

ABSTRACT

Enhanced Data rates For GSM Evolution (EDGE) is one of standards for wireless data communication which is implemented to GSM cellular network and as further step in the evolution to mobile multimedia communication. EDGE is the last evolution of the GSM cellular system technology to UMTS/UTRAN (UMTS Terrestrial Radio Access Network) with the rate of data packet 473,6 kbps.

This final assignment will present an analytical model to compare the performance of channel sharing in supporting voice and data transmission by circuit switched and packet switched in GSM/EDGE network. Assignment will research three kinds of channel sharing on uplink and downlink direction, they are : Partial Sharing Schemes, Complete Partitioning serta Complete Sharing Schemes.

The comparison of channel Sharing shows the differences network performance which is looked from the average packet delay, blocking probability of packet data and voice, and also the effect of voice call load in the network.

The result of research gives recommendation of offered traffic maximum that can be served 1,2673 Erlang for network with total channel (N) = 8 and the voice call load 80%. But, because of voice blocking probability is high in the network, an adjustment upon traffic potential and optimum performance per channel is recommended.

STTTTELKOM