

## **ABSTRACT**

Many routing protocols to use for sending data can be helped by technology technique is MPLS(Multi Protocol Label Switching) which is a protocol can help sending packet data so quick and then can help to control Quality of Service(QoS) from every different service with a label at protocol has made. Label Function at MPLS as connection process and lookin for a way in computer network. MPLS combine a switching technology at layer 2 and routing technology at layer 3 so it will be the best solution of network to end about speed, scalability and QoS.

A fast transfer data need a security network, one that is used DMVPN(Dynamical Multipoint Virtual Private Network). Which is dmvpn used for help to make a flexibility from a network to connected and saving a low cost. To make it all, need a routing protocol for access network design has made.

A software to used it all is Graphical Network Simulator (GNS3). which is GNS3 as a simulation of network design and Wireshark for help analyze QoS.

**Keyword : QoS, MPLS OVER DMVPN, Routing Protocol, GNS3, Wireshark.**