

Abstract

Nowadays, with the development of technology growing fast, WiMax which based on data transfer by packet and has connectionless nature, WiMax technology is considered by scientist as successor of CDMA, GSM and 3G.

Mobile WiMax is a standard wireless technology IEEE 802.16e which support services with mobility. Mobile WiMax has added value such as wide bandwidth, wide area coverage, which support service in Non Line of Sight condition.

Compared with other wireless technology WiMax is proven to be advantageous because WiMax has various Quality of Service (QoS) dependent of user need at the moment, which is called Bandwidth on Demand (BoD), some QoS feature is in adjustment with application type of WiMax services.

This research will simulate mobile Wimax network performance while passing packet. Reference parameters are delay, throughput, packetloss, and jitter.

Performed simulation including giving a traffic noise or traffic background which are HTTP and FTP whereas assuming user quantity is fixed. Second simulation is performed by giving fixed traffic noise or traffic background, users quantity while doing streaming process are assumed fixed while moving.

From simulation result it can be concluded that QoS which are delay, jitter, throughput and packetloss which are still variative. This happen because of WiMax module on the Network Simulator-2(NS-2) which is made by NIST(National Institute of Standard and Technology) does not support ARQ (Automatic Repeat Request) whereas ARQ is a frame resend mechanism found on Layer 2 which activate after four times of error. If ARQ is supported by WiMax module, then on a bad channel condition, Delay will be increased due to frame resend

Key word: Mobile WiMax, Mobilitas, QoS, ARQ.