

ABSTRACT

In the internet network is needed so that the internet can be used and used by the wider community. Defined Network Software (SDN) is a new concept in computer networks where the network control system controls the data forwarding function in accordance with the SDN network architecture, the control becomes centralized and does not need to be connected with each network device, making it easier for network administrators to control the network in the control plane. In network configuration, data that can be sent and received by internet network users can communicate with each other, one of which is routing routing on a network, because the role of routing in the internet network is large. Routing is a way of configuration in building an internet network. The larger a network, the more devices needed and many configuration processes needed.

In this Final Project, the implementation of FTP Services on the Software Defined Network uses Open Shortest Path First (OSPF) Routing and Routing Information Protocol (RIP). Verification of the SDN network is carried out on a device consisting of 2 Mikrotik RB 951Ui routers 2HnD as an Openflow Switch that is interconnected and has installed a POX controller that uses the Control Plane and 3 Access Points that have Openflow Support.

In this final project, the results of performance testing of RIPv2 and OSPF routing applications on SDN and Conventional networks using FTP and RouteFlow services as controllers have shown that QoS values on SDN networks with OSPF routing are 86 Mbps for throughput, 90 ms for delay, 4 ms for delay, 4 ms for jitter, and 0% for packet loss, the RIP routing is 75.2 Mbps for throughput, 95 ms for delay, 5 ms for jitter, and 0% for packet loss. While the QoS value on conventional networks with OSPF routing is 75 Mbps for throughput, 97 ms for delay, 6 ms for jitter, and 0% for packet loss, RIP routing is 73 Mbps for throughput, 98 ms for delay, 5 ms for jitter and 0% for packet loss.

Keywords: SDN, openflow, ospf, rip, pox controller, routing