Abstract

Sensor network is critical real time network used in application specific areas. The restricted energy and coverage increases the communication criticality. Because of this, the network follows an architecture driven communication for effective resource utilization. In this paper, a mobility adaptive cluster optimization model is presented to improve the network communication. At the earlier phase of this model, the individual node analysis is applied under load, stability, energy and connectivity parameters. Based on which the cluster election is performed. After identifying the clusters, the range driven separation is performed to provide the single or multihop path. In the final stage, the route optimization is provided for external cluster nodes as well as aggregative cluster nodes. For route generation, a genetic driven evolutionary process is defined. The fitness rule for genetic is applied under stability, distance and energy parameters. Finally, all the cluster heads will deliver the aggregative data to base station. The simulation results show that the model has improved the network life and communication.

References


7. Tifenn Rault, Abdelmadjid Bouabdallah, Yacine Challal ,” WSN Lifetime Optimization through Controlled Sink Mobility and Packet Buffering , 2013 IEEE.


16. S. Manfredi ,” Reliable and energy-efficient cooperative routing algorithm for wireless
monitoring systems”, Published in IET Wireless Sensor Systems Received on 14th March 2011.


19. Debashis De, Aditi Sen, Madhuparna Das Gupta,” Cluster Based Energy Efficient Lifetime Improvement Mechanism for WSN with Multiple Mobile Sink and Single Static Sink” 2012 Third International Conference on Computer and Communication Technology.


25. Tifenn Rault, Abdelmadjid Bouabdallah, Yacine Challal,” WSN Lifetime Optimization through Controlled Sink Mobility and Packet Buffering”, 2013 IEEE.


Index Terms

Computer Science
Communications
Keywords

WSN, Fitness rule of Genetic algorithm.