

UNIVERSITI TEKNOLOGI MARA

**PERFORMANCE EVALUATION AND
IDENTIFICATION OF DROP CALL
PROBABILITY BY USING TRAFFIC
PARAMETER**

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ABSTRACT

There are different performance determinant have been practiced in cellular network and drop call is one of the most important for those. With the rapid increase of users in Malaysia, it becomes very important that the Quality of Service (QoS) been highlighted by network operators with a view of improving it. The dropped call phenomenon is one of the most important elements of QoS in a large range wll-known cellular network has been analyzed. From measured traffic parameter data, we obtained the result. By using statistical evaluation of measured data taken from a real network, network operators are allowed to optimize system performance and also improving the quality of service.

TABLE OF CONTENTS

	Page
Supervisor's Declaration	i
Declaration	ii
Acknowledgement	iii
Abstract	iv
Table of Contents	v
Table of Figure	vii
CHAPTER 1: INTRODUCTION	1
1.1 Thesis Background	1
1.2 Problem Statement	3
1.3 Objective	3
1.4 Scope and Limitation	3
1.5 Thesis Organization	4
CHAPTER 2: LITERATURE REVIEW	6
CHAPTER 3: THEORY OVERVIEW	8
3.1 Cellular Network	8
3.2 NEMO	11
3.2.1 NEMO Outdoor	11
3.2.2 NEMO Analyzer	13
3.3 Traffic Parameter	15

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

Rapid development in modern cellular network operator has contributed to the increase service which needed in identify Quality of Service (QoS) guarantee. As many as analysis performance has been produced on various network operators using different method and performance metrics: drop call probability [1, 2], call setup [3], and traffic congestion [4, 5]. Drop call is one of the key performance indicators (KPI) used by different mobile phone service operators for measuring quality of service (QoS) [2]. It is one of the essential parameter of the quality of service. It normally refers to the phenomenon of call dropping in both data network and voice. Drop call has been the focus of several network performance studies and a major provider to service optimization in recognized cellular networks. Besides that, from the drop call research can permit the network operator to optimize system presentation improving the offered QoS. Call dropping is caused by required of accessible radio channels which in turn may be caused by propagation factors such as path loss, shadowing, distance losses, multipath fading and RF interference [6,7]. Service prioritization and handover also can be factors that contributed to the drop call.

In mobile cellular communication systems handoff is an essential component. Moving object can related with this handover which is particular user will change its serving base station during communication. Handoff also can rate the Quality of Service in system communication. As we know, handoff divided into three categories which are hard handoff, soft and softer handoff. However, in this research more focus on soft handoff.