TELECOM INFRA PROJECT

QoE/QoS Measurement Framework Sub-Group

QoE/QoS Measurement Framework Sub-Group is a subgroup under the Metaverse Ready Network (MRN) Product Group. This document establishes the purpose and scope of the subgroup. Intellectual property and copyright terms used to develop the materials identified in this Sub-Group follow those defined in the MRN PG charter.

Only Participants that execute this Sub-Group Charter will be bound by its terms and be permitted to participate in this Sub-Group and shall be considered "Contributors" in the Sub-Group as defined in the Telecom Infra Project IPR Policy document.

1. SUB-GROUP NAME

QoE/QoS Measurement Framework

2. PURPOSE

By definition, quality of experience (QoE) is a subjective measure of to what extent users are satisfied with their experience of using a service. Measuring the subjective QoE can be costly and time consuming thus different proposals were made to estimate user's QoE by measuring selected objective metrics. There is a lack of industry alignment on how to do this.

Certain levels of connectivity QoS would be required to deliver services and applications with the targeted QoE. There is a need for a better understanding of what QoS metrics are relevant to delivery targeted QoE, which different per use case. Industry alignment on how to measure these QoS metrics is needed as well so that the results are used in the right context.

QoE/QoS Measurement Framework sub-group aims at developing a common measurement framework for a suite of applications and services as well as typical context of use. It provides the industry with

- a uniformed methodology in identifying metrics to measure to estimate QoE
- a common approach to determining QoS metrics that are impacting QoE and
- an aligned QoE-QoS testing methodology

3. SCOPE

In scope

- Develop a generic QoE and QoS measurement framework including methodology and approach for identifying QoE metrics, as well as methodology and approach for identifying requirements as well as relevant connectivity QoS metrics, and how to conduct measurements.

- Study if the e2e connectivity can be treated as a black box or it is better to identify a set of predefined hypothetical connections reflecting most relevant deployment practice scenarios

Not in the scope

i. The measurement framework is to be independent of underlying networking technology, agnostic to mobile/fixed/wifi/etc. A use case can be used to illustrate how the measurement framework is to be used. However, QoS requirements of any specific use cases, which will be addressed in “Use Cases and QoS Requirements” subgroup
ii. Separate subgroups will be set-up to study the enabling network technology

4. COORDINATION

Coordination with other subgroups within MRN PG and with other TIP PGs, and organizations/SDO’s external to TIP is for further study. Examples to consider shall include ITU (International Telecommunication Union), VQEG (Video quality Expert Group) and MEF (Metro Ethernet Forum)

Close monitor the work in Metaverse Standards Forum (MSF), especially in the Exploratory Group “Network requirements and capabilities to support Metaverse applications” (see here for more information, access limited to MSF members)

Note that collaboration with other SDOs and/or industry organizations may require a liaison agreement or similar.

5. DELIVERABLES

Deliverable	IPR Treatment	Approval Procedures
Technical Report such as • Uniformed methodology in identifying metrics to measure to estimate QoE • Common approach to determining QoS metrics that are impacting QoE and • Standardized QoE-QoS testing methodology • Test specifications for use in lab and trial activities	Document IPR Policy	Versions by consensus of the PG. Final approval by TC.
Other technical reports, white papers	Document IPR Policy	Versions by consensus of the PG. Final approval by TC.

6. SUB-GROUP LEADS

Francois Blouin	**Meta**	**francoisb@meta.com**
Kafi Hassan	**T-Mobile USA**	**Kafi.Hassan@t-mobile.com**
Dr. Chris Murphy	**VIAVI**	**Chris.Murphy@viavisolutions.com**

7. Revision history

Version	Date	Revision owner	Notes
v.0.1.0	01/18/2023	Xinli Hou (xinlihou@meta.com), Meta	Initial draft for PG co-chair review
v.0.1.1	01/25/2023	Francois Blouin, Mta	updates after PG co-chair review
v.0.2.0	3/9/2023	Xinli Hou	Updated based on TIP Leadership comments, ready for approval
v.1.0.0	3/22/2023	Megan Skinner	Approved by the TC