ABSTRACT

MPLS VPN is a data exchange technology that is global and has an advantage in the level of secure. Routing protocols are suitable for use in the MPLS VPN routing protocols that have linkstate categories, examples of routing protocols have linkstate category is ISIS and OSPF. Based on this research it obtained is the result of comparing the routing protocol on ISIS and OSPF that aims to find out the best performance in designing a network in MPLS VPN. The data observed in the form of video data and voice data in which the parameters QOS (Quality Of Service) used include: delay, throughput and packet loss. This study uses a software GNS3. On the QOS data retrieval result obtained is that the value of the QOS parameters ISIS routing protocol is better than the OSPF routing protocol. The results of the values obtained in the form of percentages when the traffic load is added for each parameter is as follows: for the delay parameter of voice service in ISIS got a percentage of 19% and in OSPF gets a value of 24%, then for video services in ISIS scored 1.8% and in OSPF scored 20%. In Jitter parameters for voice services in ISIS scored 11% and in OSPF scored 12%, and for video services in ISIS scored 1.3%, while in OSPF 11%. In the parameter packet loss on voice and video services ISIS has a more stable value of 0% at any load on the scenario while OSPF has average to voice a 0.01% and 0.1% on the video. Parameter throughput for voice services in ISIS scored 28% and 28% OSPF scored Then for video services in ISIS get 4% while in OSPF 0.3%

Keywords: MPLS VPN, ISIS, OSPF, GNS3