

## ABSTRACT

The growing of wireless technology at present is quickly as far as information requirement that more increase. This matter is caused some factor, such as ability of mobile communication, the increasing of reliability system, privacy of information, development cost is cheaper than wireline, and high service existence that not limited by time and place thus the consumer can communicate whenever and everywhere.

*Code Division Multiple Access* (CDMA) is the one of wireless technology application which have many advantages such as the above. The CDMA system developed in Indonesia based on CDMA2000 which is the last generation of CDMAone. The new method applied on CDMA system in Indonesia is Removable User Identity Module (RUIM) card application for authentication and supported flexibility. On the GSM technology, it application introduced with Subscriber Identity Module (SIM) card.

Authentication refers to the process by which the base station confirms the identity of the mobile station. Share Secret Data (SSD) is use as an information for authentication. Both RUIM and network have Electronic Serial Number (ESN), 64-bit authentication key (A-key) and random number for authentication calculation. The algorithm which use in authentication calculation is Cellular Authentication and Voice Encryption (CAVE).

In this final project will discuss about RUIM performance with the network based on information exchanges on CDMA channels between base station and mobile station, or vice versa. The method, the parameters for authentication and RUIM configuration and operation will be discussed too with a visualisation. From this project, it hopes become a study to increase especially for data transmission security on CDMA2000 system.