PERFORMANCE EVALUATION OF AODV, DSR AND DYMO ROUTING PROTOCOL USING NS2

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ABSTRACT

A mobile ad-hoc network (MANET) is a kind of wireless ad-hoc network, and is a self-configuring network of mobile routers connected by wireless. MANET may operate in a standalone fashion, or may be connected to the larger Internet. Many routing protocols developed for MANETs over the past few years. This project was evaluate three of MANET routing protocols which are Ad-hoc On-demand Distance Vector (AODV), Dynamic Source Routing (DSR) and Dynamic MANET On-demand routing protocol (DYMO) to make better understand the major characteristics of the three routing protocols. Different performance aspects were investigated in this project including, packet delivery ratio, routing overhead, throughput and average end to end delay. This project was use Linux as a operating system based platform and using a discrete event simulator NS2 as a simulation software to compare three MANET routing protocol. The NS2 is written in C++ and an Object oriented version of Tcl called OTCL. This project simulation results indicated that all routing protocols perform well according to performance metrics that be selected. For packet delivery ratio metric, performance of AODV, DSR and DYMO routing protocols quite similar between each others. DSR perform low and stable normalized routing overhead than AODV and DYMO for normalized routing overhead metric. Besides that, DYMO routing protocol perform well than AODV and DSR routing protocol in term of throughput. Finally, for average end to end delay, DYMO and AODV perform well than DSR.

TABLE OF CONTENT

CONTENT	PAGE
APRROVAL	i
DECLARATION	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	ix
LIST OF FIGURES	ix
LIST OF ABBREVIATION	xiv
CHAPTER 1: INTRODUCTION	
1.1 Background Of The Problem	1
1.2 Problem Statement	2
1.3 Objective Of The Project	2
1.4 Scope And Limitations	3
1.5 Significant Of Project	3
1.6 Organization Of Report	4
CHAPTER 2: LITERATURE REVIEW	
2.1 Introduction	5
2.2 Definitions Of Pertinent Technology Terminologies	6
2.2.1 Mobile Ad Hoc Network (MANET)	6
2.2.2 Routing	7
2.2.3 Protocol	7
2.2.4 MANET Routing Group	7
2.2.5 Operating System	7

2.2.6 Computer Network 8
2.2.7 Simulation 8
2.3 Network Simulation NS2 Overview 9
2.3.1 History of Network Simulation 9
2.3.2 What is Network Simulation NS2 9
2.4 Performance Evaluation of AODV, DSR and DYMO Routing Protocol Using NS2 overview 10
2.4.1 What is Ad Hoc On Demand Distance Vector Routing Protocol (AODV) 10
2.4.2 What is Dynamic Source Routing Protocol (DSR) 11
2.4.3 What is Dynamic On-Demand MANET Routing Protocol (DYMO) 12
2.4.4 What Kind of Performance That Researcher Evaluates 13
2.4.4[a] Packet Delivery Ratio 13
2.4.4[b] Normalized Routing Overhead 13
2.4.4[c] Throughput 14
2.4.4[d] Average End to End Delay 14
2.5 Brief Description of All Known Similar and Relevant Ongoing Project 15
2.5.1 Performance Analysis of MANET Routing Protocols In The Presence of Self-Similar Traffic 15
2.5.2 Performance Analysis and Comparison of Ad Hoc Routing Protocol 16
2.5.3 Performance Analysis of Ad Hoc Network Routing Protocol 17
2.5.4 Performance Comparison of MANET Routing Protocols In Different Network Sizes 19
2.6 Conclusion 20