

## ABSTRACT

Recently, WiMAX (Worldwide Interoperability for Microwave Access) has been claimed as the fastest wireless technology of broadband access provided at Wireless Metropolitan Local Networks (WMAN) area. The interest on Broadband Wireless Access (BWA) is increasing because of user mobility and demand of multimedia data access anytime. IEEE 802.16e based on WiMAX networking is able to provide better quality for mobile data service user. The main problem of 802.16e is that there are no specific definitions for packet scheduling and specific reference. Until now, this has been an open issue for researchers.

IEEE 802.16e standard includes specification for Medium Access Control (MAC) and Physical (PHY) layer designed to handle the needs of different applications with variety types of QoS criteria, which are Unsolicited Grant Service (UGS), Real-Time Polling Service (RTPS), Extended Real-Time Polling Service (eRTPS), Non-Real-Time Polling Service (nRTPS), and Best Effort (BE). This thesis proposed Modified WFQ which was based on *Weighted Round Robin* (WRR) and *Weighted Fair Queuing* (WFQ). The performance of MWFQ was assessed by using five QoS above.

**Key words:** Packet Scheduling, WRR, WFQ, MWFQ, and QoS.