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An Efficient Routing Algorithm

G. V. Prakash kumar

Abstract - It has been observed from literature that the Ad hoc networks are non-infrastructure networks consisting of mobile nodes. Battery power being limited, extending the lifetime of batteries is an important issue, especially for Mobile Ad Hoc Networks (MANETs). To reduce the energy consumption in mobile devices, there have been efforts in physical and data link layers as well as in the network layer related to the routing protocol. Mobile ad hoc network (MANET) is an autonomous system of mobile nodes connected by wireless links. Each node operates not only as an end system, but also as a router to forward packets. The nodes are free to move about and organize themselves into a network. These nodes change position frequently. The power-aware routing protocols should consider energy consumption from the view points of both, the network and the node level. From the network point of view, the best route is one that minimizes the total transmission power. On the other hand, from the viewpoint of a node, it is one that avoids the nodes with lower power. Minimizing the total energy consumption tends to favour minimum hop(min-hop) routes. Our proposed a novel on demand power aware routing algorithm, DEEAR (distributed energy efficient AODV Routing) protocol. By using DEEAR also improves network throughput as well as improvement in data packet delivery ratio.