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SERIES G: TRANSMISSION SYSTEMS AND MEDIA,
DIGITAL SYSTEMS AND NETWORKS

Multimedia Quality of Service and performance – Generic
and user-related aspects

Assessment of the LTE circuit switched fall back – Impact on voice quality of service

Recommendation ITU-T G.1028.2

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Recommendation ITU-T G.1028.2

Assessment of the LTE circuit switched fall back – Impact on voice quality of service

Summary

While the long term evolution (LTE) circuit switched fall back (CSFB) can be considered as a separate procedure from voice service delivery over LTE, it has an impact on the quality of service (QoS) for the voice services and is therefore worthy of attention and consideration. Indeed, operators have to make sure that clients purchasing LTE-capable devices must keep the level of QoS they are accustomed to when compared with their former 2G and 3G devices, even when VoLTE is unavailable (for any reason, such as, network or device). Therefore, specific and complementary key performance indicators (KPIs) are proposed in this Recommendation, together with procedures for their assessment.

It should be noted that this Recommendation focuses only on the specific impact of CSFB. The information it contains must be considered as a complement to provisions already defined in Recommendation ITU-T G.1028.

History

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Introduction

In early deployments of the fourth generation of mobile networks (LTE), it can happen that the delivery of multimedia services, and in particular voice over LTE (referred to in this Recommendation as VoLTE), is not possible by using a complete LTE infrastructure (with full IMS). This situation can remain applicable in the short and even medium term.

In the meantime pending the deployment of VoLTE, operators must use the legacy networks (using 2G and 3G technologies) when there is a need for voice and SMS delivery to LTE users.

The alternative to this issue is the use of CSFB, an interim solution allowing the usage of legacy networks, until full support for VoLTE is available.