ABSTRACT

The Internet is one of the technology of computer network system which is rapidly growing. Routing is a mechanism which configuration is needed in building a network of internet. Routing, as a part which gives a network performance. The network performance, additional configuration of increasingly complex and large part of the network control would be more complicated, inflexible and difficult to manage. Software Defined Network (SDN) is a paradigm where the control plane of network that separated from the data plane, so that make us easier to do configuration on control plane. SDN is expected to run methods contained in conventional networks such as IP forwarding and routing.

In this final project, applying routing service using Open Shortest Path First (OSPF) based on RouteFlow for Software Defined Network. Knowing the path used for transmitting packets from sender to receiver. On the scenario done two termination links on a network to prove routing OSPF performance. Authentication is done by doing emulation and implementation the network, consisting of 4 switches are connected with the control plane.

Application performance testing result routing OSPF for SDN base on RouteFlow shows that the value of convergence time are 4.2 seconds for simulation and 4 seconds for implementation. The value QoS for simulation that are, 99.8 Mbps for troughput, 27.43 ms for delay, 0.008 ms for jitter, and 0.0375 % for packet loss. The value QoS for implementation that are, 99.98 Mbps for troughput, 35.7 ms for delay, 1.015 ms for jitter, and 0.0956% for packet loss.

Keywords : QoS, RouteFlow, SDN, OSPF