

INTER-SYSTEM HANDOFF MANAGEMENT IN MOBILE CELLULAR NETWORKS

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ABSTRACT

This paper presents a handoff technique or handoff management which supports the mobility between dissimilar networks or service providers especially in Global System of Communication Mobile (GSM) technology. The boundary cell of cellular network system is also designed by using MATLAB R2009a software. A simulation model developed to study the performance of the relative signal strength with hysteresis and threshold (RSS-HT) algorithm between mobile and radio tower in cellular network. The theoretical analysis and simulation result are studied to evaluate the handoff parameters and signal strength of mobility.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Next generation wireless communication is based on a global system of fixed and wireless mobile services [1]. There have several heterogeneous communication networks such as cellular networks, satellite networks, wireless local area networks (WLAN), mobile ad hoc networks (MANET) and sensor networks. Cellular network system remains as best and popular wireless access technologies in communication field nowadays and it has moved with evolution technologies begin from 1G, 2G has improved by Group Special Mobile (GSM) technology, 2.5G (GPRS, EDGE) and followed by 3G (UMTS, IMT-2000) in order to provide heterogeneous services for users to roam across various regions, networks and systems.

Handoff (also known as handover) acts as allows call in progress to the mobile station (MS) when it moves between different service areas. It also serves to minimize the handoff delay when MS across between boundary cells and accommodate MS roaming continuously between dissimilar networks [2]. Handoff management is the one of the main important features in mobile cellular network in order to ensure the connectivity between MS continuous and effectively.