

ABSTRACT

The development of communication technology brings changes to the process of delivering information quickly and easily for mobile users. The information which is conveyed not only as audio, but as visual also. For example, video call service uses audio and video telecommunications to bring people in various places to communicate. Video call service is applicable to 3G (Third Generation) network. The concept of video call just like a conversation between two people (point-to-point) or involving several different places (multi-point).

The final task was done by analyzing the influence of UE (User Equipment) speed to the quality of the video call service in 3G networks (UMTS). The parameter to determine the performance of video call services are delay, jitter and throughput. The performance was measured by manipulating five speed variations of the user and creating three scenarios for the user to perform movement in one cell, two cells and three cells.

From the simulations which have been made, it is conclude that when the user's speed increases, the value of existing performance will be affected. When the user perform the movement in one cell at speed of 5 km/h, the throughput value reached 69.320 kbps and at the speed of 100 km/h it decreased to 69.202 kbps. This was occurred as a result of multipath fading and loss transmission. For the case of user who performed handover in two cells or three cells, the networks provided QOS value based on ITU-T Standard and Tiphon Standard. The highest delay value which was obtained in two cells reached 211.4283 ms and as for three cells, it reached 211.4811 ms. The highest jitter value reached 14.4472 ms and 15.5648 ms in the two cells and three cells, sequentially.

Key words: Video Call, 3G network, the speed of the user, QOS