

ABSTRACT

Bachelor of Information System (BIS) is a study programme under School of Industrial Engineering in Telkom University. BIS has five laboratory that responsible for a lab activity that corresponding to a respective subject.

BIS lab activity is divided into offline and online. Online lab activity is established for minimizing BIS resource and infrastructure constraint. But there still are problems on online lab activity such as long duration of file upload, this is happened because file transfer protocol has some problems. Furthermore, a HTTP is used to access online lab activity, so these two protocols are important on online lab activity process. A multiprotocol label switching (MPLS) is one of many option that can solve this problem.

This MPLS network will be simulated on GNS3 simulator. To examine MPLS-implemented network performance, a test on quality of service (QoS) parameter such as throughput, delay, jitter and packet loss will be established. Then, its quality result will be based on ITU-T G.1010 and TIPHON.

The Result of this MPLS-implemented network shows some escalation of QoS parameter such as throughput, delay and packet loss that have very-good category based on ITU-T G.1010 standard and jitter that have very-good category based on TIPHON.

Key words : Information System, MPLS, QoS, FTP, HTTP.