

## ABSTRACT

*VoIP is a communications technology that uses the internet connection to make phone calls. Traditional VoIP sends voice data to multiple servers that have a different region. It poses a problem of increasing operational costs. This problem can be overcome by the Cloud Computing technology, which is this technology can replace physical server to a virtual server. By using Amazon EC2 service as a virtual server provider service, in this research is implemented and analyzed VoIP network by comparing SIP and IAX protocol using Asterisk server which has integrated cloud. Measuring the quality of service on the system using the method of calculation of Mean Opinion Score (MOS). In this study, it was concluded that the SIP protocol is better than 9.4% of IAX subjectively and IAX is better 0.01% of SIP objectively on VoIP networks that have used cloud-based servers. Both protocols are feasible to implement on VoIP networks that have been using cloud-based servers.*

**Keyword: VoIP, cloud computing, virtual server, MOS, Amazon EC2, SIP, IAX**