

ABSTRACT

MPLS (*Multiprotocol Label Switching*) is a method of IRTF (*Internet Engineering Task Force*) data forwarding method standard that works on multilayer protocol with switch integrated on data link layer and routing on network layer. MPLS gives an ability of traffic engineering and routing techniques that can improve network resource optimization and value of QoS on the network. The ability of MPLS to engineer the traffic using the protocol type RSVP-TE signaling. In this case using of RSVP-TE based on two approaches, to determine the path to a variety of services and use of the Fast Reroute for link protection so that if there is failed link will reroute to another path. An issue to be studied is the influence of the implementation of RSVP-TE in MPLS networks PT. Telkom to optimize the quality of the network.

In this final project conducted fieldwork in the Infratel Division of PT. Telkom Jakarta by measuring performance parameters of RSVP-TE on MPLS networks to SPEEDY broadband service and ASTINET. Performance parameters that will be measured is the QoS parameters constant of ITU-T are the delay, jitter, throughput and packet loss. Measurements were taken with the PING method from PE-BRAS to PE-Gateway.

From these data the results of the implementation of RSVP-TE on MPLS networks PT. Telkom, it seems that the implementation of RSVP-TE in MPLS networks able to guarantee of availability, so that RSVP-TE can maximize network performance by optimizing the use of networks.

Keywords : MPLS, *Quality of Service*, RSVP-TE, PING