## ABSTRACT

The development of computer networks continues to increase to meet the needs and create a reliable network. Software Defined Network (SDN) is one of them. SDN is the separation of data flow controller system from hardware. The concept provides flexibility on the network so that it can process the network using a controller without having to touch the hardware.

In the SDN network control is centered in a control plane that can intelligently manage the network based on the overall condition of the network. To do that the SDN uses an interface called a controller. These controllers generally use OpenFlow controllers (NOX, POX, Beacon, Floodlight, MuL, Maestro, Ryu). In OpenFlow controllers themselves have different programming Language bases like python and java. Each controller has advantages, disadvantages and different uses.

In this study comparing network QoS values built using Ryu and POX controllers. Both of these controllers are tested in full-mesh topologies with the number of switches 6, 8 and 10 and each switch has 2 connected hosts. The QoS value obtained for both controllers is still in the ITU-T G.1010 standard 1010, delay less than 15 s in data, less than 150 ms in VoIP and less than 10 s in video.



Keyword : Software Defined Network, Openflow, Mininet, Ryu, POX.