3GPP TSG WG SA4 Video SWG Telco TDoc S4aV200633

E-meeting, 12th Jan 2021

**Title: [Draft] LS to on XR-Traffic Models**

**Response to: -**

**Release: Release 17**

**Work Item: FS\_XRTraffic, FS\_NR\_XR\_eval**

**Source: 3GPP TSG SA WG4**

**To: 3GPP TSG RAN WG1**

**Cc:**

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**Attachments:**

* S4aV200632 [FS\_XRTraffic] Summary of XR Traffic Models for RAN1 and Open Issues
* S4aV200631 [FS\_XRTraffic] Traces and Configurations for VR2, CG and AR2

# 1 Overall description

3GPP TSG SA WG4 would like to inform 3GPP TSG RAN WG1 on our recent progress for the modelling of XR Traffic for the purpose of evaluating the performance of XR application and traffic on 5G Systems and in particular the new radio.

SA4 has carried out work for the modelling of.

* VR2: “Split Rendering: Viewport rendering with Time Warp in device”
* AR2: “XR Conversational”
* CG: Cloud Gaming

The detailed modelling proposal is provided in the attached documents, namely

* S4aV200632 [FS\_XRTraffic] Summary of XR Traffic Models for RAN1 and Open Issues
* S4aV200631 [FS\_XRTraffic] Traces and Configurations for VR2, CG and AR2

The modelling is supporting traces and software modules, as well as well-defined interface definitions. Details are provided in the attached documents. While the initial models are likely to provide some representative first traces, SA4 is in the process to further extend the models to add additional application layer settings. However, interfaces and APIs are expected to be identical.

In addition to traffic modelling the above documents also include proposed quality evaluation methods that take into account video structures such as spatial and temporal predictions, complexity of the content, etc.

Note that the traffic characteristics are described in two ways:

1. High-level parameters such as bitrate and frame rate. These are available for all media streams in all applications.
2. IP packet traces based on the above (packet size/timing data from simulations of XR media systems). Such traces are not available for all media streams in all applications.

The high-level parameters (bitrates, frame rates etc) can be used as guidance for RAN1 simulations, also where the trace-based approach is not utilized.

SA4 is also in process to review other applications including

* VR1: “Viewport dependent streaming”
* AR1: “XR Distributed Computing”

However, such information will only be shared after SA4#112-e.

Overall, in the case that RAN1 experts have questions and comments, the rapporteur of the SA4 study item offers to present the details of the models to the RAN colleagues at any appropriate time.

# 2 Actions

**To RAN1**

**ACTION:**

1. To take the above information into account
2. To consider the offer to present the details from the SA4 Study Item rapporteur if needed
3. To provide any comments or questions as feedback

# 3 Dates of next TSG SA WG 4 meetings

3GPP SA4#112e 1 – 10 February 2021, e-meeting

3GPP SA4#113e 6 – 14 April 2021, e-meeting