

UNIVERSITI TEKNOLOGI MARA

**SIMUALATION DEVELOPMENT OF AODV, DSR,
AND DSDV USING NS2**

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ABSTRACT

Mobile ad hoc network (MANET) is a challenging network in which communication between mobile node and Mobile Ad Hoc network (MANET) are connected dynamically and arbitrarily located in such a way that the interconnections between nodes are capable of changing on a continual basis like IETF scenario which is unpredictable and difficult to analyze the performance of its routing protocols and application. There are many network simulators that could be applied such as GlomoSim, NS-2, OPNET, QualNet, and NCTUns. In this study, the performance of routing protocols over MANET for AODV, DSDV, and DSR is presented by network simulator NS-allinone-2.31 which presented critical analysis for routing protocols AODV, DSDV, and DSR measured by PDF (Packet Delivery Fraction), PDR (Packet Delivery Ratio), Packet loss, End-to-End Delay, throughput. The result show that performance of routing protocols when mobile node speed changes as well as when number of node start from 15 to 100 nodes during entire scenarios for node speeds from in a range of 10, 20,30,40,50 m/s . the best performance for AODV routing protocols over PDF, PDR, Packet loss, and Throughput were noted and the worst performance was DSDV routing protocols in these parameters but for end-to-end delay best performance was DSDV routing protocols as well as the worst performance for AODV routing protocols.

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Introduction

1.1. Ad hoc network

In last two decades, the ad hoc network became more important especially in business and housing as the size of information becomes smaller in processing for instance in laptop, packet PC and in mobile phone. These devices necessitate the exchange of data in the form video, document etc [1]. However, the cost of mobile is expected be very low and easy to deployment owing to this reason, the ad hoc network are preferred for network distributed. In ad hoc network there is no infrastructure to connection to together even to construct network as a result it connection are linked by hops for instance to allows the mobile nodes to connect to another mobile node [2].

An ad hoc network is faction of mobile nodes consisting of two mobile nodes or more than so, the ad hoc network is an energetic independent network without main center access point to share point and stay available to other nodes. It has multi hop packet with low cost and are easier to deployment especially in one coverage area [3], when all nodes in ad hoc network will be part in process of forwarding the packet in a way that any nodes sends information to another nodes by sending routing table to specific node. Inside this routing table, some information about this node, the neighbor and information about Routing etc in wireless communication have many transmission rates using 802.22a, 802.11b, 802.11g draft [4].