

ABSTRACT

Human need for communication demanding the technology to develop a communication system that is flexible, can move freely, and technologically. The impact of user mobility resulted in the diversion channel (handover) from a Base Station to a new Base Station. The existence of such handovers are not expected to cause the termination of ongoing services so there is no dropping in the network.

One type of handover that occurs in WiMAX-UMTS systems are inter-system handovers (ISHO). Inter-system handover occurs between cells that have two radio access technologies (Radio Access Technology: RAT) are different. One example for this type of handover is inter-system handover to UMTS Wimax can be positioned as a solution to meet the needs of high bandwidth in dense urban areas.

This type of handover that occurs in the case of WiMAX to UMTS is Intersystem handover. Intersystem handover is an important aspect in this development that need to be addressed and thoroughly examined to ensure a relationship that has existed continuously between WiMAX with UMTS. So that the gradual development of WiMAX can be done.

The final results of the simulation measurements Received Signal Strength on a user is performing the analysis of simulation results to obtain optimal network and can interconnect with both inter-WIMAX and UMTS in order to support the development of WiMAX. From the simulation results of the analysis obtained best results when the parameter value $RSL_{min} (WIMAX) = -77 \text{ dBm}$, $RSCP_{min} (UMTS) = -87 \text{ dBm}$, $HOM = 2 \text{ dB}$ and $TTT = 2 \text{ ms}$ with Dropping Probability $3\text{km/h} = 0.005$, $10 \text{ km/h} = 0.0035$, $30\text{km/h} = 0.05$, $60\text{km/h} = 0.06$. and $90\text{km/h} = 0.07$

Keywords: *Inter-System Handover, WiMAX, UMTS*