**ABSTRACT** 

Website is an internet application service that is visited by a myriad of users.

A large number of simultaneous requests from users expecting high load server

resources. However, the website does not always meet a high traffic. Sometimes

the website meets more demand, but the website also often meets less demand.

These unconditional times could reduce the efficiency of a large number of server

resources.

This problem can be done by an auto-scaling system that dynamically and

automatically adjusts the computing resources. As the auto-scaling increases or

decreases computing resources of the servers, it is capable of reducing the hardware

costs as well. Openstack presents Senlin as a clustering service to run the auto-

scaling feature.

In this final project, an auto-scaling web server with Senlin service on

Openstack has been implemented. From the test results, it is known that the use of

the auto-scaling system is quite efficient and effective compared to the load-

balancer system. This is indicated by the high average throughput value of the auto-

scaling system of 26.52 MB/s, the average value of the total request loss of

0,0618%, and the average cpu-usage savings from the total test of 14.31%.

Meanwhile, in the response time parameter, the average value of the auto-scaling

system is slower than the load-balancer system, with the auto-scaling is 5.13 ms

and the load-balancer is 3.79 ms.

**Keywords:** auto-scaling, Openstack, Senlin

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