

## ABSTRAC

LTE (Long Term Evolution) is a 4G technology which is in the developmental period. In its development we need to know the integrity of LTE networks in providing reliable service of the mobility when service users, so we need to discuss the handover process that occurs in LTE, where this handover process will determine the ability of communication networks in maintaining the communication link is going.

Problems arise when we talk handover is how the data transfer process occurs in LTE. X2 is an interface that must be passed when the process of transferring data of time of handover between two eNodeB adjacentpieces in LTE. The capabilities of interface X2 also makes effect to maximization of the function on handover process, so it is necessary to analyze the function of interface X2 when handover happen between eNodeB in LTE.

From the result of simulations in this thesis can be seen that LTE quaranteeing occurence of handover via interface X2 with high-speed users are more than 30 km/hour. With the use of the X2 interface, the time required to perform handoverseen from the simulation result with TTT = 0,034 ms, HOM = 2,209 dB and TTD = 0,165 m at a speed of 200 km/hour and angle of direction of movement of user  $0^0$  and  $60^0$ . Meanwhile, when not through the X2 interface, the time required for the handover process is much longer, seen from the simulation result TTD = 0,430 ms at a speed of 200 km/hour and angle of direction of movement of user  $0^0$  and  $60^0$ . In addition, the faster movement of user (above 30 km/hour) the less time (less than 0,2 ms) required to perform the handover because the user through the are or areas slice cell handovers.

Keywords: Interface X2, TTD, TTT, TP and HOM