

ABSTRACT

At this time technological developments progressed by leaps and bounds. Almost every second there are new innovations on technology. Of course, these technological developments will make the rate of information in this world faster and faster. The speed of information so fast that human beings must be able to process various existing information to obtain a desired data result.

The problem can be known from the performance of mikrotik to service. Mikrotik is a software operating system that can be used to make the computer into a reliable network router, including various features made for IP networks and wireless networks, suitable for use by ISPs and hotspot providers. Optical Network Unit (ONU) is a customer-side device that provides both data, voice, and video interfaces. Performance parameters are simulated based on link power budget, rise time budget and Quality of Service (QoS) values for network system feasibility.

The calculation results are obtained in the downstream direction, the GEAPON link produces a damping value of 19,08 dB and the rise time value of 0.2500 ns. The measurement of QoS value parameter for the measurement of VoIP service with the user as much as 5 resulted the average value of delay is 0.0118 ms, packet loss is 0% and the throughput is 0.1042 Kbps. The value of QoS for the measurement of Video service with the user of 5 generated the average value of delay is 0.0206 ms, packet loss is 0.2% and throughput is 1.624 Kbps. Based on the performance of power link, rise time, and Qos it can be concluded that FTTH service performance performance has good transmission quality.

Keywords: FTTH, ONT, MICROTIK