**3GPP TSG-SA4 Meeting #131-bis-eS4-250510**

**Online, 11th Apr 2025 -17th April 2025**

**Source: Lenovo, Meta USA**

**Title: [5G\_RTP\_Ph2] Data boosting support**

**Agenda item: 10.6**

**Document for: DISCUSSION**

# Introduction

The following discussion paper summarizes the progress of the data boosting feature (or Expedited Transfer Indication in Stage-2 terms) for XR media in the 5G system in Stage-2 and highlights next steps necessary for completion of Stage-3, in accordance with Objective #8 of the 5G\_RTP\_Ph2 WI.

# Background

SA2 agreed in [1] the Expedited Transfer Indication (ETI) feature as part of the dynamic traffic characteristics whereby for an IP flow configured with ETI an AS may mark and indicate to the network the need for a data boost.

The data boosting, or alternatively, the ETI may be used (as per [1]) for IP flow(s) of an XR application/service only for non-GBR QoS flows provided that a corresponding media AF configures two media flows with the same SDF filter but different QoS requirements such that one QoS flow requirement is used when the ETI is active (i.e., ETI configuration flag is TRUE), and the other one otherwise.

When the ETI feature is so configured by the AF, the AS may dynamically request in user plane (e.g., over RTP header extensions when (S)RTP protocol is supported) to the network to temporarily boost the marked PDUs to the better QoS flow, i.e., the one with ETI configuration flag set to TRUE. The network may then boost the delivery of PDUs marked with Expedited Transfer Indication (ETI) as configured. When the UPF routes incoming media PDUs of the IP flow not marked with ETI, these are routed to the default QoS flow, i.e., the QoS flow configured with ETI flag FALSE. To enable the UPF routing to the appropriate QoS flow, the AF may provide additional protocol description details, e.g., indicating access to the RTP header extension containing the ETI flag. This configuration and behaviour are highlighted for DL in the diagram of Figure 1.



**Figure 1: Downlink data boosting configured by AF and marked dynamically in user plane by AS.**

The ETI feature can be enabled only when the UE supports Reflective QoS, as agreed in [2]. In case of UL UE support of Reflective QoS, the Reflective QoS control is enabled in the PCC rule for the QoS flow associated with the ETI configuration flag set to TRUE (i.e., the boosted QoS flow), whereas the Reflective QoS control for the QoS flow associated with the ETI configuration flag set to FALSE is left up to operator configuration.

Based on the above Stage-2 agreements, the UPF will be configured by the SMF with two PCC rules and two corresponding PDR rules (one with ETI set to TRUE and another with ETI set to FALSE) for the same IP flow at N6. ***When this configuration is active the UPF detects ETI marked in all DL packets at the IP flow ingest at N6***. As per [1], Stage-2 expectation is that TS 26.522 specifies the RTP header extension for ETI. Consequently, an RTP sender (e.g., Media Function of an RTC AS) is therefore required to mark each DL RTP PDU (e.g., in an RTP header extensions such as the RTP header extension for dynamically changing traffic characteristics) it desires to benefit from expedited transfer with ETI set to TRUE for the network to apply the desired data rate boosting. DL RTP PDUs whose transfer is not desired to be expedited can be marked with ETI value set to FALSE or may either remain unmarked. The latter is preferred whenever applicable for reduced overheads.

Based on Stage-2 agreements [1], and conclusions of FS\_5G\_RTP\_Ph2, [3], the AF/AS-controlled dynamic data boosting requires following aspects be specified in the context of the RTC media delivery system.

i). User plane support of ETI as a dynamic traffic characteristic within a RTP header extension.

ii). Media AF configuration with support of ETI configuration flag parameter part of QoS requirements associated with an application.

# Proposal

It is therefore proposed to

i). Specify the ETI flag to the RTP header extension for dynamically changing traffic characteristics in TS 26.522 (see CR in S4-250511).

ii). Extend specifications TS 26.510 (see CR in S4-250512) and TS 26.113 (see CR in S4-250513) related to RTC media delivery and enabling RTC AF configuration with ETI support as per Stage-2 design.

NOTE: Coordination with CT4 may be necessary to enhance existent *ProtocolDescription* data model dependency of TS 26.510.

# References

[1] – CR in [S2-2502472](http://portal.3gpp.org/ngppapp/DownloadTDoc.aspx?contributionUid=S2-2502472): [XRM\_Ph2] Corrections for 23.501 Data boosting triggered by AS/AF, Status: Agreed, Source: Lenovo, Tencent, Tencent Cloud, China Telecom, InterDigital, Nokia, Apple, Samsung, CATT, Meta USA, CMCC, Xiaomi, Huawei, HiSilicon, Ericsson.

[2] – CR in [S2-2502473](http://portal.3gpp.org/ngppapp/DownloadTDoc.aspx?contributionUid=S2-2502473): [XRM\_Ph2] Enhancements for AF/AS triggered expedite data transfer, Status: Agreed, Source: Lenovo, Tencent, Tencent Cloud, CATT, Huawei, HiSilicon, Nokia, Ericsson, InterDigital Inc.

[3] – 3GPP TR 26.822: Study on 5G Real-time Transport Protocol Configurations, Phase 2, v19.0.0 available at: <https://www.3gpp.org/ftp/Specs/archive/26_series/26.822/26822-j00.zip>