
The development of ring routing protocol with multiple mobile sinks

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Abstract In a wireless sensor network, data freshness is of utmost importance. Due to concentration of data traffic toward the sink and disturbance in report of sensor data, batteries of nodes near the sink are discharged faster than the other nodes in conventional wireless sensor networks. Thus, mobile sinks are proposed in order to tackle this problem. They implicitly provide load-balance in sending data and achieve a uniform power consumption throughout the network. Ring routing presented recently is a distributed hierarchical and energy-efficient routing protocol with just one mobile sink. In this research, several mobile sinks are used instead of one sink to improve the efficiency of the protocol in terms of reducing the data report delay. Its performance is validated through simulation. The results show that the proposed method could reduce data report delay compared to the original protocol. And, generally the protocol improvement is reached.

Keywords : Keywords: wireless sensor networks, mobile sinks, mobility, reporting delay.

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