ABSTRACT

In the world of telecommunications, the development of information and communication technology is very fast and needed for the digital era today. Especially in communication networks that are expected to always be available so that services received by consumers have a high avaibility. Software Defined Network (SDN) is a paradigm that changes how to design, manage, and control the network. SDN makes a network can be programmed in accordance with existing needs. One of the protocols that supports SDN is OpenFlow. In the OpenFlow protocol, there is a control plane and a data plane. Control Plane serves as a network controller to be missed, Data Plane serves to send data packets to its destination. Inside the SDN there are several types of controllers used such as NOX, POX, MAESTRO, FLOODLIGHT, and OPENDAYLIGHT.

In this final project, we will design a system that has load balancing function using Round Robin and OPENDAYLIGHT method as SDN controller. In the implementation will be tested on a computer network with the number of servers as much as 3 units and the number of clients as many as 15 units. Each client makes a random connection by sending an Internet Control Message Protocol (ICMP) packet to the public IP address and the OPENDAYLIGHT controller to mapping the client against the server based on the round robin method. Then tested with some parameters such as response time, network convergence, overhead, and resource utilization, then we comparison how difference between before using load balancing and after using load balancing

Keywords: software defined network, openflow, Round Robin, OPENDAYLIGHT, load balancing.