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A COMPREHENSIVE STUDY OF VARIOUS ON DEMAND ROUTING PROTOCOLS IN MANETS

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ABSTRACT

In MANETs (or Mobile Ad-hoc Networks), mobile devices undergo dynamically varying network topology. AODV, DSR and AOMDV ad- hoc routing protocols use single route reply along reverse path. Rapid change of topology causes the route reply to the source node to fail i.e. after a source node sends several route request messages; the node obtains a reply message, especially on high speed mobility. This increases communication delay and power consumption as well as decreases the packet delivery ratio. In this paper an attempt has been made to compare the performance of three prominent on demand reactive routing protocols for MANETs i.e. Ad-hoc On Demand Distance Vector (AODV), Dynamic Source Routing (DSR) protocol and Ad-hoc On-demand Multipath Distance Vector (AOMDV) routing protocol. The performance of these routing protocols is analyzed on various performance metrics and are simulated using NS-2 Network Simulator.

KEYWORDS: MANETs, Routing Protocols, AODV, DSR and AOMDV