ABSTRACT

The development of Wireless technology always increasing. One of new mobile technology is being developed by 3GPP is Long Term Evolution (LTE). LTE technology ussualy used by user because of high data rate transfer speed. Because of much trafic sending over LTE, trafic diversion is needed to increasing the value of QoS from a network. Diversion solution can be done with offloading data method from LTE network to 802.11ah access point or from 802.11ah access point to LTE network. Using the IEEE 802.11ah standard expected will minimize data trafic which cant be served, because IEEE 802.11ah have 1000 meters coverage area and mechanism of efficiency energy. Some related research has proven that trafic diversion with offloading method can increasing the availibility of network.

In this final project, will be held 2 data trafic offload scenario. First scenario is based on increasing number of node. Second scenario is based on increasing speed of each node. Both scenario test will be done with focusing on network peformance, such as SNR, throughtput, delay, jitter, packet delivery ratio and energy consumption. Network peformance will calculate before and after the offload process to knowing the effect of the offload process. The simulation will simulated using NS-3 (Network Simulator-3).

From the simuation result, we can conclude that network peformance after offloading is better before offload process, based on throughput and SNR for each scenario. But in scenario with increasing number of node and scenario based on increasing the speed of each node shows that the offload based on throughput value have better result than using SNR threshold as comparison.

Keyword: LTE, WLAN 802.11ah, Offloading Data Traffic, QoS