

UNIVERSITI TEKNOLOGI MARA

**PERFORMANCE EVALUATION OF
AODV, DSR AND OLSR ROUTING PROTOCOLS
IN WEB APPLICATION TRAFFICS**

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Abstract

As MANET are becoming an increasingly emerging technology taking a centre stage in exciting research areas which has concerned many research attentions in communication systems. A Mobile Ad-hoc Network (MANET) is an infrastructure less network consisting of self-configuring mobile nodes connected by wireless links. Mobile Ad-hoc Networks (MANETs) are a part of the fourth generation networks vision. They are new wireless networks having transient mobile nodes with no need for a pre-installed infrastructure. They are of utmost interest for the future networks owing to their flexibility, effortlessness of deployment and related low cost. Simulation results are provided for web application traffic scenarios for cases where wireless networks in infrastructure mode are employed, however the possibilities of using ad-hoc networks and performance evaluation of web application traffic scenarios with ad hoc networks are not considered. This paper presents an evaluation of the performances for wireless ad-hoc networks routing protocols employed in typical web application traffic environment by using the OPNET modeler. Numerical simulation results, discussions and comparisons are provided. A wireless network in infrastructure mode as well as Ad-hoc networks such as MANETs is the great platform to optimize infrastructure in typical web application traffic classroom network. The performance issues are considered together with scalability concern.

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TABLE OF CONTENTS

Abstract.....	iii
Acknowledgement.....	iv
TABLE OF CONTENT.....	v
LIST OF TABLES.....	x
LIST OF FIGURES.....	xii
LIST ABBREVIATIONS AND GLOSSARY.....	v
INTRODUCTION.....	1
1.0 Introduction.....	1
1.1 Problem Statement.....	3
1.2 Research Question.....	4
1.3 Objective.....	4
1.4 Scope.....	4
1.5 Thesis Outline.....	5
LITERATURE REVIEW.....	7
2.0 Introduction.....	7
2.1 Background.....	7

CHAPTER 1

INTRODUCTION

1.0 Introduction

Mobile Ad-hoc Network (MANET) is a wireless system that comprises mobile nodes. It is usually referred to a decentralized autonomous system. Nodes are the systems or devices i.e. mobile phone, laptop, personal digital assistance, MP3 player and personal computer that are participating in the network and are mobile. In the world of rapid technological changes commercial companies as well as researchers still try to increase the mobility of the users as much as possible. The use of wireless local area networks (WLAN) in common areas such as airports, domestic areas, and especially universities where it is extensively used for education purposes is increasing [1],[2].

MANET is a self configuring wireless network where nodes dynamically perform mobility related to wire line network. MANET doesn't contain fixed network topology since nodes are in true mobility irrespective of the direction which generates great complexity in routing traffic from source to destination. There are different categories of MANET routing protocols [3], e.g. proactive, reactive, flow-oriented, adaptive, hybrid, hierarchical, geographical, power-aware, multicast, and many other routing protocols. Each category contains different routing protocols developed according to some specific domain requirements. Mostly, proactive and reactive protocols are of high importance due to their algorithm implementation and applications support.