

CHAPTER 5

Conclusions and Future Work

In this article, we propose a simple statistics way to estimate the current network bandwidth, and our solution can estimate the current remaining bandwidth not only in TDMA networks, but also in IEEE 802.11 networks. No matter what MAC protocol is, we can estimate the bandwidth easily and quickly. The simulation results in Chapter 4 illustrate that the statistical error rates of our path bandwidth calculation are an acceptable range. Then we combine our path bandwidth calculation and existing DSDV routing protocol to a new bandwidth routing algorithm. The average achieved throughput ratio also exceeds 85 percent or even higher. And we could combine our path bandwidth calculation easily to other bandwidth routing algorithms for QoS support. Our investigation is to provide an effective way to achieve QoS in wireless communication network which can support real-time multimedia transmission through wireless network in the near future.

A station with mobility may disassociate from the original neighbor and move to re-associate with a new one. The topologies of the nodes change dynamically because of the mobility of stations which leads to the frail connection. That is, the virtual connection could fail at any time due to movement of the intermediate stations and thus could result in unreliable service. However, in order to minimize the blocking rate, we should prepare some candidate paths at the same time while we build up the routing tables. Whenever the

node finds that the original path is unusable, it can switch to a standby path immediately.

The issue of station mobility is the future works to be continued. Based on our path bandwidth calculation scheme, we would analyze the influence of mobility upon our path bandwidth calculation. Predictably, the statistical error would be larger with mobility than static now. Then we could take call blocking and drop policy into consideration. Our traffic is set to be UDP traffic at present, and TCP traffic is another issue to be discussed in the future works. Finally we could implement the entire Call Admission Control Scheme we addressed to provide required quality on MAC to support QoS in multihop wireless networks.