ABSTRACT

Worldwide Interoperability for Microwave Access (WiMAX) is a Broadband Wireless Access technology which has high-speed access and wide coverage. One of the advantages of WiMAX compared to other BWA technologies is a guaranteed QoS for each packet sent. That requires a special schedule that regulates the allocation of bandwidth according to 5 classes in IEEE 802.16 QoS classification. However, there is currently no standard scheduling algorithm, and not all scheduling algorithms are suitable for WiMAX.

There are some scheduling algorithms for WiMAX which has been recommended, the final project will be conducted analysis of the algorithm Weighted Round Robin (WRR), Weighted Fair Queuing (WFQ), and Class Based Queuing (CBQ). The three scheduling algorithm is then simulated in the Network Simulator (NS 2.31) and then measured the value of delay, throughput, packet loss, and fairness index then do a comparison between the scheduling algorithm Weighted Round Robin (WRR), Weighted Fair Queuing (WFQ), and Class Based queuing (CBQ).

From the simulation results and analysis, obtained the following conclusions. WFQ algorithm is better in serving the demand for VoIP (RTP). WRR algorithm better serve demand connection-oriented such as HTTP and FTP (TCP). Overall, based on the analysis of packet delay, throughput, packet loss, and fairness resulting index shows that WFQ algorithm is better on fifth standardized QoS.

Key word: WiMAX, class of QoS, Scheduling Algorithm, WRR, WFQ, CBQ