

## **ABSTRACT**

The CDMA technology is growing up every year where PT. Telkom uses the technology of CDMA 20001X for TELKOMFlexi service. At the present, the technology which exists for voice and signaling network is based on circuit switch network. Because of the exponentially increase of costumers and today's communication trend which is migration from circuit switch network to packet switch network that is known as Next Generation Network (NGN), it needs migration to the NGN including for signaling network segment. So for the signaling network CDMA PT. Telkom at Network Switching Subsystem (NSS) that use the SS7 signaling will be through by IP network.

For that reason, to realize the migration, a technology that has the functions of SS7 over IP is needed. SIGTRAN is a unit protocol that is designed to do the transport function for the message based SS7 through the packet network based IP.

Within this Final Project, author creates the network design using SIGTRAN protocol. The design includes configuration design and dimensioning for the network plan in Network Switching Subsystem (NSS) of CDMA network PT. Telkom for national scale (included whole district of Indonesia).

From the output of the designing and planning, it is needed 8 signaling gateway (4 pairs) to service the Indonesia area that is divided into 4 area services. The signaling gateway capacity that is needed to take the existing load traffic signaling SS7 is between 6300 – 12000 MSU/second with the transfer load is 2 – 5,3 Mbps

Hopefully, if this design is implemented, it can increase the efficiency and the effectiveness of the network than before.