payload” in a broader meaning, to also include the information contained in the (S)RTP header and (S)RTP header extensions:*A.2 Obtaining PDU Set information from RTP Payload**A.2.0 General**When the PDU Set based RTP Header Extension is not available, some or all of PDU Set information can be derived from the RTP/SRTP header, header extension and/or payloads, e.g., by a network function like the UPF. The possible PDU Set information to be derived based on the RTP/SRTP header, header extension and the payloads are provided as following.* *A.2.1 RTP/SRTP header**When RFC 6184 [5] or RFC 7798 [6] are used as payload formats, a network function can obtain some of the PDU Set information from RTP headers by following these guidelines.* |
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| ***Summary of change:*** | Clause 5.37.5.1: clarified that with the Protocol Description options combining SRTP with RTP payload format, the UPF can still obtain some PDU Set information from the RTP header.  |
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| ***Consequences if not approved:*** | Confusing text remains in the technical specification. |
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| ***Clauses affected:*** | 5.37.5.1 |
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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:*** |  |

\* \* \* \* First change \* \* \* \*

### 5.37.5 PDU Set based Handling

#### 5.37.5.1 General

A PDU Set is comprised of one or more PDUs carrying an application layer payload such as a video frame or video slice. The PDU Set based QoS handling by the NG-RAN is determined by PDU Set QoS Parameters in the QoS profile of the QoS Flow (specified in clause 5.7.7) and PDU Set information provided by the PSA UPF via N3/N9 interface as described in clause 5.37.5.2. The PDU Set based QoS Handling can be applied for GBR and non-GBR QoS Flows.

The AF should provide PDU Set related assistance information for dynamic PCC control. One or more of the following PDU Set related assistance information may be provided to the NEF/PCF using the AF session with required QoS procedures in clauses 4.15.6.6 and 4.15.6.6a of TS 23.502 [3].

- PDU Set QoS Parameters as described in clause 5.7.7

- Protocol Description: Indicates the transport protocol used by the service data flow (e.g. RTP, SRTP) and information, e.g. the following:

- RTP [185] or SRTP [186];

- RTP or SRTP with RTP Header Extensions, including:

- RTP Header Extensions for PDU Set Marking as defined in TS 26.522 [179];

- Other RTP Header Extensions as defined RFC 8285 [189];

- RTP or SRTP without RTP Header Extensions, but together with RTP Payload Format (e.g. H.264 [187] or H.265 [188]);

- RTP or SRTP with RTP Header Extensions for PDU Set Marking as defined in TS 26.522 [179], and together with RTP Payload Format (e.g. H.264 [187] or H.265 [188]);

- RTP or SRTP with other RTP Header Extensions following RFC 8285 [189], and together with RTP Payload Format (e.g. H.264 [187] or H.265 [188]).

NOTE X: With the Protocol Description options combining SRTP together with RTP Payload Format the UPF can still obtain some of the PDU Set information from the RTP Header (refer to Annex A in TS 26.522 [179] for a description of relevant information contained in the RTP Header).

When RTP Header Extensions for PDU Set Marking (as defined in TS 26.522 [179] or other RTP header extensions as defined in RFC 8285 [189] is included, the differentiation between different RTP Header Extension Types should be supported.

When RTP Payload Format is included, the differentiation between different RTP Payload Formats should be supported.

NOTE 1: Multiplexing of different transport protocols and different media traffic for differentiated PDU Set QoS handling is not supported in the current Release.

AF provided PDU Set QoS Parameters and Protocol Description may be used in determining the PCC Rule by the PCF as defined in clause 6.1.3.27.4 of TS 23.503 [45] and the Protocol Description may be used for identifying the PDU Set information by the PSA UPF.

When the SMF receives the PCC rule, the SMF performs binding of the PCC rule to one QoS Flow as described in clause 6.1.3.2.4 of TS 23.503 [45]. If the PCC rule contains one or more PDU Set QoS Parameters (PSER, PSDB and PSIHI), the SMF adds these PDU Set QoS parameters to the QoS Profile of the QoS Flow as described in clause 6.2.2.4 of TS 23.503 [45]. Alternatively, the SMF may be configured to support PDU Set based QoS Handling without receiving PCC rules from a PCF.

For the downlink direction, the PSA UPF identifies PDUs that belong to PDU Sets and marks them accordingly as described in clause 5.37.5.2. If the PSA UPF receives a PDU that does not belong to a PDU Set based on Protocol Description for PDU Set identification, then the PSA UPF still maps it to a PDU Set and determines the PDU Set Information as described in clause 5.37.5.2.

NOTE 2: If the PSA UPF receives a PDU that does not belong to a PDU Set, then it is assumed that the UPF determines the PDU Set Importance value based on pre-configuration.

For the uplink direction, the UE may identify PDU Sets, and how this is done is left up to UE implementation. The SMF may send Protocol Description associated with the QoS rule to UE.

NOTE 3: Using the Protocol Description or not is left to UE implementation. The use of Protocol Description does not impact QoS Flow Mapping in the UE.

In this Release, the PDU Set based QoS handling is supported in 5GS for UE registered in 3GPP access for single access PDU Session with IP PDU Session Type.

\* \* \* \* End of changes \* \* \* \*