Abstract

In Wireless Sensor Network (WSN), energy optimization is an important factor to increase the lifetime of the network. Existing approaches mainly discuss on routing data towards the sink and
also do concentrate on static wireless sensor network. As these approaches consume more energy, this paper introduces Mobile Adaptive Distributed Clustering Algorithm (MADCA) that can minimize the energy consumption and also support mobile nodes. This algorithm achieves energy optimization by clustering the nodes, based on similarity of data. Also the nodes which have low data sending rate are allotted a sleep duty cycle for some period. In order to support mobile nodes, the clusters are rebuilt according to the clustering period. Thus it reduces the burden of sink and improves the lifetime of the network. This scenario is simulated using Network Simulator NS2 and performance is analyzed. Simulation results show that MADCA is efficient in terms of control overhead, average end-to-end delay, average packet delivery ratio and energy consumption when compared to a recently proposed approach based on clustering.

Reference


Index Terms

Computer Science Wireless Communication
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