**Source: Huawei, HiSillicon**

**Title: [FS\_5G\_RTP\_PH2] Solution to key issue number #6 PDU Set marking for XR streams with RTP end-to-end encryption using SRTP**

**Agenda Item: 10.8**

**Document for: Discussion**

# Background

The new SA4 Rel-19 study item on “5G Real-time Transport Protocol Configurations, Phase 2” (5G\_RTP\_PH2) has been approved in [SP-240065](https://www.3gpp.org/ftp/TSG_SA/TSG_SA/TSGS_103_Maastricht_2024-03/Docs/SP-240065.zip). The work item lists twelve distinct key issues to improve 5G RTP as defined in TS 26.522

1. ***PDU Set marking for XR streams with RTP end-to-end encryption.*** *This is an issue identified in SA2 XRM Phase 2 SI [3]. The current PDU Set identification relies on the RTP source to mark PDU Set with an RTP header extension defined in TS26.522. To support the case of end-to-end encryption, additional work may be needed in SA4.*

# 2 End-to-End Encryption with RTP and PDU Set Marking

When end to end encryption is applied, methods of inspecting thevideo bitstream will not work for PDU Set detection and NAL syntax cannot be read, neither.

Besides, when the RTP is tunneled over an end-to-end encrypted channel, the method of RTP header extension for PDU Set Marking in TS 26.522 will not work, neither.

As the PDU Set header extension uses RTP Header, these are not encrypted in secure RTP solution RFC 3711. Therefore the SRTP could potentially be used together with RTP HE for PDU Set marking.

The release 18 version supports SRTP, so this solution requires limited changes to TS 26.522 but some explicit text.

NOTE: there may be some cases when the Header Extension is also encrypted, this is FFS

# 3 Proposal

It is proposed to discuss these observations and to add SRTP (RFC 3711) as a potential solution to key issue number 6 to the technical report.

[RFC 3711] The Secure Real-time Transport Protocol (SRTP)

[RFC 9335] Completely Encrypting RTP Header Extensions and Contributing Sources