

ABSTRACT

GPRS is a radio data packet of communication system service, which based on packet switched frame. GPRS used physical channel in GSM network. In GPRS system additional nodes are needed to integrated in to GSM network. Those nodes are Serving GPRS Support Node (SGSN) and Gateway GPRS Support Node (GGSN).

This final project discuss about the mathematic model to analyze packet delay across GSM/GPRS network. The research method used exploration method. The obtained data is secunder data which is that has been observe by other person, and then is going to processed with M/M/n/n queue for voice service and M/M/n/K for data service (GPRS). Some fundamental problems that being studied are voice blocking probability and average packet delay for complete partitioning, partial sharing scheme and complete sharing scheme by using queueing system above.

The final result of this final project is to see the effect of packet delay across GSM/GPRS and the effect of minimum of channel reserved for data in partial sharing, the effect of voice load, also to see GPRS system performance at GSM/GPRS if seen from traffic analyze that covered : voice blocking probability, average packet delay and arrival rate for data packet and also to see the comparison packet delay to different channel sharing scheme.