ABSTRACT

Telecommunication networks are created with the aim to provide a means of information exchange between users who want the information when they need it. In the process of exchanging information, there is an information transfer from the sender to the recipient. The transfer of information from one place to another within the telecommunication network is called telecommunication traffic (teletraffic). The teletraffic theory is used in the telecommunication network design, it determines the number of required components based on the agreed quality of service (QoS) value and used for the evaluation or analysis of installed networks.

In this final project, the Quality of Service (QoS) of triple play services is measured using two measurement method. The first method, the Quality of Service measurement of triple play services are done on FTTH networks only. The second method, the Quality of Service measurement of triple play services are done on FTTH network that integrates with WiMAX networks. The measurements are done by providing background traffic, the amount of traffic value provided varies.

From the QoS measurement that has done on the network, the result obtained for the delay, packet loss, and video services jitter on FTTH networks are <150 ms, <3%, and <20 ms. For the voice services on the FTTH network, the obtained delay value is <150 ms, packet loss is <3%, and <20 ms for jitter. On the video services in FTTH network that integrates with WiMAX, the delay value obtained is <150 ms, for packet loss is <3%, and <20 ms for jitter. For the voice services on FTTH network that integrates with WiMAX, obtained delay value is <150 ms, <3% for packet loss, and <20 ms for jitter. From all the results obtained, it shows that all QoS parameter values meets the ITU-T G114 standards well.

Keywords : *WiMAX, FTTH, Traffic, QoS, Triple Play.*