

Abstract

The growth of technology nowadays needs a high performance network to handle high performance needed. One of important thing is network routing. Protocol routing intradomain which common to use is OSPF. Time by time needed high performance networking is going up, so the need for new technology that can handle those needs. In this final project simulated the implementation of the OSPF routing protocol above the SDN architecture. There are 2 virtual machines that work as controllers and data planes. Performance analysis is also done to determine the performance of network convergence time, overhead traffic, dan quality of service. So that the results obtained are how the routing protocol performance in the SDN architecture. The performance test results of the QoS parameters are still within the limits determined by the ITU-T standard G.1010. The average delay for data is 0.06 ms, for VoIP, which is 0.6 ms and for video, which is 0.7 ms. Jitter generated for data averaged 0.0015 ms, for Voip 0.015 ms and for Video 0.08 ms for Voip jitter values determined no more than 1 ms for data and Video not specified. For packet loss all types of traffic are estimated to be 0% to a traffic load of 75 Mbps with 3% provision for VoIP and 6% for Video. For network convergence time results, the results are from 4-4.5 seconds. Then for overhead traffic the results are 2340 bytes for 5 switches, 3042 bytes for 7 switch and 8502 bytes for 9 switch

Keywords : SDN, *routing*, *OSPF*, *QoS*