ABSTRACT

GPON (Gigabit Passive Optical Network) is an access technology categorized as Broadband Access based on fiber optic. GPON is one of PON technology which is developed by ITU-T via G.984. The special characteristic from this technology compared with the other technology like SDH is the distribution technique which is done passively. The implementation is planned as a FTTx bas (Curb, Home, Building). This technology is hoped to give Triple Play service : Voice (Voip), multimedia (Digital Pay TV/IPTV) and data (internet from 2Mbps) through 1 core optic for the customer. All of these services is supported through 1 terminal box DVD size placed at the customer which is cheaper than SDH but able to support in 2.5 Gps period.

IPTV today become a new services which will be the competitor of TV standard broadcasted by satellite, terrestrial, and wire. The bandwidth capacity broadband network which is developed, the greatest compression technology will able to realize these services. Some of the benefits given by IPTV is an ability to record or stop the picture when the show is starting.

In this final project the parameter simulation and analysis of QoS (Quality of Service) for IPTV in GPON by using NS-2 (Network Simulator) is measured. The QoS parameter that will be measured are Throughput, Jitter, Delay and Packet Loss Ratio. From the measurement and analysis, the Qos from GPON for IPTV service is suitable with ITU-T standard, by the average throughput will be 0,1296 Mbps, the biggest packet loss is 9,9%, biggest delay is 43,5465 ms and the biggest jitter is 0,0001356ms.

Keyword : GPON, IPTV, QoS