ABSTRACT

Mobility on nowadays communication has become major part of life. Nowadays, access of user for data services on using such internet applications has no limitation to access the information, especially after the appearance of CDMA 1x EV-DO technology which has reach bit rate level on 2.4 Mbps (downstream), its ability has over the data rate of early CDMA generations.

On mobile communications, groups of customers divided into several cells, which make its capable broader coverage area, in where the handoff systems hold the major role to adjust the systems performance (connection continuity) where more well-known as soft-handoff. For CDMA 200 1x in where most handoff of voice services not excactly felt by human ears, while in CDMA 1x EV-DO (which is overall date communication), weak relativelly to temporaray cut-off. Based on these facts, it is needed to be done such a furthwer experiments on its performance on implementation, whether it is sensitive towards the cut-off caused by delay happens on the handoff process.

These final project has been done such an experiments on handoff process at the field (in 4 BTS at Bandung area) with several scenario, such as handoff experiments from CDMA 2000 1x to 1x EV-DO and vice versa. In 1x EVDO has been done intersector experiments intra BTS and inter BTS intra BSC at active state and dormant state conditions. Besides that it also done an experiment to analyze the round trip delay of user terminal to PSDN using ICMP. As a complete way, also given a performance review of received signal level variations, also done an experiment to test a drive test on a street around 4 BTS while doing mobile data communications using a vehicle.

The experiments results, shows that the handoff process for all scenario could performs well, except from 2000 1x to EV-DO on AT active state condition where handoff process could not be done, its only could be at dormant state. For round trip delay in range 111 until 114 ms are grouped as normal boundaries. For drive-test results, based on two parameters, which is SINR and the number of active set, there is no under standard areas are found.