ABSTRACT

Audio/video technology now days grows rapidly. Three or four years ago, we communicated with telephone (voice), sms (sort message) or just email. But now we can enjoy not only audio communication but also video in real-time called video conference sistem. Beside, the grow of technology also give us Internet Protocol Television (IPTV) that make a Television Broadcast can be watched thru internet protocol (IP) based computer network.

Next, known an video conference system based on H.323 that is a recommendation from ITU-T in term of audio/video communication. One of important component from H.323 is Multi Point Control Unit (MCU) that make a communication between 2 people or more in a computer network is possible. One of MCU task is doing an audio/video processing and delivers the result from one to another end point. That's can cause a problems if audio/video quality that must be processed is high and number of people who join the conference is increasing.

In this Final Paper, we try to give a solution, try to implements a web based video conference over IPTV architecture. Different from H.323 system, in IPTV there are 3 important components that is Encoder, streaming server and player. Function MCU as audio/video processing is analog with Encoder that doing the same. For MCU function that deliver audio/video from one to another, is analog with streaming server that has the same task. Next, after the application is established, the measurement for network performance like delay, jitter, packet loss and throughput is proceed. Beside, measurement for audio/video quality with MPQM and MOS is held also.

After a series of experiment, the result is that FLV type one of media type that is meet the minimum requirement for video conference application. Besides, it delay is about 200 – 800 ms for uplink and downlink that is still in range of acceptable delay by ITU-T recommendation. For jitter, is about 2 – 25 ms, packet loss < 1 % and throughput is > 99 %. For audio/video quality, MPQM shows score 4 that mean good and for MOS, most of participants give score in range of 3-4 for video quality based on IPTV architecture.

Key word : Video Conference, IPTV, MCU, delay, jitter, packet loss and throughput