

ABSTRACT

Today's internet users are increasing along with the needs of the community. This increase resulted in high users and increased workload of a server. On the other hand, people want maximum access speed. Software Defined Network (SDN) is a new approach for designing, building and managing computer networks by separating control plane and data plane. The main concept of SDN is network centralization, where all settings are on the control plane. The most prominent protocol on SDN is OpenFlow. OpenFlow is a protocol / interface communication standard that resides between control and forwarding layer.

In this research used a Load Balancing technique to improve server performance. Load Balancing technique implemented is based on Weighted Round Robin algorithm with application of Load Balancing technique is expected client request can be distributed evenly to each server.

For this need to do a virtual network simulation based on SDN, using tool / application Mininet. The simulation is done by varying the number of clients, server number and server weight. By testing with Cpu Utilization parameter getting result of bigger amount of weight on server then more and more Cpu Utilization. Then on the test of Response Time get bigger result of big amount of weight on server then Response Time value bigger.

Keywords : *SDN, OpenFlow, Load Balancing, Mininet, Weighted Round Robin*