

## ABSTRACT

Requirement of human being to communication will claim the technology to develop the flexible communications system, moving free, and have high technology. Hence, according to the human being demand, a new technology is developed that is *Wideband Code Division Multiple Access* (WCDMA). High mobility and immeasurable traffic intensity causing probably there are some functional developing and implementation of *Intersystem Handover* WCDMA to GSM.

PT. Telkomsel as one well-known operator in Indonesia has not quite good to handle this *Intersystem Handover*'s problems yet. How to decide the best configuration for couple parameters that strongly connected to *Intersystem Handover* in order to ensure best services to the customers.

Through simulation results, PT. Telkomsel existing parameter configuration for triggering *Intersystem Handover* with  $T_{2D} = -95$  dbm,  $T_{3A\text{GSM}} = -100$  dBm, GSM Threshold =  $-75$  dbm shows large dropping probability for user movement towards border of 3G cells. The value are 0.06 when user at  $v=40$  km/hour; 0.2 when user at  $v=50$  km/hour; 0.3 when user at  $v=60$  km/hour; 0.5 when user at  $v=70$  km/hour; 0.5 when user at  $v=80$  km/hour; 0.53 when user at  $v=90$  km/hour; 0,56 when user at  $v=100$  km/hour. After several optimization made for ISHO parameter that is  $T_{2D} = -75$  dbm,  $T_{3A\text{GSM}} = -80$  dBm, GSM Threshold =  $-83$  to  $85$  dbm give a better result of dropping probability that is 0.2 when user at  $v=50$  km/hour; 0.15 when user at  $v=60$  km/hour; 0.09 when user at  $v=70$  km/hour; 0.08 when user at  $v=80$  km/hour; 0.07 when user at  $v=90$  km/hour; 0,07 when user at  $v=100$  km/hour.

**Keywords :** *Intersystem Handover, UMTS, GSM, T2d, T3A GSM, GSM Threshold, Probabilitas Dropping.*