Energy and Load based Emergency Data Collection Scheme using Mobile Sink for Wireless Sensor Networks

Abstract

The extensive Wireless Sensor Networks (WSN), used for environmental monitoring, human body observation, military surveillance, tracking objects and applications. Multi-hop transmission can lead to packet losses, delay, and energy waste due to a large number of re-transmissions and packet (P) drops. The weakness of using a immobile sinks are well known. Advantage of sink mobility for data gathering has drawn a big attention in recent years. Various routing protocols had been developed for achieving network load management in data collecting wireless sensor networks. Mobile sink (MS) reduces the network load and data loss compared to a immobile sink. The main contribution of this paper is to provide a simulation-based study of network load based emergency data collection from harsh environment using mobile sinks. Aim to reduce data loss, minimize energy consumption while establishing path through MS, control emergency mobile sink arrival message storm by zone based WSN. Emergency nodes be capable of minimizing queue overflow through sensor self aggregation and load balancing with neighbors. The focus is on three important configuration specifications: Mobile sink-based data collection, emergency mobile sink arrival message supervision, and sensor self aggregation.
References


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Index Terms

Computer Science Wireless

Keywords

Mobile Sink; Data Collection; Network Load; Emergency Mobile sink arrival message; Sensor self aggregation;