

ABSTRACT

FTTH (Fiber To The Home) is a telecommunication network that can transmit information at speeds of 19Mbps-1GBps with wide *bandwidth*. FTTH is able to provide Triple Play services in one infrastructure to users. On the other, to support high mobility in mobile telecommunication network services, one of wireless technologies that is Worldwide Interoperability for Microwave Access (WiMAX) is the right solution as it has the potential to bring broadband internet access with millions of people good for users who use fixed antennas As well as for frequent moving places. For that, FTTH network is integrated with WiMAX in order to serve the users.

FTTH network is equipped with active devices OLT and ONU and passive devices such as passive splitter, fiber optic cable and rosette. WiMAX networks are equipped with RedMAX AN-100U and RedMAX SU-O.

The integration between FTTH and WiMAX networks can provide Triple Play services to users. The test results show that VoIP service has *delay* value, *packet loss* and *throughput* that is 0,0199883045 ms, 0%, and 86 Kbps. For video services have the value of *delay*, *packet loss* and *throughput* of 0.094554723 ms, 1.25%, and 772 Kbps. For data services have the value of *delay* , *packet loss* and *throughput* are 0.070114661 ms, 0 %, and 13,4 Kbps

Key Words : FTTH, WiMAX, Triple Play Services, Delay, Packet loss, Throughput