ABSTRACT

Along with the development of internet technology and the demand for internet needs is increasing.The demand for internet services such as internet connection with data transfer speed is a problem that is often experienced in the network. The routing process in the application of a network often has problems when sending data packets MPLS is a forwarding method to forward packets along with labels attached to each packet, this process is called label switching. The routing protocol mechanism for distributing labels on MPLS is divided into two types, namely Label Distribution Protocol (LDP) and Reservation Resource (RSVP). LDP is the basic routing protocol in MPLS networks, using label switching. RSVP is a technique of manipulating network traffic to control the traffic load in the network. With the different mechanisms used in MPLS using LDP and MPLS using RSVP, it certainly makes a difference in the workings and performance of the two routing protocols. Graphical Network Simulator 3 (GNS 3) is used to simulate MPLS using LDP and RSVP. The test scenario was carried out with File Transfer Protocol (FTP) traffic loads of 40 MB and 80 MB upload, 40 MB and 80 MB download. QoS measurement parameters used are transfer time, throughput, delay, and packet loss ratio. From the results of the study, it can be concluded that RSVP MPLS-TE has better performance because the delivery is carried out using an explicit route in the tunnel so there is no need to look for a designated router as in MPLS LDP which will search for the best path when a branch occurs.

Keywords: MPLS, LDP, RSVP, File Transfer Protocol, GNS3, QoS