

## **ABSTRACT**

*Mobile Wimax (Worldwide Interoperability for Microwave Access) is a technology Broadband Wireless Access that have standard IEEE 802.16e which desained to overcome the limitation of network wireline to fulfill requirement of service broadband access to user which high mobility accompanied. Excess Mobile Wimax compared to a previous generation technology is interoperability, security, availability, capability ( can give the service broadband), NLOS ( Non Line of of Sight), apart the wide range and mobility, hence Mobile Wimax do not less important also offer the Qos ( Quality Of Service).*

*In my final project, will be done a simulation and analyse the performansi of network of mobile wimax ( IEEE 802.16e) to change of speed user in accessing data services which modeled network using the software simulator that is NS-2 (Network Simulator 2). Assessment of network performance use the parameter of Quality of Service ( Qos) like throughput, delay, jitter, and packet loss. While speed which is tested in this final project user speed when 0 kmph, 5 kmph, 15 kmph, 30 kmph, 60 kmph, and 120 kmph.*

*Result of simulation obtained that the change of user speed in accessing data services have an effect on quality of data that accepted by user, in this case the quality of data accepted by user is become degradation along with increasing of user speed. That thing is proven by increasing assess the delay, jitter, and packet loss. And also progressively minimize assess the throughput along with increasing of user speed. From the analyse we can get that the data quality which accepted by user became distortion when user speed at 60 kmph, because the value of jitter and packet loss is over international standard that is jitter < 5ms, and packet loss < 5%.*

*Keyword : IEEE 802.16e, NS-2, user speed, Throughput, Delay, Jitter, Packet loss.*