Abstract

In wireless sensor networks data aggregation is a very important one and at the same time the aggregation should be energy efficient and a lesser amount of delay. To solve the problem we propose Delay Efficient Distributed Data Aggregation (DEDA) Scheduling Algorithm for Wireless Sensor Network (WSN) to handle the delay and energy tradeoff in the process of aggregation using the timeout concept. In this paper, first we are building the aggregated tree. After building the aggregation tree the Distributed Data Aggregation Scheduling algorithm to achieve the optimized energy efficiency and delay aware data aggregation. Decision Making Unit (DMU) has been used to handle energy and delay tradeoff. The DMU will control the tradeoff between energy and delay by generating the timeout values. The main advantage of this approach is to achieve the ideal energy consumption by limiting a number of redundant and unnecessary responses from the sensor nodes.

References

Delay Efficient Distributed Data Aggregation Algorithm in Wireless Sensor Networks

- Seapahn Megerian and Miodrag Potkonjak, "Wireless Sensor Networks".
- Cinzia Cappiello and Fabio A. Schreiber, "Experiments and analysis of quality and energy aware data aggregation approaches in WSNs".
- Rabindra Bista and Jae-Woo Chang, "Energy-Efficient Data Aggregation for Wireless Sensor Networks".
- Network Simulator: http://www.isi.edu/nsnam/ns

Index Terms

Computer Science

Wireless
Keywords
Wireless Sensor Network  Data Aggregation  Dynamic Timeout and Energy Efficiency