ABSTRACT

Increasing demand video communications in the future will be demanding network that can fulfill the request. This can be realized when the available capacity of bit rate is large enough with video quality is almost same as the original. To achieve this goal it needs the selection of video encoding that has the most efficient performance.

This is consistent with the coding techniques recommended by ITU-T currently is an advanced video coding (AVC) standard known as H.264 or MPEG 4 part 10 that has dominated the community of video coding standards in recent years. With H.264 encoding, low bit rate transmission can be fulfilled with the risk of a trade-off (loss of quality resulting video).

This final project aim is to observe the performance features in H.264 which is weighted prediction of Main profile H.264 on the LAN. The parameters measured to evaluate resulting video quality is PSNR, bitrate, mos and compression ratio, and network parameters like one way jitter and delay. Simulation of video delivery are conducted using codec weighted prediction on main profile, next data packet sent on the LAN by using the help of Network Simulator. The method used in this final project is a literature review, perform simulation and analysis.

The value of simulation results shows that use weighted prediction on main profile is better than without using weighted prediction on a video that has large file size and pixels, and have a lot of movement of both background and object. On the whole it can be concluded that a large influence on network performance is the frame rate of video and pixel size of the input video frame. Network performance when the simulation has a packet loss <5% or good condition has not much error. Weighted prediction work more effectively on the network that has a lot of errors so that the coding performance of H.264 is not too prominent. The best average value of PNSR Y on sending video over the LAN is by using weighted prediction P-explicit by 30.6 dB when compared to the other type of weighted prediction. The most decrease in average value of PNSR Y value on the video delivery process using weighted prediction P-explicit place on Seven AVI video format by 13.78 dB.

Key word : Weighted prediction, Main profile, LAN