

CHAPTER 5

Conclusion and Future Work

5.1 Conclusion

In this paper, we propose a hybrid design framework to improve the quality of video streaming. This framework consists of a MAC-centric cross-layer architecture to allow MAC-layer to retrieve video streaming packet information (slice type and transmission deadline), a retransmission mechanism of hybrid retransmission deadline and retry limit to save unnecessary packet waiting time, and a single-video multi-level queue to prioritize I/P/B slice (packet) delivery. Simulations show that the proposed methodology outperforms IEEE 802.11e in packet loss rate, invalid packet ratio, lost and invalid packet ratio, delay time, jitter, and PSNR.

5.2 Future work

In order to simplify complexity of our research, we use the length of GOP for retransmission interval of I frame. And we simply define that the order of compression is IPBBPBBPBB. We can use different orders of compression to calculate dynamic retransmission interval. And considering the size of buffer in the receiver gives sender more time to retransmit. In addition, we consider adjusting the encoded bit-rate dynamically for video streaming according to the state in wireless network, especially in mobile environment. Finally, we consider possibility of implement for WiMAX. Because WiMAX has rtPS

(real-time Polling Service) for video streaming, we can add three different multi-level queue or priority for I/P/B packet on the rtPS for WiMAX. This improves performance for video streaming in WiMAX. These need to be done in the future.