

ABSTRACT

The development of current wireless technology based on the growing need for mobility of subscriber services. The need for this mobile is required to provide communication services that can be done anytime, and anywhere even while she was traveling with a certain speed. Worldwide interoperability Microwave Access (Wimax) is a wireless technology developed at the moment. WiMAX is a technology that promises wide coverage area with a high speed, but on the mobile WiMAX 802.16e standard that promises mobility does not necessarily result in a maximum video transmission.

In this final task had been simulated two scheme to approach and keep away the base station in WiMAX technology, especially to pass video packet by measuring the QoS (Quality of Service) system based on the results of simulation using Network simulator version 2 (NS-2). The parameters which had been analyzed to find out the performance of video streaming is packet loss, throughput, and delay and compare the best scheme to pass video traffic between them.

The simulation results which had been done in this study found : In scenario 1, the user movement approach and away from the base station with a non-dominant and dominant, the smallest throughput is 106.9117 Kbps, packet loss is the biggest 12.97452 %, and delay is the biggest 114.1678 ms. In scenario 2, the movement of the user who approach the base station with user speed of 3, 20, and 50 m/s, the throughput was down from 116.588 Kbps to 115.477 Kbps, packet loss was increased from 5.223242 % to 6.0759512 %, the delay increased from 123.7084 ms until 133.7338 ms. While moving away from the base station throughput decreased from 116.2292 Kbps to 114.8906 Kbps, packet loss was increased from 5.467892% to 6.556572%, the delay increased from 128.0432 ms to 133.8908 ms. In scenario 3, the movement of a user approach to the base station with the number of users 20, 40, and 60 users, the throughput dropped from 116.6952 Kbps to 87.8136 Kbps, packet loss was increased from 5.162078 % to 28.57902 %, delay increased from 118.6952 ms to 122,495 ms and for movement away from base station throughput decreased from 116.5752 Kbps to 87,197 Kbps, packet loss was increased from 5.186544 % to 29.6147 %, average delay increased from 121.5836 ms to 123.0444 ms.

Keywords : WiMAX (IEEE 802.16e), dan QoS