

## **ABSTRACT**

Cloud Computing Technology recently really become a trend in the world of information and communication technology industry. Many companies are beginning to utilize this opportunity by offering a wide range of services where both computing resources software, platform, or infrastructure is virtualized and accessed as a service on the internet. Besides commercialize these services, there are also several companies as operating system vendors that publish open source system and the common platform that can be used to explore this new technology, one of which is the Ubuntu Enterprise Cloud (UEC). With UEC, cloud infrastructure installation and configuration easier.

In this final project, the authors have implemented the UEC as a real or at least common form of the concept of Cloud Computing platform. Then, I will implement a server Asterisk Voice Over Internet Protocol (VoIP) which will be ran on the UEC with the aim to build a service Platform as a Service (PaaS), so the cloud infrastructure that has been created to provide a server platform VoIP service to customers.

Looking at the results of measurements can be concluded that the cloud controller memory usage is always higher when compared to the node controller, this is because the cloud controller consists of a set of components that cluster, walrus, and the storage controller. Only the cloud controller are affected by changes in background traffic, whereas only the node controller and the asterisk instance are affected by simultaneous calls. Asterisk on the specific instance c1.medium able to handle simultaneous calls to a maximum of 250cps. VoIP services are implemented on the system is feasible, but to meet one standard, namely packet loss <1%, then it is better if the background traffic maximum of <50Mbps.

**Keyword :** Cloud Computing, UEC (Ubuntu Enterprise Cloud), VoIP, PaaS