

ABSTRACT

Video streaming has been used for many necessities such as video conference and e-learning. Besides network telecommunication infrastructure has been used too as media access from user who access those video streaming, one of them is *mobile* WiMAX 802.16e. Because *mobile* WiMAX 802.16e has had accessibilities feature user on mobile state, then handover becomes a challenge while user is accessing video streaming on mobile. It definitely will affect QoS from quality service which received by user, because the characteristic of *mobile* WiMAX 802.16e in this case is BoD(*Bandwidth on Demand*).

This final project is analyzed quality service of video streaming called QoS (Quality of Service) which involves *jitter*, *delay*, *throughput*, and *packet loss* for mobile user and has certain speed on WiMAX 802.16e network. Working on this final project is done by help and software approach OPNET 14.5, in designing network, determining horizontal handover schema with its hard type handover, and obtaining data simulation. When user access video streaming, it will move from one BS(*Base Station*) to other BS to observe the effect of QoS toward user speed and composition of user amount that have role as background traffic increases to observe the effect of demand toward received QoS.

Based on result of simulation analysis is obtained that the implementation of video streaming is not recommended for speed up to 80 km/hour, because it has packet loss which is more than the established standard . In Scenario 1 (without background traffic) was obtained the best result with $8.13E-06$ s, *delay* 0.036112 s, *throughput* 3345510 bps, dan *packet loss* 16.42803%. In scenario 2 (with background traffic) was obtained the best result with *jitter* $6.89E-06$ s, *delay* 0.037609 s, *throughput* 3313562 bps, and *packet loss* 17.22612 %.

Key word : *Jitter, delay, throughput, packet loss, handover, video streaming, mobile WiMAX 802.16e*