Abstract

Sensors are battery operated devices and are normally placed in the region where humans could not reach easily. Therefore these devices need to be used carefully so as to extend the network life. Network layer plays important role for transmission of data from source node to destination node. Considerable amount of energy is consumed for routing the data between the source and destination node. Hence, to prolong the lifetime of sensor network, it is essential to think for routing protocol that takes care of energy consumption during data transmission process. In this paper a new protocol called Advanced LEACH (ALEACH) is suggested, which is a modified version of LEACH protocol. The objective of this protocol is to develop more energy efficient routing protocol so as to increase the overall life of Sensor Network. ALEACH protocol selects the cluster head randomly from the set of devices whose residual energy is greater than the average energy of the network. We have implemented and tested ALEACH in NS2 and results are compared with LEACH protocol for various parameters. The obtained result shows that ALEACH performs better than its counterpart.
Energy Efficient LEACH

References

- Information Sciences Institute, "The Network Simulator ns-2"; http://www.isi.edu/nanam/ns/, University of Southern California.

Index Terms

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Keywords

Clustering LEACH ALEACH Time Division Multiple Access (TDMA) Ad hoc networks SCADA systems