

ABSTRACT

Quality Of Service (Qos) is represent the important thing which must be attention in a communications system. A lot of consideration which require being attention in getting good quality value at network. Wide Bandwidth is one of alternative, but this matter is not effective because traffic overcome not continually in big value traffic. For increasing network performance can be conducted by differential service, resource reservation protocol (RSVP), multi protocol of label switching (MPLS), and use of routing management.

Multi-Protocol of Label Switching (MPLS) is a method of forwarding data through a network by using information in label attached at packet IP. With the type of routing applied at network MPLS, expected able to give increasing of value Qos at the network. Since request of information transfer through internet increasing, MPLS network offer the efficient function traffic-engineering by using utilization in network with optimum. Utilization of MPLS TE is done by finding the path that has low utility links, thus minimizing the occurrence of the queue on the router. If the queue on the router minimum, will successfully overcome the resulting value better QOS on certain services

In this final task, MPLS-TE will be implemented in small network and use GNS3 as MPLS Router. The result from this implementation is expected to be able to to describe how the MPLS-TE technology works.

From the implementation in laboratory, the result is MPLS-TE can make QoS better. Seen from result, the delay decrease by 0.98 for video application and 1.09 for VoIP application, throughput, packet loss, and jitter which got from network using technology MPLS-TE is better than network MPLS without traffic engineer.

Keyword : MPLS, MPLS-TE, RSVP, QOS