

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 the demand for exchange of information through the Internet continues to increase rapidly, offering MPLS traffic-engineering function efficiently, by utilizing an optimal network utility. Utilization of MPLS TE is performed by finding the path that has routing low link utility, thus minimizing the occurrence of the queue on the router. In the MPLS TE Fast Reroute with additional features, possible in case of failed links will in-reroute to the other path so that the package does not need to wait for the result value of a low QoS. If the packet is sent quickly and does not occur in the router queue successfully resolved it will produce a better QoS on certain services.

In this final task, MPLS-TE Fast Reroute implemented in small network and use Dynamips PC Router Emulator as MPLS Router. The result from this implementation is expected to be able to describe how the MPLS-TE Fast Reroute technology works. From the implementation in laboratory, the result is MPLS-TE Fast Reroute can make QoS better. Seen from result throughput, delay, packet loss, and jitter which got from network using technology MPLS-TE Fast Reroute is better than network MPLS TE without *Fast Reroute*.

Keyword : MPLS, MPLS-TE, Fast Reroute, RSVP