

ABSTRACT

IP Multimedia Subsystem supports the integration of multimedia services that not only makes the service faster and easier but also utilizing the services provided through Internet technology. Video call is one form of communications technology that allows voice and video used Internet Protocol-based network to run the above package based network. The existence of a concept of virtualization make the infrastructure must also is flexible for ease in accessing server resources such as storage, software, and into a virtual processor and awarded for service in a network/internet. One of the technologies that offer such features is Cloud Computing. Cloud Computing Technology is a technology that leverages virtualization, so the user doesn't need to know the physical form of the existing infrastructure.

In this final Project will be implemented Video Call service based on IP Multimedia Subsystem on the OpenIMSCore server at Infrastructure As A Service in the Cloud Computing System using Proxmox VE as virtualization software. This implementation will be analyzed from the aspect of quality of service such as delay, jitter, and throughput. As well as the reliability of the system to handle thousands of calls coming into the server OpenIMSCore are memory Usage and CPU Usage.

From the results of measurements of parameters of quality of service, server OpenIMSCore without background traffic 0 Mbps has value one way delay and jitter of the smallest is 7.418232825 ms and jitter 0.000252546 ms and the magnitude of the CPU usage and memory usage of his respective are 3.06% and 407 MB. To value one way delay and jitter is greatest on the server with background traffic 80 Mbps are 84.71487893 ms and 0.018298202 ms with the CPU usage and memory usage 7.16% and 432 MB. The magnitude of the throughput is in the interval 0.11625 Mbps and 0.170925 Mbps. The test results obtained standard ITU-T defined and classified as the quality of service is excellent. Percentage of calls the greatest success i.e. 98.09% while the condition of the server with the load call traffic of 10000 calls/s. upon server instance has a value of 1CPUs 1GB specifications CPU usage and memory usage 37,795% and 626 MB.

Keywords : IMS, OpenIMSCore, Video Call, Quality of Service, Cloud Computing