ABSTRACT

The development of technology and the need for higher information affect the density that occurs in network traffic. The more users who make requests to a server, the density of traffic will increase. Conditions like this can cause the quality of a network to decline, this can be seen from the QOS parameter whose value will decrease.

One way to solve this problem is to do load balancing. Load balancing is the process of distributing loads on a network evenly. In this final project, a load balancing simulation will be carried out using the ant colony optimization algorithm and the least connection algorithm using the opendaylight controller and formulated on the Abilene topology with 16 hosts and 11 switches.

From the results of testing and analysis, it can be concluded that the performance of load balancing using the least connection algorithm is more effective than that of load balancing using the ant colony optimization algorithm. This is proven by the value of the effectiveness of the least connection algorithm greater than 1.5% for the throughput, 2% for the delay, and the value of the jitter is 0.005 millisecond or 1.1% smaller than the ant colony optimization algorithm. This is influenced by the fact that the ant colony optimization algorithm takes longer time to search for the best path with respect to the least connection algorithm..

Keyword : SDN, Load balancing, Ant Colony Optimization, Least Connection, Quality of Service