CHAPTER 6

Conclusions and Future Works

In this thesis, we have proposed a Markov Chain model which can be used to simulate MSH-DSCH transmission behavior in 802.16 mesh mode. This model considers the competing probability and back behavior of transmitting MSH-DSCH. It also helps us to realize the competing behavior more clearly. In the future, there will be more possibilities to design the WiMax mesh mode based on this model.

Based on this model, we derived a formula to evaluate an average delay time of MSH-DSCH transmission. Furthermore, this delay time may impact the starting time of a link connection. Thus the higher probability for transmitting scheduling information MSH-DSCH implies the higher chance or priority it will be to initialize a connection. More important, the processing time of the following three-way handshaking is also influenced by MSH-DSCH transmission delay. By this model, we separate out the factors that affect the delay time. These factors are possibly useful for future researches.

Our scheme also evaluates the success probability of MSH-DSCH transmission. That is useful for QoS negotiation and adaptation. A conclusion is obtained that the success probability is inversely proportionate to the number of nodes. We may get a threshold to guarantee the connection is more stable by applying this probability in the future.

Finally, we have a simulation. It appears that results calculated from our mathematic model closely resemble the results from simulation. In other words, the theoretical model fits the experimental data well.