Abstract

In Wireless Sensor Networks the nodes have limited energy and are seriously constrained by the battery life. To increase the lifetime of the network is a critical and challenging issue and thus it is the routing in WSNs, which is the primary focus of design for researchers. In this paper the Elitist genetic algorithm and simulated annealing algorithms are combined to find an optimal energy efficient route for the sensor nodes towards the sink node to prolong the network lifetime. The objective function of the proposed method considers not only the distance of the nodes from the sink but also the lifetime of the network as a function of the maximum energy dissipated by a node in the route. It is evident from the simulation results that the performance of the new scheme is improved further over the existing routing protocols.

References


Index Terms

Computer Science         Wireless Networks

Keywords

wireless sensor network  network lifetime  energy efficient  genetic algorithm
simulated annealing