

## ABSTRACT

The development rapidly of communication technology today influence and change the process of communication. Video conferencing is one of the method telecommunication and most interest for long distance telephony where a corporate (head office) which have many branches in desperate need of this media communication. Video conferencing is also a service that provides a facility to bring together two or more parties using the Internet network in which data is presented in the form of video and audio so can facilitate and bring people invarious places to hold a meeting without having to congregate at one location simultaneously.

In this thesis, the design and implementation of *video conference* based on IPBX for *private network* was conducted among IT Telkom D buildings with the user (using Speedy) are located in areas Sukabirus using VPN as its IP network. Measurement parameter values Quality of Service (QoS) is delay, jitter, throughput, and packet loss can be measured using wireshark software. In addition, measurements were taken using the Mean Opinion Score (MOS), in accordance with subjectively and objectively.

The results of this thesis in the form of information about the value of Quality of Service parameters and obtained the highest average delay of 26,237 ms (at 2 pm), the highest jitter 14 592 ms (at 2 pm), the throughput of 0118 bps (9 pm), and packet loss 18 237% (2 pm). The quality of the results performance appraisal as measured by MOS subjectively by spreading kuisoner of 30 correspondents found that the calculated overall average value of each aspect is 3.9 which means located between the criteria quite well and good (3.6 - 4.0). While MOS objectively by using the formula E-Model estimates obtained that the average R factor that is equal to 71.51 which means that the average value falls within the category quite well.

Key Words : *Video conference, IPBX, VPN, MOS.*