Abstract

A mobile ad hoc network is a collection of wireless nodes that have a dynamic topology and rely on batteries for their operation. Routing in these ad hoc networks is highly complex as there is no central coordinator in contrast to cellular networks. Many routing protocols have been developed for mobile ad hoc networks. Since nodes in an ad hoc network are powered by battery which is limited, there is a need for energy efficient routing protocols to optimize the performance of the network. In this paper we have proposed a new energy efficient dynamic route discovery (EEDRD) protocol which increases the lifespan of the network by efficiently minimizing the routing overhead and managing the power consumed by the nodes in the network. The performance of the proposed protocol is compared with dynamic route discovery (DRD) protocol-a variant of existing energy efficient min-max battery cost routing (MMBCR) protocol. From the simulation results it is observed that the proposed protocol gives increased network lifetime, better throughput performance and packet delivery ratio, less delay and routing overhead as compared to MMBCR and DRD protocols.

References

**Index Terms**

Computer Science Mobile Networks

**Keywords**

Battery power management MMBCR protocol DRD protocol Network lifetime QoS parameters Routing Overhead