

## ABSTRACT

UMTS technology will be implemented in Indonesia as 3<sup>th</sup> generation of cellular communication technology. Before UMTS, Indonesia has implemented GSM an 2<sup>nd</sup> generation technology. To implement UMTS that is evolution of GSM in Indonesia will not be done without consider GSM technology that has been implemented. For that reason, GSM existing network must be studied and then a good planning must be done includes access network and core network of UMTS.

In this Final Task, will be studied about UMTS core network planning in Jakarta for PT. Telkomsel. This planning comprises packet switched and circuit switched core network. In the process of composing this Final Task for core network planning, the real datas from network existing include number of population, subscribers, traffic, etc was collected for dimensioning. Beside of that, request for proposal (RFP) from PT. Telkomsel is used for UMTS core network planning.

This research study about steps of UMTS core network planning. The planning includes network element dimensioning and network interface dimensioning. From the result of planning, network elements of UMTS core network that will be implemented is 6 MSSs and 6 MGWs for circuit switched, 3 SGSNs and a GGSN for packet switched. The traffic that generated by PT. Telkomsel in Jakarta subscribers is low.

This Final Task results a detail planning about implementation of UMTS network at PT. Telkomsel Jakarta. It can be a guidance for implementing UMTS in Indonesia.