

## ***ABSTRACT***

*In the world of computer networks, there is a concept of connectivity on each device. In traditional network types, to manage a device, configuration is done on each device and is not centralized. So that traditional network types have limitations in implementing cloud computing. Which has access anywhere so that more users/users to manage a device, which results in dynamic traffic changes. Therefore, Software Defined Network (SDN) emerged as a hope for the complexity of traditional networks. Can separate the control plane and data plane separately. So that it can configure devices centrally. To run an SDN network, an SDN Controller is needed, namely the POX Controller. Using Open virtual switch and open virtual network to ensure optimal network performance. This study focuses on analyzing network performance between openvswitch and open virtual network using the POX controller on cloud-SDN. The experimental scenario was carried out using mininet to build a network topology. The network topology used is a 3 switch topology, a 5 switch topology, and a 7 switch topology. The test results based on the Quality of service (QOS) parameters consist of throughput, packet loss, jitter, and delay. Open virtual network has better quality than open virtual switch. By getting throughput result of 37345.902 kbps, Packet loss 3.907%, Delay 1714.459 ms, and jitter 0.000531 ms..*

**Keywords:** *Cloud Computing, Software Defined Network, POX Controller, Open Virtual Switch, Open Virtual Network, Quality Of Services.*