

ABSTRACT

Long Term Evolution (LTE) is technology based on Internet Protocol (IP) that supports packet data transfer with a high rate. This technology will be able to meet the communications needs of data *users* will continue to increase in recent years, in example is video streaming. This technology has two methods, the TDD (Time Division *Duplex*) and FDD(Frequency Division *Duplex*).To undergo activities and exercises, the *user* moves a place to use means of transport with varying speeds so that performance of video streaming when the *user* moves decreased because frequency shift that described the influence of the doppler effect. Obviously the video streaming service *user* needs more support to meet their communication needs in the era of LTE .

In this final project, had been simulated performance of video streaming service due respect to throughput, delay, packet loss and interarrival jitter with varying *user* speeds movement and the user using LTE-Sim software. Then be analyzed values of the various aspects of service performance obtained from the simulation. From the analysis we got the right mode LTE technology to be applied from various *user* speeds and the user that more support performance of video streaming services.

In this study the results obtained for the scenario of streaming video services on the network and the LTE TDD mode FDD mode with the number of *users* 10-40 *users* at a speed of movement of the *user's* 0-120 km / h. TDD mode provides a very satisfactory performance of all the variations of speed of movement of the *user* and the *user* than the TDD mode. At 120 Km/h speed and number of *users* 40 *users*, the delay of the TDD mode is 19.9 ms, 0.29% PLR, throughput of 422.9 kbps and 0.95ms inter arrival jitter. For FDD mode the 70.2 ms delay, the PLR reaches 53.63%, 179.68 kbps throughput and 3.34 ms inter arrival jitter.

*Keyword : Long Term Evolution (LTE), Time Division Duplex (TDD),
Frequency Division Duplex (FDD), throughput, delay, packet loss,
inter arrival jitter.*