No: MTNL/RA/TRAI CP/VoLTE/2018

Dated 23.03.2018

To

Shri Asit Kadayan,,
Advisor (QoS),
TRAI, New Delhi.

Sub: Comments on TRAI's Consultation paper on " Voice Services to LTE users (Including   VoLTE and CS Fallback)".

Dear Sir,

Kindly find enclosed herewith MTNL's response as Annexure-I on the consultation paper on Voice Services to LTE users (Including VoLTE and CS Fallback) dated 26.02.2018.

DE(RA&C)

Encl: As above

Q.1: Whether prescribed QoS parameters, as per existing QoS Regulations, are sufficient to effectively monitor QoS of VoLTE/CSFB calls? Please provide suggestions with justifications.

Comment: Yes. It should also include the ITU-T Recommendation G.1028 & GSMA recommendation IR.42 which defines end-to-end quality of service indicators for voice over 4G mobile network e.g. Registration success rate (KPI related to IMS), Post-Dialing Delay (PDD), IMS Third-party Registration Success Ratio, VoLTE MO/MT Session Setup Time, VoLTE speech quality (SpQ MOS-LQO and SpQ R-Factor-LQ), SRVCC (PS-CS) Quality Parameters, Call Drop Rate of IMS Sessions, E-RAB Retainability (reflect abnormal releases of the service) etc.

Q.2: If existing QoS parameters are not sufficient to monitor QoS of VoLTE/CSFB calls, then what new parameters can be introduced? Please provide details with justifications.

Comment: As per 1 above.

Q.3: How to define instance of silence/voice mute? How many such instances may be accepted during voice call? Whether existing parameters like packet loss, jitter, latency, end-to-end delay are sufficient to identify or measure silence/voice mute or some other parameters are also need to be factored to measure it? Please provide details with justifications.

Comment: Delay or variations in delay in delivery of voice packets or loss of voice packets or errors in voice packets may result into silence or voice mute period. Jitter buffer used before decoding in VoLTE Receiver, may also lead to silence or voice mute period.

No such instances may be accepted during voice call. Existing parameters like packet loss, jitter, latency, end-to-end delay are sufficient to identify or measure silence/voice mute.

Q.4: How to measure report and evaluate network or service from perspective of silence/voice mute problem? Which ITU measurement tools can be used to prepare framework for measurement of silence/voice mute problem? Please provide details with justifications.

Comment: As per 3 above.

Q.5: Whether certain range of timers and constants are required to be prescribed which may affect VoLTE call quality assessment? If yes, which may be those timers and constants and what may be the suggested ranges of timers and constants? Please provide details with justifications.

Comment: Yes, certain range of timers and constants are required to be prescribed which may affect VoLTE call quality assessment. 3GPP TS 36.331 has defined various Timers (such as T304, T301, T311 etc) and Constants (such as N310, N311 etc) to conquer call drops. Optimization of such timers and constants is very essential from the users experience prospective.

Q.6: What parameters like Post Dialing Delay (PDD) may be introduced to measure performance of users being served voice via CSFB? What may be the threshold? How to measure report and evaluate? Please provide details with justifications.

Comment: ITU-T Recommendation G.1028 & GSMA recommendation IR.42 has defined parameters to measure performance of voice via CSFB such as Registration success rate (KPI related to IMS), Post-Dialing Delay (PDD), voice quality (MOS-LQ) and call drop rate, CSFB Return to LTE Success Ratio, Speech Quality on Call Basis (SpQ), Call Completion Ratio Circuit Switched Telephony etc. which may reflect the customer experience for voice service.

Q.7: Any other issue which is relevant to this subject?

Comment: No