ABSTRACT

In STT Telkom there is a Local Area Network (LAN) that potentially can be used to increase the study activity, like Voice over Internet Protokol (VoIP) and Video Conference as multimedia services. Because of that we need to make a further research to realize the idea.

The final project are purpose to make implementation research of multimedia services in Local Area Network of STT Telkom.

This final project use SIP (Session Initiation Protocol) as the communication standard protocol. Building VoIP network using SIP much easier, easy to get the software, easy to be implemented, status of the production similar with commercial, and the software have an opensource license. SIP also easy to be upgraded, reliable with new feature to be added, and reliable with other service or application.

Also make comparison between codec, audio codec (GSM 06.10 and Speex UWB) and video codec (Ogg Theora ad H.264), so we can determine the suitable codec that can be implemented in the network. In this research will determine the value of the parameters that needed to know how good this codec in hand to fulfill the QoS (Quality of Service) parameters.

From the analysis the result that GSM 06.10 have a good delay (109 – 130 ms) and an acceptable jitter (20 – 50ms), Speex UWB have a good delay (46 – 68 ms) and an acceptable jitter (20 – 50 ms). In H.264 and Ogg Theora have a poor delay and jitter in low bandwidth.

Keyword : LAN, Audio Codec, Video Codec, and QoS.