

## ABSTACT

Transferring large amounts of data in a fast time has become a necessity in the current era. File Transfer Protocol (FTP) is a service that is commonly used in transferring data. The increasing number of requests received from the client to the FTP server, makes the workload on the FTP server excessive, causing long delivery times and even overload. To avoid this, the FTP server requires a load balancing method.

Load balancing is a method that functions to share server workload to other servers that are in an idle condition. With load balancing, the traffic load will be charged to several connection lines. This will speed up the process of sending data for large amounts and can prevent excessive load on a server. Load balancing as a service is a cloud computing based infrastructure service that found on Openstack.

The implementation of LBaaSv2 octavia on the FTP server using openstack has been successfully implemented. From the test results, it is known that the load balancer system has better performance than a single FTP server for sending large amounts of files. This is indicated by the difference in the average value of the total time of 42.6 for 1 GB, 76.6 seconds for 3 GB and 119.8 seconds for 6 GB. The throughput parameter has a difference of 5.04 MB / s for 1 GB, 2.31 MB / s for 3 GB and 1.55 MB / s for 6 GB. Then based on the average results of CPU usage testing, load balancers also have better performance compared to a single FTP server with an average CPU usage of 14.16% for 100 MB, 25.38% for 200 MB, 30.82% for 500 MB, 34.63% for 1 GB, 44.75% for 3 GB and 60.63% for 6GB.

**Keywords :** *FTP, Load Balancing, Cloud Computing, Openstack*