

ABSTRACT

Progressive development of network technology in the future appear with the name of Next Generation Network (NGN). One goal of NGN design, which can provide the network infrastructure that not only support for data and voice services, but the multimedia service and a third-party services. Appears of multimedia services resulting in the need to add new infrastructure. This raises idea the possibility to integrate Cloud Computing with one subsystem Next Generation Network (NGN).

Cloud Computing technology comes in three main advantages, namely the Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS). Form of service Infrastructure as a Service (IaaS) on Cloud Computing, which is to bring virtualization technology that can remove the dependence of physical virtualization, of course, this can create efficiencies in terms of cost and computing devices.

In this final task implemented the integration the one of subsystem NGN is IP Multimedia Subsystem (IMS) server with Cloud Computing using server Ubuntu Enterprise Cloud (UEC) in the form of service Infrastructure as a Service (IaaS) on Cloud Computing, by virtualizes IMS server. Software developers use OpenIMScore and IMS multimedia services to be tested is Video on Demand (VoD). Measured parameters include delay, jitter, throughput, and packet loss.

From testing and analysis when comparing OpenIMScore on Cloud Computing with virtualization and non virtual OpenIMScore have obtained the results that the maximum values for inter-arrival time delay is 26.327 ms and 27.071 ms of the measurement of virtual and non virtual server in the background traffic is 90 Mbps. The maximum value of packet loss is 10.76% and 8.89% of measuring virtual and non virtual server in the background traffic is 90 Mbps. The results obtained are still below the maximum limit of ITU-T standardized, then summed up this system can function well presented and virtualization service of Cloud Computing can be said approach the non-virtual server performance.

Keyword: Next Generation Network, IMS, OpenIMScore, Cloud Computing, VoD, Ubuntu Enterprise Cloud