

## **ABSTRACT**

Video Streaming is a facility that makes a server to be able to broadcast a video that can be access by client. This facility let the client access the video as a real time or has been recorded before. MPLS VPN is a kind of VPN IP-BASED giving amenity in extending location of customer because has link of peer to-peer of between router PE ( Provider Edge) and router CE ( Customer Edge) at customer. MPLS VPN have the advantage offering function of traffic-engineering to personal network. The addition of multicast technology on MPLS-VPN will be very useful when making the point to multipoint applications such as video streaming.

In this final project, the implementation of Video Streaming application in MPLS-VPN Multicast network used by network emulator,GNS3, in simple topology. In this network, there is an analysis of Video Streaming quality with changing the background traffic parameter.

From the implementation in this final project, the result is MPLS-VPN Multicast can make QoS better. Seen from result throughput, delay, packet loss, and jitter which got from network using technology MPLS-VPN Multicast is better than network OSPF without MPLS. MPLS-VPN Multicast technology can give greater throughput up to 11,68 %, minimize packet loss until 39,25 %, decrease delay until 14,08 %, and also decrease jitter until 10,33%.

**Keyword : MPLS, MPLS-VPN, OSPF, *delay, jitter, packet loss, throughput.***