Sink Mobility Oriented Data Aggregation using ETSSE Protocol in Heterogeneous Wireless Sensor Network Having Multiple Cluster Association

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Abstract

In this article, an approach for heterogeneous environment of three types of nodes with different energy levels namely advance nodes, intermediate nodes and normal nodes is proposed. Energy efficiency of the proposed approach can be improved through Multiple Cluster Heads. The mobile sink node and mobile sensor nodes can directly reach cluster heads and collect data from it. Mobile sink reduces the energy consumption arises due to routing of data to the static sink, Cluster Head or Base Station. Path of sink node is optimized to reach the cluster heads. Mobility of sink via shortest path reduces delay of data delivery. Proposed approach with sink mobility and without sink mobility are compared by conducting simulation in NS2. Performance of this approach is evaluated with appropriate metrics.

References


**Index Terms**

Computer Science Wireless

**Keywords**

Clustering, Mobile Sink (MS), Cluster Head, Stable Election Protocol(SEP), Energy-efficiency, Network Lifetime, Wireless Sensor Network (WSN), Enhanced Threshold Sensitive Stable Election Protocol (ETSSE), Rendezvous Points (RP)