

## ABSTRACT

Enhanced Data rates for GSM Evolution (EDGE) representing one of standard for wireless data which implemented at GSM/GPRS network and represent continuation step in evolution to mobile multimedia communication. EDGE represent last evolution of GSM technology to UMTS/UTRAN (UMTS terrestrial of radio of access Network). Integration EDGE system into GSM/GPRS network causes the transition in GSM/GPRS network architecture, such as radio access channel allocation for EDGE, addition of new devices and capacities of interface.

This final project discusses EDGE network planning and dimensioning in Bandung area by optimizing Indosat existing GSM/GPRS network. This project uses GSM/GPRS network infrastructure and traffic data from Indosat Bandung and also data of EDGE peripheral from Nokia. This research was focused in dimensioning of EDGE network elements through calculation and simulation process based on source data, system limitation, and specification of used peripheral.

This research resulting number of fixed allocation channel, on demand allocation channel, PCU, NUC, Gb Interface, and also number of GSN needed to achieve EDGE system performance until 2008. EDGE network performance looked from throughput and delay value. To complete this research, there is also calculation software simulation to support EDGE network dimensioning using visual basic 6.0. by these research results, We hope this final project would be used as reference for Indosat to integrate EDGE service.