ABSTRACT

Software-Defined Network (SDN) is an architecture for modern networks that is indispensable in meeting the needs for managing an increasingly large and complex device. In the network partitioning strategy, using the Master Controller and combined with the Slave Controller can be used for recovery. The Availability and Reliability is proposed to calculate the level of availability and reliability of each subnetwork, based on the load and considers the number of nodes and the link failure rate. With a controller that manages all data flow in a network, it can make data traffic more efficient, but with all services managed by a controller, it has a big weakness if the controller is off. High Availability (HA) systems are the solution. With High Availability Controllers divided into two, namely Primary and Secondary, when the Primary Controller dies, the Secondary Controller will respond and replace the work function of the Primary Controller.

We can create a High Availability system in various ways, but in this study, the system will use the Corosync Pacemaker method which aims to compare with the OSCP Clustering method that has been studied in previous studies. Corosync Pacemaker is a High Availability Proxy application that provides a ready-to-use controller feature that needs to be configured on a cluster system so that it can be connected to the controller that will be used.

From the results of testing and analysis, it can be concluded that the High Availability system with the OSCP Clustering method is more stable when there is a surge in hosts and switches compared to the Corosync Pacemaker method. OSCP Clustering is better to implement on a network because the required failover and failback times are relatively stable, and also the resulting QoS parameters have a very good index.

Keywords: Software-Defined Network (SDN), OSCP, High Availability, Corosync, Pacemaker, QoS