

ABSTRACT

Web server works by accepting requests from users who access the web page so that it will be processed and returned to the user in the form of a web page. The number of requests from users accessing the web page does not rule out the possibility of overload or overload on the server. This can make the performance of the web server interrupted and less efficient.

Load balancing is used to distribute workloads evenly to a group of servers. The use of load balancing in Software Defined Networks can simplify device management compared to conventional networks, because network control on SDN is centralized, so administrators on SDN networks can also quickly configure the network automatically and can also be written by themselves because the program does not depend on proprietary software or device. To overcome the problem of overload on the server, we can utilize load balancing by implementing an algorithm that can consider server specifications based on CPU, memory and disk. For this reason, this research applies a server weighting mechanism using a fuzzy algorithm on a load balancing system to distribute server workloads based on CPU, memory and disk variables.

In this study, it has been successful in implementing load balancing using fuzzy algorithms on SDN networks by dividing the server load based on the lowest resource. With an average CPU usage of 33.1% in the low category (low), the most memory usage was obtained by server 1 at 84.65% including the high category (high) and the average disk usage of 16.1% (very low). The greatest throughput in the load balancing process in 3 trials obtained 200 requests with a result of 1,836 mb /s.

Keywords: *web server, load balancing, fuzzy algorithms, software defined network.*