

## ABSTRACT

The newest trend in telecommunication today are migration from wireline to wireless, from narrow band to broad band, and migration to Next Generation Network (NGN) that is migration from circuit switch network to packet switch network. NGN must be able to manage and carry many kind of traffic appropriate with the user that will always increase. The complete concept of NGN also included the technology that will be impossible to ignored that is wireless technology, for fix equipment, slow moving equipment, and even fast moving equipment, with every data rate that needed. Technology convergent and migration to Packet Switch Based Next Generation Network (NGN) made 3G cellular network change to packet based transport usage trough a migration step from voice delivery trough dedicated switch trunk to voice delivery trough packet network core. Softswitch is a NGN technology in a form of packet data that can integrate both data and voice service and can fulfill the customer need in the future. Beside of giving a big contribution for VoIP, internet and multimedia Softswitch also can interconnect with wireless network.

This final assignment discuss Softswitch based network designing on wireless CDMA core network in MEA Bandung. The design is done in two steps, the first step is wireless Softswitch designing and the second step is IMS designing. From the wireless Softswitch design, can be known that the number of Gateway MSC needed is one and Media Gateway needed are two. Link bandwidth capacity for every Media Gateway to IP Network is 262.400 Kbps. While for signaling bandwidth between Media Gateway and Gateway MSC is 1.774,752 Kbps. In this design also needed one Signaling Gateway in order to make wireless Softswitch able to interworking with PSTN network. In IMS design, can be obtained that link bandwidth capacity from PDSN to internet is 7.211.366,4 Kbps and link bandwidth capacity from PDSN to IMS is 5.459.752.440 Kbps. Whereas link bandwidth from IMS to IP network for VoIP service is 11.776 Kbps and from IMS to video server is 1.715.008,28 Kbps. While signaling bandwidth capacity from IMS to Gateway MSC is 138,84 Kbps and from IMS to video server is 547,2 Kbps