ABSTRACT

IPTV is a service of the new technology-based broadband multimedia services as an interactive triple-play. Service is expected to be given to users as possible through adequate infrastructure. As one of the major operator in Indonesia, now PT.Telkom build Metro Ethernet network that is the implementation of broadband as a combination of optical fiber transmission and ADSL system to support IPTV services, considering the optical transmission system has a large bandwidth in the data channel and a high level of stability. In addition, make measurements Kandatel Lembong secondary cable OAN network towards the customer multipair (per hundred user) with the use of web-based Broadband Optical Measurement Bandung (BOMB) as Lembong Kandatel innovation.

In this final task will be analysis of combination transmission Jarlokaf and Jarlokat for the IPTV service, and will be simulate by Network Simulator 2. Parameters analysis of this service determines QoS (Quality of Service), which include delay, packet loss, jitter, and throughput, as well as attention to the condition of existing network to support IPTV services.

The result of test and analysis got the maximum value 33.7922 ms of one way delay, measurement with bitrate of 256 kbps, background traffic 80% of the 5 Mbps bandwidth link. Maximum value 2.22656% of packet loss, measurement with bitrate to 512 kbps, 80% background traffic of 8 Mbps bandwidth link. One way delay results are still below the maximum limit as Cisco and ITU standardization that reference by PT. Telkom, and the results for packet loss doesn't fulfill of cisco standards for interactive video for several conditions.

Keywords: *IPTV, BOMB, Metro Ethernet, broadband, Jarlokat, Jarlokaf, Triple Play, QoS.*