ABSTRACT

The implementation of pure SDN is still not fully applied to the network due to budget constraints for new infrastructure devices that support SDN. Hybrid SDN is a combination of conventional routing with the use of SDN on the server. Beside that, load balancing technique is the answer to distribute the traffic load to several servers. This study aimed to determine Quality of Services of load balancing by using a round robin algorithm which was applied to hybrid SDN and pure SDN architectures. The measurement of network quality was done by sending request traffic in the form of TCP data with a load of 1.000, 3.000, and 5.000 connection requests. The analysis process was carried out by measuring the value of QoS parameters TIPHON's standard, namely throughput, delay, jitter, and packet loss. The results of this study indicated that the load balancing system could be implemented well on hybrid SDN and pure SDN architectures. This was shown by the results of the data on the hybrid SDN architecture with the parameter values: delay of 0.284 ms, packet loss of 0%, jitter of 0,00001253 ms and throughput of 1,782 Mbit/s. Meanwhile, the data results in pure SDN architecture shown that delay 0,283 ms, packet loss of 0%, jitter of 0,000006 ms, and throughput of 1,629 Mbit/s. This indicated that the QoS of hybrid SDN was better than pure SDN.

Keywords : Pure SDN, Hybrid SDN, Round Robin, QoS