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IJCA Special Issue on Wireless Communication and Mobile Networks

wcmn - Number 1

Year of Publication: 2012

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{bibtex}wcmn1011.bib{/bibtex}

Abstract

Mobile ad hoc networks are generally assumed to be equipped with omni directional antennas. However, it may be possible to improve the network performance by using directional antennas. Complexities of routing among the nodes are increasing due to the highly dynamic nature of the mobile ad hoc network results in frequent change in network topology. The routing protocols are faced with the challenge of producing multi-hop routing under host mobility and bandwidth constraint. To find out whether directional antennas are beneficial to ad hoc networks, it is

mandatory to evaluate the effects of directional antennas on performance of routing protocols. In this paper, analysis and comparisons of various routing protocols such as: Ad hoc On Demand Distance Vectoring Routing Protocol (AODV), Dynamic Source Routing (DSR) and Dynamic MANET On demand Routing (DYMO) have done. We have determined the average end to end delay, average jitter and throughput for omni- directional as well as directional antenna based routing protocols in MANETs. Random waypoint mobility is used in this simulation.

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Index Terms

Computer Science Wireless Communication and Mobile Networks

Keywords

Directional antenna Mobile Ad hoc Networks (MANETs) AODV DSR DYMO Node Mobility and Node Density