ABSTRACT

The development of information technology and telecommunications are rapidly at his time, especially on improving the users of digital services such as Voice over Internet Protocol (VoIP). VoIP provides services such as Voice Call and Video Call. More and more users of the service, then the greater the workload is also from the server side and the possibility of overload is becoming increasingly high. If a voip server overloaded then happen blocking call, while on the other hand the operator wishes to provide services with a high- availability system. Therefore, the Load Balancing techniques into a solution for these problems. The concept of Load Balancing is a technique to distribute the traffic load on two or more servers in a balanced way. Through the implementation of load balancing, then the workload and the possibility of diminishing overloaded servers so that it can maintain high-availability on voip services.

On the research of this final assignment implements load balancing mechanism in voip services in order to build up a high-availability system. Network infrastructure built on cloud computing platforms openstack with the implementation of load balancing as a service in it, as well as voip server used is the asterisk. This study compares two system voip services i.e. a single server system and load balancing system, then a test parameter measurements will be done in the form of post dial delay, call blocking, CPU, RAM, and delay.

From the results of the measurements obtained from the comparison test parameter values of a single server system and load balancing system on server voip. Based on the test system load balancing scenario obtained average value post dial delay experienced a decrease of 69.9%, blocking call decreased by 100%, CPU and RAM increase and delay processing has decreased amounting to 32.4%. Load balancing systems as a service that is implemented in on voip services can improve the performance of the server so that it can support a high-availability system.

Keywords: *openstack, voip, asterisk, lbaas, load balancing, high-availability*