RESEARCH ON SIGNALING ACTIVITY AND LOCATION UPGRADE PERFORMANCE FOR GPRS SYSTEM

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i

ABSTRACT

The General Packet Radio Service (GPRS) is a non-voice service that allows information to be sent and received across a wireless network. It supplements today's circuit switched data and short message service offered by GSM network. GPRS is the packet-oriented extension of GSM that involves overlaying a packet based air interface on existing circuit switched GSM network. In GPRS the information is split into separate but related "packet" before being transmitted and reassembled at the receiving end, thus an idle user will be always online within the coverage area. Location updating and signaling activities are a part of network management to evaluate performance for GPRS.

In this project location updating and signaling activities had been studied and analyzed. A simulation tool using **MATLAB** based on cellular 49 cells for 7 clusters had been developed. Various factors affect the signaling activity and location update such as mobile speed, cell radius and traffic parameters had been considered. Initial simulation results shows location update counts and signaling activity count. From the simulation results, graphs had been plots to analyze and study GPRS system performance.

TABLE OF CONTENT

CHAPTER 1 :   INTRODUCTION

CHAPTER 2 :   LITERATURE STUDY

CHAPTER 1

INTRODUCTION

1.1 Objective

Generally the objective of this project is to study the signaling activity and location updated management to increase unwired mobility system efficiency for next generations. Following on this signaling activity and location update study, the aim in this project is to propose more effective scheme in update management for mobile user today, which is attempt to minimize the wasted radio source in GPRS network.

1.2 Introduction

The General Packet Radio Service (GPRS) is a wireless data service provided over the GSM network. The network management allows both types of traffic (GSM circuit-switched and GPRS packet-switched) dynamically sharing the same radio resources. General Packet Radio Service is a step between GSM and 3G cellular networks. GPRS offers faster data transmission via a GSM network within a range 9.6Kbits to 115Kbits. Figure 1.2 shows the evolution in data service until now.

1