Abstract

Wireless Sensor Network is web of sensors node, which has limiting energy. The main issue to design WSNs is, maximum Lifetime and optimal the energy used in network. Different approaches based upon clustering are proposed for optimum functionality. Quadrature-LEACH (Q-LEACH) for homogenous networks is examined with two gateways which is placed in the sensing area, which is used to enhances network life-time and optimal utilization of resources. Performance analysis and compared statistic results show that our proposed protocol perform well in terms of energy consumption and network lifetime.

References

1. M. Ishfaq; Q-LEACH: A New Routing Protocol for WSNs. The 4th International Conference on Ambient Systems, Networks and Technologies (ANT 2013), Procedia Computer Science; Volume 19, 2013, Pages 926-931
2. S. Lindsey and C. Raghavendra, Pegasus: Power-efficient gathering in sensor information

3. O. Younis and S. Fahmy, Heed: a hybrid, energy-efficient, distributed clustering approach
   for ad hoc sensor networks, Mobile Computing, IEEE Transactions on, vol. 3, no. 4, pp. 366379,
   2004.

4. G. Smaragdakis, I. Matta, and A. Bestavros, Sep: A stable election protocol for clustered
   heterogeneous wireless sensor networks, tech. rep., Boston University Computer Science
   Department, 2004.

5. L. Qing, Q. Zhu, and M. Wang, Design of a distributed energy-efficient clustering
   algorithm for heterogeneous wireless sensor networks, Computer communications, vol. 29, no.

6. Y. Yu, R. Govindan, and D. Estrin, Geographical and energy aware routing: A recursive

7. A. Elraham, H. Elsayed, S. Ramly, and M. Magdy, An energy aware wsn geographic
   routing protocol, Universal Journal of Computer Science and Engineering Technology, vol. 1,
   no. 2, pp. 105111, 2010.


   Performance Analysis with Conventional Routing Protocol for WSN”, Journal of Information,
   812-816.


    Low Energy Adaptive Clustering Hierarchy”, Proceedings of 4th International Conference on

    Energy Adaptive Clustering Hierarchy for Wireless Sensor Networks”, International Journal of


    of sensor node using Data Reduction Technique in Wireless Sensor Network. International

15. Himanshu Sharma, Vibhav Kumar Sachan and Syed Akhtar Imam. Article: Energy
    Efficiency of the IEEE 802.15.4 Standard in Wireless Sensor Networks: Modeling and
    Improvement Perspectives. International Journal of Computer Applications 58(9):12-19,
    November 2012

Index Terms

Computer Science         Wireless
Keywords

Energy efficient, Q-LEACH, Sensor Node