

Information Note to the Press (Press Release No 30 /2018)

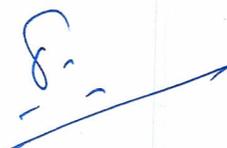
For Immediate Release

Telecom Regulatory Authority of India

New Delhi, the 26th February, 2018: Telecom Regulatory Authority of India (TRAI) has today released a Consultation Paper on 'Voice Services to LTE users (including VoLTE and CS Fallback)'.

2. Earlier, TRAI had notified fifth amendment of "The Standards of Quality of Service of Basic Telephone Service (Wireline) And Cellular Mobile Telephone Service Regulations, 2009" on 18th August 2017. The fifth amendment of regulations redefined new QoS framework for Drop Call Rate (DCR) assessment and DCR benchmark was fixed in technology agnostically. Accordingly, from a DCR benchmark and measurement perspective, a network's performance on all technologies (e.g. 2G, 3G or 4G) deployed by the TSP in a LSA and used for providing voice services are treated equally. After this amendment, the consolidated data of all the cells of the TSP is being used to assessed as part of a single network, irrespective of the technology being used i.e. whether cells belongs to GSM, CDMA, WCDMA or LTE.

2. LTE is an all-IP, data-only transport technology based on packet switching. Voices services in LTE network is mainly carried by two technologies viz. Voice over LTE (VoLTE) and Circuit Switch Fall Back (CSFB). VoLTE allows carriers to transmit voice calls over LTE network and controlled through their IP Multimedia Subsystem (IMS). This means that voice calls and data sessions travel side-by-side over LTE. Whereas in CSFB, LTE network is used only for data traffic and voice services are provided on traditional circuit switched technologies of 2G and 3G. CSFB redirects a device registered on the LTE network to the 2G/3G network (i.e. fallback) prior to originating or receiving a voice call.



3. To provide voice services via LTE, both VoLTE and CSFB techniques may face some quality of service issues due to different network scenarios. Such scenarios may result into silence period or voice mute observed by the users. Extent to which this is experienced by the user during a call before dropping of call may also be implementation specific.

4. This paper discusses about the growth of LTE networks and various migration path followed by different Indian TSPs for providing voice services via LTE. The paper highlights various options for providing voice services in LTE network like VoLTE, CSFB, Single Radio Voice Call Continuity (SRVCC) etc. It discusses about the handover scenarios of calls in CSFB and the evolution of performance of CSFB in different 3GPP releases of LTE. It also highlights parameters which are defined in ITU standard G.1028, 3GPP TS 36.331 and GSMA IR.42, which can measure various causes of degradation in quality of Voice calls in LTE network which can lead to poor customer experience.

5. Comments on the issues raised in the consultation paper are invited from the stakeholders by 16th March, 2018 and counter comments, if any, by 23rd March, 2018. Full text of the consultation paper is available on TRAI's website (<http://www.trai.gov.in/telecom/qos>).

6. The comments and counter-comments may be sent, preferably in electronic format at advqos@traai.gov.in. For any clarifications / information Shri Asit Kadayana, Advisor (QOS), TRAI may be contacted at Telephone Number +91-11-23230404, FAX Number +91-11-23213036.

(U. K. Srivastava)
Secretary I/C
TRAI