ABSTRACT

This study aims to determine the performance of nginx load balancing using the least connection algorithm based on the TIPHON QoS parameters on a software defined network architecture. The test was carried out with 4 clients sending requests using HTTPERF simultaneously with the number of connections 500, 1000, 2000, 4000 and 8000 with a rate of 20. The results showed that the nginx load balancing system using the least connection was already installed and configured on a software defined network. Based on TIPHON standardization, the best QoS performance in the number of connections is 500 and 1000 with a throughput value of >2.1 Mbps, the delay obtained is <150 ms and the packet loss obtained is <3% including the "Very Good" category and the jitter value obtained >0 ms is included in the category "Good". The average response time for 500 connections is 0.00048. and 8000 connections of 0.01414 ms. The nginx load balancing system uses the least connection algorithm on a software defined network capable of receiving requests for up to 8000 connections with a rate of 20. However, the system cannot receive requests properly at a rate of 30 with a total of 5000 connections, it is shown that there is an error in the log pox controller with the result "No client for".

***Keywords:** load balancing, SDN, nginx, least connection*