Abstract

The Wireless Sensor Network (WSN) is the collection of large no of low-cost micro-sensors which are used to collect and send various kinds of messages. Energy is the most important aspect of the WSNs because it determines the aliveness of wireless sensor node. Each sensor node sense knowledge and transmit it to its cluster head. Cluster head combination knowledge from its cluster and transmit the collected knowledge to the base station. Several energy economical gradable routing protocols are enforced within the past like LEACH, HEED, PEGASIS and TBC. To prolong the network lifetime, this work implements another tree-based cluster routing strategy known as Tree-Based Energy Efficient Clustering Protocol (TBEEC). In this work, the node having lesser distance to the base station and higher energy than the other nodes of the cluster is elevated as cluster head for a round. All nodes of cluster forward their data to the cluster head by using other intermediate nodes that lies on the way to the cluster head. Further, in this work inter-cluster communication is implemented to reduce the energy consumption. Every cluster head instead of transmitting aggregate data directly to the base station looks for intermediate cluster head that lies near to the base station. This way data has...
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to travel at lesser distance that result in energy saving which prolongs the network lifetime? The proposed protocol overcomes the limitation of existing TBC protocol. The simulation results show that the proposed protocol performs better than the existing routing protocols such as LEACH, HEED, PEGASIS and TBC.

References


Index Terms

Computer Science Wireless

Keywords

LEACH, HEED, PEGASIS, TBC and WSN etc.