

## ABSTRACT

Technological development, encouraging web technologies and the internet not only become information media, but it also becomes communications media are widely used. Technology WebRTC (Web Real Time Communication) is a technology that enables real-time communication using WebSockets protocol and a web browser as a client. WebRTC technology development must be supported by good network infrastructure, as bandwidth and system reliability in the services. In addition, the infrastructure must be flexible for ease of access to WebRTC server such deployment, maintenance, management, etc. One technology that offers such features is Cloud Computing.

In this final project is implemented in a server that supports WebRTC on Cloud Computing. Proxmox VE is used as a platform for building cloud computing infrastructure and Mobicents Application Server as a VoIP server that supports WeRTC. Quality of Service, CPU usage, memory usage, and system reliability in handling thousands of calls coming into the system become parameters that are used to look at the performance of Mobicents Application Server implemented on Cloud Computing infrastructure.

From the results of measurements of parameters the Quality of Service conducted, the condition of a server with background traffic 0 Mbps has the smallest value of one way delay and jitter with the value of one way delay 2.287200 ms and jitter 0.547817 ms. Whereas the server with background traffic conditions of 80 Mbps has the greatest value of one-way delay and jitter with the value one-way delay 11.541736 ms and jitter 1.115947 ms. The amount of throughput to be in the interval 1.605 Mbps and 1.730 Mbps. The test results obtained meet the standards set ITU-T and classified as excellent service quality. In testing the reliability of the system by emulate call, the percentage of calls that obtained the greatest success is 99.81%. This value is obtained when the servers with traffic load conditions dialing 2000 calls/s. In this condition, the value of CPU usage obtained 62.82% and the value of memory usage 410 MB with instance specification 2CPUs 1GB. Whereas the smallest percentage of successful calls received when the servers with traffic load conditions 8000 calls/s is 83.79%. In this condition, the instance has specifications 3CPUs 1GB with CPU usage value obtained is 67.15%, the value of memory usage is 890 MB and the value of swap memory is 37 MB.

**Keywords :** VoIP, WebRTC, WebSocket, Mobicents, Cloud Computing