

## ABSTRACT

Nowdays, The development of wireless communication technology increase quickly. The variety of wireless technology is able to communicate not only for voice, but also for video and data with high mobility. The variety of wireless technology such as WLAN with IEEE 802.11 wich has its small area. we need access to technology that is able to handle areas that are not covered by the WLAN

To handle the limitations of the WLAN then used the Worldwide Interoperability for Microwave Access (WiMAX) and IEEE 802.16e standard. The interconnection network using the mechanism of Vertical Handover (VHO). VHO mechanism of this synergy is expected between the WLAN and WiMAX technologies so that multimedia communication is more easily done but still meet the QoS standards ada. In this Final Project,there are four scenarios include the mobile node to access the video streaming without displacement, the mobile node moves without handover, the mobile node moves with the handover and the addition of background traffic. Simulations were performed using the software Network Simulator version 2 (NS2). Observations were QoS (Quality of Service), which include delay, throughput and packet loss.

From the test results and analysis obtained on a stationary mobile node scenario obtained delay on WLAN and WiMAX is not too different from the 1.6743ms and 1.0087ms, for the scenario of the mobile node to the displacement obtained at extreme speed WLAN packet loss amounted to 5.0258%, while WiMax 2287%. whereas for the scenario involving the handover was found that, at extreme speed of 100 km / h packet loss from WLAN to WiMAX by 20.81% while the packet loss from WiMAX to WLAN for 27,029%

Keyword: Vertikal handover, WLAN, WiMAX