Abstract

In Wireless network, whenever a data is transferred from source to destination, shortest path algorithms are always preferred to minimize delay. As node failures are common in battery operated wireless devices, retransmission has to be carried out when node failure occurs which leads to higher delay and lesser network lifetime. Several algorithms were already proposed to minimize the delay and to maximize the network lifetime. The recently proposed work Reliable Minimum Energy Cost Routing (RMECR) and Reliable Minimum Energy Routing (RMER) considers energy efficiency, reliability and prolonged network lifetime. Here, the energy consumed by each node in the network and the remaining battery energy of the nodes as well as quality of links is considered. This helps in finding an energy-efficient and reliable route that increase the operational lifetime of the network. The generic routing algorithm is implemented to find the residual energy of the nodes and then Dijkstra’s algorithm is used to find the shortest path. In this work, Modified Reliable Minimum Energy Cost Routing (MRMMECR) is newly proposed where Multipath routing technique is used in which total end-to-end delay is calculated and performance metrics are studied.
References


Index Terms

Computer Science

Networks
Minimization of E2E Delay in Wireless ADHOC Networks based on Residual Energy of Nodes

Keywords

Hop-by-hop(HBH) and End-2-end(E2E) retransmission, Energy efficiency, Acknowledgement(ACK) packets, wireless Adhoc networks, Multipath routing