

ABSTRACT

WiMAX experience is one of many developments of WiMAX IEEE 802.16e was developed for mobile users are expected to provide solutions to the needs of broadband wireless access with high speed, large capacity and wide coverage area and to the need for wireless communications is increasing. Video Streaming is a service-based multimedia data (audio and video) are transmitted via wireline or wireless devices that can move. The basic idea of streaming video is divided into several parts of the video packets, transmitting the data packet, then the recipient (receiver) can play a snippet mendecode and video packets without waiting for the whole file is sent to the recipient's machine.

In this research, simulation and performance analysis of mobile wimax network (IEEE 802.16e) to changes in user speed (0 km / h, 3 km / h, 30 km / h, 60 km / h, 120 km / h, 130 km / h, 140 km / h and 150 km / h) in accessing the streaming video service with network modeling using the software simulator is NS-2 (Network Simulator 2). Assessment of network performance using the parameters of Quality of Service (QoS) such as throughput, one way delay, jitter and packet loss.

The simulation results obtained, the value of one way delay for the user to 0km/hour speed of 1.061ms, 2.146ms for 3km/hour, 30km/hour of 6.003ms, 60km/hour for 7.0016ms, 120 km / h at 7.788ms, 130km / hour of 8.895ms, 140km/hour for 10.125ms and 150km/hour for 10.564ms. Packet loss value for each speed change is 0km/hour at 0%, 3km/hour of 0243%, amounting to 0334% 30km/hour, 60km/hour amounted to 70 504%, 120 km / h at 0714%, 130km/hour amounted to 0885%, amounting to 1098% and 140km/hour 150km/hour of 1266%. Also obtained from the simulation of jitter for 0km/hour 0.013129ms, 3km/hour for 0.0136586ms, 30km/hour of 0.0138137 ms, 60km/hour of 0.014ms, 120 km/h for 0.0151ms, 130km/hour for 0.0152ms, 140km/h for 0.0154ms and 150km/hour for 0.0155ms. Throughput value of each user with the speed of 164.405kbps 0km/hour, 3km/hour for 149.4535kbps, 30km/hour for 109.707kbps, 60km/hour for 82.205kbps, 120 km / h for 46.9715kbps, 130km/hour amounted to 45 427 kbps, 140km/hour for 42.9875kbps and 150km/hour for 41.1185kbps.

Keyword: WiMAX, *video streaming*, *one way delay*, *jitter*, *throughput* , and *packet loss*