ABSTRACT

Cloud Computing is a technology that is very widespread and much talked about today, using Cloud Computing Software as a service allow users to access and use the software without having to have it directly. This is certainly save resources and hardware used greatly. Today the use of cloud computing has been implemented by many large companies in the world such as Google, HP, IBM and others. The increasing use of cloud computing as a Software as a service causes the reliability of a cloud computing server to handle the traffic an absolutely necessary. One way to overcome this is to establish a link interface bonding, bonding through this interface are not only able to cope with the reliability of a server, we can also add the Load Balancing feature is that allows us to share the load of a connection between the link with other links that connected.

There are several ways to create a bonding interface, some way is to use a Linux OS and using Mikrotik RouterBoard. Based on above, several tests will be performed measureing performance and analyze of the bonding interface using CentOS, Red Hat Enterprise Linux (RHEL) and also using Mikrotik RouterBoard in dealing with reliability and load balancing in case of a network of Cloud Computing

From the research that is done can be seen that the system of Bonding Interface using Mikrotik, CentOS and RHEL can meet the reliability with failover mechanisms, with downtime on Mikrotik to failover at 399.167 ms, with 142, 667 ms on CentOS and 140,167 ms on RHEL. At the Interface Bonding, an increase Quality of Service is obtained, ie the increase in the quality of throughput when using balance-rr mode either on Mikrotik and CentOS. In addition to throughput parameters, the measurement of Quality of Service parameters such as jitter and packetloss is not much different from the results of measurements of jitter and packetloss parameters when using the system without Bonding Interface. In this research result, the mode is best used for Bonding Interface is Balance-rr, it is characterized by the measurement parameters of Quality of Service is better than other modes.

Keywords: Cloud Computing, Bonding, CentOS, QoS, Mikrotik, SaaS, RHEL