A Reactive Energy-Alert Algorithm for MANET and Its Impact on Node Energy Consumption

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Abstract

Mobile Ad-hoc networks (MANETs) are self organized networks whose nodes are free to move randomly while being able to communicate with each other without the help of an existing network infrastructure. In MANET, the routing protocols have to route the packets depending on the MANET constraints such as battery power in addition to the shortest path. The limited battery supply to mobile node in MANET requires that the routing protocols utilize power efficiently and thus maximize the network life time. The energy aware deterioration in ad hoc networks is a very important aspect of the overall management of ad hoc networks. In this paper, the focus is on the reactive power-alert technique for communication between ad hoc network nodes by continuously alerting their energy status to neighbor nodes. Here the concentration is on reducing the energy consumption by proposing optimal path selection method. In this scheme a threshold value is set on the energy consumed by mobile nodes in ad-hoc network. If the energy level of any node/s in the network reaches a threshold level then such nodes are made inactive and inform other nodes not to establish connections with it in this sleep state. In this paper, experimental results and a comparative analysis are presented based on the use of this threshold. The result shows significant improvement in the throughput
and routing load which in turn increases the lifetime of the network.

References

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Keywords

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