Abstract

Energy consumption is the most important issue in wireless sensor networks. In wireless sensor network, node is battery driven so when the data is transferred or received by node energy is consumed and lifetime of node gets decreased. So in order to increase the network lifetime, we propose an energy efficient routing protocol for wireless sensor network for randomly deployed sensor nodes. The basic purpose of the project is to develop a new routing protocol for the Wireless sensor network (WSN) under hierarchical approach. A sensor network is composed of a large number of sensor nodes which consist of sensing power, computation and communication capabilities. The major entities in WSN are sensing node, base station, and end user. Clustering is used as key techniques in energy efficient routing protocol. Genetic algorithm is used for selection of cluster head. In this protocol multi hop communication is used between the cluster heads and cluster head to base station. For cluster head selection, each node calculates its fitness function which is based on distance, energy and probability and uses distribution function for crossover. MATLAB is used for the simulation. The routing protocol produces optimal cluster heads for wireless sensor network for the communication which results in nodes alive for the long time a comparison of algorithm with benchmark algorithms is also
performed. Simulation results shows that propose algorithm increases the network lifetime

References

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Index Terms

Computer Science

Wireless

Keywords

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