An Improved Energy Efficient Cluster Based Routing Protocol for Wireless Sensor Networks

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Abstract

Wireless sensor network are sophisticated systems that are used to collect data from an inaccessible environment. They consist of base station and hundred to thousands of sensor nodes. Nodes in the sensor network are constrained by energy, processing power and memory. The sensor networks where base station is very distant from the sensor field, the energy efficiency in the working of sensor networks plays an important role in the lifetime of the sensor networks. To prolong the life of the sensor network energy efficient techniques for routing is an important issue. In this paper we proposed a new algorithm for cluster head selection in each cluster and investigate the proposed protocol with valid assumptions. Static clustering scheme is utilized which reduces the overhead of dynamic clustering. Our proposed work is based on LEACH and LEACH-C. The protocol works efficiently to increase the overall network lifetime and outperforms LEACH in terms of minimizing the overall energy consumption.