

ABSTRACT

Cloud computing in this era have become a trend in industry of information and communication technology. This technology can be used by the bussiness player that using the trend chance in this time by offering any kind of service by virtualizing the computation source included software, platform, even the infrastructure than can be accessed from the internet network. In addition by offering these service ,many of operating system companies or vendor publice the open source system or common platform that can be used to explore this technology. Ubuntu Enterprise Cloud (UEC) is one of them. In conclution by using UEC can make the instalation and configuration of the cloud will be easier.

Based on the description above, so this thesis was made by implementing UEC become an example of common platform in cloud computing concept. The implementation that will be done is building the Open Session Initiation Protocol Server (OpenSIPS) and Asterisk as the Voice over Internet Protocol (VoIP) server that will be run in the UEC. The purpose is to make a service of Platform as a Service (PaaS), so the infrastructure of the cloud can provide a platform service of VoIP server to the subscriber. The measured parameter included the memory ussage, CPU ussage, Post Dial Delay, and Quality of Service (delay, jitter, throughput, packet loss).

From the measuring result can be conclude that the memory ussage cloud controller usually higher compared with node controller this is because the cloud controller consist of a group of component such as cluster, walrus, and storage controller. The value of Post Dial Delay (PDD) in the system was affected by the delay process in the system. The biggest value of delay process held when the invite signal. In the signalling the value of delay process Asterisk instance is greater than the OpenSIPS instance. The VoIP service in Asterisk instance or OpenSIPS instance is worthy to be implemented in this system but to fulfill one of the standard, that is the packet loss $< 1\%$, so it will be better if the maximum background traffic is $< 60\text{Mbps}$.

Keywords : Cloud Computing, VoIP, UEC, Asterisk, OpenSIPS, PaaS, QoS