

ABSTRACT

Technological developments, especially in computer networks, are part of the network architecture, which continues to increase with the development of the era. Software Define Network (SDN) is a new network concept where the control plane and data plane systems are created separately. There are many controllers in Software Define Network including RYU, POX, Opendaylight, ONOS, Maestro, Floodlight, NOX, Beacon, etc. Resource utilization is the use of measuring resources to determine stability. This study examines the performance of resource utilization controllers RYU, POX, Opendaylight, and ONOS in CPU and Memory parameters, in addition to CPU and Memory testing, also tests throughput, packet loss, and delay parameters. Each of the controllers has both advantages and disadvantages. Based on the test, the POX controller is better in throughput parameters than other controllers, but in packet loss parameters, and the ONOS delay controller is better than other controllers. In addition, the POX CPU controller testing is more stable during the testing process, but in testing the memory parameters the RYU controller has more stable results compared to other controllers.

Keywords — *Controller, Resource Utilization, SDN, QoS.*