

## ABSTRACT

Necessaries of communication by user to increase that give profit for telecommunication companies in Indonesia. In the future, communication progress is to direct all technology base on IP (Internet Protocol) that aim in the direction of NGN (Next Generation Network). This technology is to make easy every user for telecommunication with recommendation quality and low price. *Video Conference* is one of features offered. Voice and video communications tried to be developed at data network. Characteristics of voice and video communications which must real time and reliable become a special question to data network. Do communications voice and video at backbone network for this graduated paper with network implementation this research still fulfill eligibility of quality able to be accepted?

In this graduated paper analyze quality of voice and video at backbone network (*PC Router simulation*) by observe the distortion of voice and video signal. *Delay factor, packet loss, jitter, throughput, and MOS* become analyzed parameter. So that eligibility of voice and video communications at data network can assess. To test parameters of video and voice quality, writer design an data network topology which consist peripheral of *Video Conference* network base on SIP (*Session Initiation Protocol*) using Asterisk Server and PC router as backbone network with design some examination scenario to get parameter values.

From result of analysis and examination say that the quality of video and voice at backbone network that simulated by writer no still competent and not qualified as according to ITU-T standard. Quality of which is obtained in applying of *Video Conference* over backbone network base on SIP especially *packet loss* is out limit recommendation. This matter can be seen with value of MOS which have been got from some experiment which have been done that is gyrating 2.2397 to 2.7151 where the value represent bad or not recommend value and bad quality. Especially for experiment at OSPFD routing protocol in third scenario, including worst category result of attempt show value of MOS 1.967762892.

Keywords: Video Conference, SIP, Backbone Network, Asterisk Server.