

ABSTRACT

The growth of mobile network data service users growing rapidly resulting in increased traffic load. In order for the traffic load remains stable and performance of network capacity increased, can use the technique traffic offload / data offload. Traffic offload / data offload is the use of complementary network technologies to provide data access for mobile subscribers.

In this research, analysis and simulation of traffic offload data from LTE network to WLAN 802.11n network using three scenarios. Scenario 1 is modeling WLAN 802.11n network cell were within the scope of LTE network cell, scenario 2 is modeling cell WLAN 802.11n network overlaps with the scope of LTE network cell, and scenario 3 is modeling cell WLAN 802.11n network were outside the scope of LTE network cell. The analysis was performed by observing the parameter Received Signal Strength (RSRP and RSL), LTE user, Offload user, Drop user, Cell Capacity and Throughput.

Results from the research scenario 1 obtained as many as 613 the number of LTE user, offload user as many as 18 users, Wi-Fi user as many as 18 users, and drop user as many as 104 of the total 735 users. With LTE average capacity per user increased by 6.38% (0.113425 Mbps) and the LTE system capacity increased by 3.34% (69.52943Mbps). Results from the research scenario 2 obtained as many as 620 the number of LTE user, offload user as many as 11 users, Wi-Fi user as many as 19 users, and user drop decreased by 8 users to 96 users of a total of 735 users. With LTE average capacity per user increased by 3.8% (0.110679 Mbps) and the LTE system capacity increased by 1.99% (68.6208 Mbps). Result from the research scenario 3 obtained LTE user number as many as 631 users, offload user as many as 0 user, Wi-Fi user as many as 13 users, and user drop decreased by 13 users to 91 users from a total of 735 users. With the average capacity per user LTE is not increasing (0.106622 Mbps) and the LTE system capacity is not increased (67.2786 Mbps) with maximum user offload for scenarios 1, 2 and 3 as many as 27 users.

Keywords: 4G (LTE), 802.11n WLAN, Traffic Offload, Data Offload.