An Optimized Energy Aware Routing (OEAR) Scheme for Mobile Ad Hoc Networks using Variable Transmission Range

Abstract

Mobile Ad hoc Networks (MANETs) are energy constrained since nodes operate with limited battery energy. This not only leads to degradation in performance of the network but also reduces the lifetime of the network and in some cases makes the network partitioned. In order to maximize the lifetime of MANETs, routes having nodes with low energy and nodes with more buffered packets should be avoided. In this paper, a new energy efficient scheme has been proposed which takes into consideration the above mentioned characteristics of nodes. Energy consumption is further optimized by using variable transmission range. Common transmission range is used in existing popular routing protocols like AODV and DSR. Simulations are done in Network Simulator-2. It is shown that the algorithm improves the network energy consumption and increases the lifetime of the network.

References

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