

ABSTRACT

The technology of telecommunication have been developed rapidly. One of this development is Code Division Multiple Access (CDMA) 2000 1-X based technology. Its business market also growing. The increasing of the capacity must walk hand in hand with the development of quality, that is why the periodically optimization process is needed to sustain network performance. Telkom flexi as one of the CDMA 2000 1-X operator must guarantee the whole network quality in its range. BTS, as the interface between MS and BSC, is an important factor for the optimization process.

This final project performs the optimization by analyzing case study of BSC inter handover from BSC2 to BSC4 at Divre III West Java Telkom Flexi. Its goal is to increase handover performance respect to the quality of radio environment and traffic. The parameters for analyzing include E_c/I_o , MRP, MTP, FFER, active PN, search window, and neighborlist priority. Data collecting is done by drivetest using TEMS Investigation software. Those data is processed by post processing tools Actix Analyzer. Data collecting is also done by OMC observing. Using OMC System Maintenance software, the analyzing is performed for data and parameter value turning used for priority neighborlist and search window.

From drivetest and OMC observing, we can find that the quality of radio environment and traffic for BSC border area is still at the low level of KPI (Key Performance Indicator) standard. The output of analyzing process also shows the antenna misconfiguration and misdifining for BSS parameters (neighborlist priority and search window), so the optimization for antenna configuration and BSS parameter is performed. Problems that occur are antenna over horizon range and mistakes in defining neighborlist priority that cause the bad coverage problem and failure in interBSC handover.

Optimization affects on increasing radio environment quality : E_c/I_o increase from -13 until -15 dB to be -5 until -10 dB, MRP increase from -85 until -95 dBm to be -70 until -80 dBm, MTP decrease from 10 until 0 dBm to be 0 until -10 dBm, FFER decrease from 5 until 10% to be 0 until 3% . Besides, traffic data shows that success ration for interBSC SHO (soft handoff) is also increase from 96,6 until 97,4% to be 98,1 until 98,9%. All of them fulfill KPI standard defined by Telkom Flexi.