**3GPP TSG-SA WG4 Meeting #131-bis-eS4-250574**

**Online, 11 – 17 April 2025**

Title: Draft LS to SA2 and RAN2 on RTP retransmission

Response to: -

Release: Rel-19

Work Item: 5G\_RTP\_Ph2

Source: SA4

To: SA2, RAN2

Cc: -

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**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

Attachments: none

**1. Overall Description:**

RTP retransmission payload format is specified in RFC 4588. The payload format was designed for use with the extended RTP profile for RTCP-based feedback (RTP/AVPF defined in RFC 4585). According to RFC 4588, retransmitted PDUs are transmitted in a separate RTP stream.

RTP retransmission is negotiated and configured end-to-end between a sender and a receiver. Currently, there is no mechanism to indicate to the 5G network whether an application uses retransmission for any of its RTP streams.

In TR 26.822, SA4 looked into a candidate solution that aims to enable RTP retransmission awareness in the 5GC for the purpose of improved PDU Set handling, documented in clause 6.9 of TR 26.822.

Since the original and retransmitted PDUs associated to a media flow are transmitted in different RTP streams, there are two options for the network in terms of mapping a source stream and its retransmission stream into QoS flows:

**Option 1: Source stream and retransmission stream are mapped by the 5GC into the same QoS flow.**

**Option 1a**: RTP sender enables PDU Set marking both for the source stream and retransmission stream. Then, a retransmitted PDU can be placed in the same PDU Set as its original PDU in the source stream.

**Option 1b**: RTP sender enables PDU Set marking only for the source stream and not for the retransmission stream. Then, a retransmitted PDU (in this case an N6-unmarked PDU) is marked by the 5GC into a new PDU Set that contains a single PDU, since the retransmitted PDU is mapped into the same QoS flow as its source PDU where PDU Set handling is applied.

Considering Option 1a and Option 1b above, SA4 kindly asks the following:

Question to SA2 and RAN2: Since the retransmitted PDUs are required for successful processing of a PDU Set, is there a value in indicating the PDU Set information for the retransmitted PDU thus correlating it to the original PDU Set? Note that the field PSSize added to the original PDUs in the source stream does not include the size of the retransmitted PDUs.

**Option 2: Source stream and retransmission stream are mapped by the 5GC into different QoS flows.**

**Option 2a**: RTP sender enables PDU Set marking both for the source stream and retransmission stream. However, they may be configured with different PDU Set QoS parameters (e.g. PSDB), i.e., the retransmission stream and source stream may receive differentiated PDU Set handling.

**Option 2b**: RTP sender enables PDU Set marking only for the source stream and not for the retransmission stream. Then, PDU Set handling is applied only to the source stream, and the retransmission stream receives ordinary QoS handling.

Considering Option 1 and Option 2 above, SA4 kindly asks the following:

Question to SA2: Does SA2 have any concern or other feedback on using the same vs different QoS flows for a source and retransmission stream?

Question to SA2 and RAN2: SA4 would also like to receive feedback on what information (if any) on application-layer retransmissions would be beneficial for PDU Set based QoS handling in the 5GC and/or RAN.

**2. Actions:**

**To SA2, RAN2**

**ACTION:** SA4 kindly asks SA2 and RAN2 to take the above information into account and provide answers to the above questions. SA4 welcomes any additional feedback on potential usage and value of signaling RTP retransmission related information to the network.

**3. Dates of Next SA4 Meetings:**

SA4#132 19th – 23rd May 2025 Fukuoka, Japan

SA4#133-e 21st – 25th July 2025 online