3GPP TSG SA WG4 Meeting #121 TDoc S4-221287

E-Meeting, 17th – 26th August 2022

**Title: Draft Follow-up LS to SA5 on Study on KQIs for 5G service experience**

**Response to:**

**Release: Rel-18**

**Work Item: FS\_KQI\_5G, IQoE**

**Source:** **3GPP SA4**

**To:** **3GPP SA5**

**Cc:**

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**Attachments: none**

# 1 Overall description

SA4 wishes to inform SA5 regarding two items in the recent LS exchange between SA5 and SA4 on SA5’s Rel-18 Study Item "FS\_KQI\_5G". Firstly, SA4 wishes to provide additional clarification on our earlier reply LS in [S4-221120](https://www.3gpp.org/ftp/tsg_sa/WG4_CODEC/TSGS4_120-e/Docs/S4-221120.zip) to the incoming LS from SA5 in [S4-221071](https://www.3gpp.org/ftp/tsg_sa/WG4_CODEC/TSGS4_120-e/Docs/S4-221071.zip) (S5-223522). Secondly, SA4 would like to point out an existing bug in the technical report TR 28.863, cited by the SA5 LS as target output of SA5’s study item.

**a) Additional clarification of SA4 Reply LS in S4-221120:**

After completion and transmission to SA5 of the above reply LS, SA4 has found that the term *KQI* does appear in an existing SA4 technical report, i.e., *KQI* is described and defined in SA4’s [TR 26.909](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3041) (output of Rel-14 SA4 Work Item "IQoE"), clause 4.1.1:

*Beside these KPIs the monitoring system will also provide a Key Quality Indicator (KQI) characterizing the user's quality experience.*

*Quality is fundamentally related to the subjective assessment of the considered aspect. The KQI will be related to corresponding subjective quality assessments. The quality often is rated as an opinion score on a 5-point scale ranging from "bad" (1), "poor" (2), "fair" (3), "good" (4) to "excellent" (5). The average of these scores calculated from a group of subjects is the Mean Opinion Score (MOS).*

In addition, upon referencing various telecom industry publications and academic research literature, the KQI definition/description in TS 26.909 does not appear to be fully aligned with the general meaning of that term in many relevant wireless and telecom specifications, for example in 3GPP (from SA5, TR 32.862 and TR 28.863), ETSI (EG 202.009-2), TeleManagement Forum (SLA Management Handbook), NGMN (Next Generation Converged Operations Requirements), and related white papers in Qualinet (<http://www.qualinet.eu/about-qualinet/>). In particular, TR 26.909 considers KQI to represent a single value for subjective service quality, or “effective QoE”, from the end-user perspective, in the form of a MOS (Mean Opinion Score) value. However, industry specifications and research publications generally consider the end-user’s perceived QoE of a service to comprise the evaluation of a multiplicity of KQIs (roughly corresponding to factors/metrics impacting the end-to-end user experience). In turn, each KQI can be mapped to (or derived from) a set of KPIs (Key Performance Indicators) which represent directly measurable parameters of network performance in the form of QoS).

SA4 wishes to emphasize that the description of KQI in TR 26.909 is informative in nature, and that no formal definition or usage of that term exists in SA4 technical specifications.

**b) Existing bug in TR 28.863:**

TR 28.863, cited in the SA5 LS as target output of study item FS\_KQI\_5G, appears to contain a bug regarding indication that the term *KQI* is defined in SA4’s [TR 26.944](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=1498). Although TR 26.944, associated with the SA4 Rel-7 work item E2EMSPM ("End-to-End Multimedia Services Performance Metrics") does contain significant description of QoE requirements and QoE metrics, and their relation to the terms *ESQoS* (End-to-end Service Quality of Service) and *SQoS* (System Quality of Service), the specific term *KQI* is not present in that TR.

# 2 Actions

**To SA5**

**ACTION:** SA4 kindly asks SA5 to take the above information into account, and provide feedback to SA4 if necessary.

# 3 Dates of next TSG SA WG 4 meetings

SA4#122 20th – 24th February 2023 EU

SA4#123 17th – 21st April 2023 TBD