Abstract

In wireless sensor network (WSN), due to restraint of node energy, energy efficiency is an important factor that should be considered when designing the protocol. In order to save energy data combination and aggregation should be exploited in this case decreasing energy consumption and communication cost by aggregate redundant data at transitional node which reducing size and number of exchange messages. The network formed is ad-hoc network, as nodes in this network communicate with each other without any infrastructure. This paper proposed a new improved algorithm EEDRINA was compared to two other known solutions Low-Energy Adaptive Clustering Hierarchy (LEACH) and Data Routing for In –Network Aggregation (DRINA) algorithms which is intended to improve the routing technique to improve routing performance as well as balance energy consumption of the entire network and extend the life of network in critical event monitoring. This work is emulated by NS2 platform, the simulation results indicates that our proposed EEDRINA solution outperforms these LEACH & DRINA known solutions in different scenarios and in different parameters required by WSN.

- Ping Song, Xiaodong Shan, Kejie Li, Guangping Qi, "Multi hop based highly precise time synchronization protocol for ZigBee networks," IEEE 2009.

- http://www.techopedia.com/definition/25651/wireless-sensor-network-wsn

Index Terms

Computer Science

Networks

Keywords

Broadcasting  Critical event monitoring  Lifetime of nodes  routing protocol

Wireless Sensor Network (WSN)