Abstract

Wireless sensor network consisting of various tiny wireless sensor nodes that are equipped with transmission devices that require some amount of energy to transmit the data to other node(s). Most often the battery of sensor nodes cannot be charged or changed during transmission. To preserve the longevity of the network it is very challenging task to build a sensor node that require very little amount of energy for data transmission. Lifetime of wireless sensor network is directly proportional to the energy source of wireless sensor node. It is proved that 70% of energy consumption is caused during data transmission process [1]. In order to maximize the network lifetime we need to optimize data transmission process. An energy efficient routing algorithm may result in better network lifetime. This is the reason why routing techniques in wireless sensor network focus mainly on the accomplishment of power conservation. Most of the recent researches have shown various algorithms mainly designed to minimize energy consumption in sensor networks. Each routing mechanism has its advantages and disadvantages over energy efficiency. There is no single, best routing protocol that is suitable for all applications. Routing mechanism might differ depending on the application, network architecture and topologies. Routing algorithms/techniques have been classified in a number of
Energy Efficient Hierarchical Routing Protocol (EEHRP) for Wireless Sensor Network

ways by various researchers. There is no general classification is available till today. Some researchers [2, 3, 4, and 5] have classified routing algorithms into three broad categories Data-centric Routing Protocols, Hierarchical Routing Protocols and Location-based Routing Protocols. In this paper an energy efficient hierarchical routing algorithm is being proposed. Using simulation a basic idea is also given in this paper that shows how hierarchical routing mechanism is better than non hierarchical mechanism.

References

Index Terms

Computer Science

Wireless

Keywords

Base station (sink)  Clustering  Energy efficiency  Routing Protocols  CH (Cluster Head)
Wireless Sensor Network