

UNIVERSITI TEKNOLOGI MARA

**A STUDY ON VOICE OVER LTE (VOLTE)
PERFORMANCE AND COMPARISON
WITH OTHER VOICE TECHNOLOGY OF
MOBILE COMMUNICATIONS**

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ABSTRACT

The Long Term Evolution (LTE) technology, providing higher data rate to meet subscriber requirements, is the best option in the mobile broadband era. In the LTE era, how to inherit and improve traditional voice services have become carriers' top concern.

The third generation mobile telecommunication technologies and the increasing popularity of smartphones have greatly driven user demand for mobile broadband services. Explosive growth of data traffic and the challenge of increasing network capacity force mobile carriers to upgrade their networks and increase the network transmission rate. The LTE technology is the best option for those carriers. In the LTE era, the time has come for mobile carriers to move to voice over LTE (VoLTE).

This thesis presents the study of VoLTE performance and comparison against other voice solutions on mobile such as Circuit Switched Fallback (CSFB) and Over-the-Top (OTT). Based on analysis, CSFB has many poor results in delivering voice services on LTE mobile network. The ultimate voice solution on LTE networks is VoLTE. TM Berhad joint and Packet One Network are offering VoLTE service soon and their challenge to validate VoLTE performance by using field-trials testing. This paper analyses performance VoLTE by measuring call setup time and media quality of the VoLTE signal.

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