ABSTRACT

Long Term Evolution (LTE) is a fourth generation which is known by 3GPP for increasing technology from previously technology. LTE be expected can anticipate high traffic needs problem in big city, give high quality services for user, and lower operational cost for operator. But growth of traffics using is not accompanied by increasing big network capacity and radio channel is limited. One strategy to anticipate channel limitation in the future is offloading scheme with IEEE 802.11ah. 802.11ah is WLAN that will be used for 5th generation with frequency band sub-1 GHz that have energy efficiency mechanism and have coverage area until 1000 meter.

In this final task discussed about analysis and simulation planning LTE network for South Jakarta area with software Atoll. Analysis and simulation will be shown by Network Simulation 3 (NS3). This simulation can show the QoS parameter which is throughput and packet loss from mobile user. This Final Task use two scenario which is different the number of capacity in eNodeB and different velocity of user. Network performance will calculate before and after the offload process to knowing the effect of the offload process.

From the simulation result, we can conclude that network performance after offloading is better than before offload process, based on capacity of eNB even for throughput and packet loss value. The value of performance getting better when user offloading to WiFi than if user stay in LTE.

Keyword : *Long Term Evolutin (LTE), Offloading, QoS, Planning, 802.11ah*