

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.*