ABSTRACT

The development of multimedia technology is not only affected to the heterogeneous services that can be served but also the mobility for the user to access. The multimedia services are voice, data, and also video. The mobility access for multimedia services that give the good Quality of Service (QoS) is answered by IEEE 802.16e standard that known as mobile WiMAX, as one solution for wireless multimedia access. To QoS optimalization the schedulling mechanism and queue mechanism are used on the network.

This final project will simulating the Priority Queueing (PQ) and Weighted Round Robin (WRR) as scheduling mechanism on WiMAX technology especially for video packet, by measuring the system QoS based on the ouput simulation using Network Simulator version 2 (NS-2). The parameter of QoS are throughput, delay, and packet loss and then compare which scheduling are better on passing the video traffic.

The result of this research shown are : first scenario, PQ scheduling with 5, 10, 15, 25 source shown that throughput 368.31Kbps, 1626.22Kbps, 367.76Kbps, 237.9385Kbps, packet loss 0%,0.26%, 20.16%, 34.45%, delay range 0.262849-3.35634s. WRR scheduling shown throughput 362.33Kbps-95.79Kbps, packet loss range 50.36%-73.87%, delay between 0.2685s-3.6017s. Non scheduling, throughput 362.8718Kbps-54.6051Kbps, packet loss range 1.31%-84.98%, delay between 0.0737s-1.383s Second scenario with varying the link capacity at 1Mbps, 3Mbps, and 5Mbps shown for PQ the point up from 609.802 Kbps to 1441.352 Kbps, packet loss down to 75.43% until 0.26%, the minimum delay at 1.051ms. For WRR the maximum throughput is 840.912Kbps, minimum packet loss 79.125%, and the maximum delay at 10.77s.

Key Words : WiMAX, QoS, PQ, WRR, Throughput, Delay, and Packet loss