

Energy-efficient and reliable data delivery in wireless sensor networks

Abstract

Clustering has been used as one of energyefficient mechanisms for data routing in wireless sensor networks. In hierarchical routing approaches, cluster heads are responsible for management (e.g. data aggregation, queries dispatch) and transmission of the collected data in the region controlled by them. For efficient data delivery, several researches have proposed various mechanisms for cluster organization and cluster head selection. However, less focus is given in the area of data transmission associated with Base Station (BS). In such a situation, any failure or packet loss may lead to considerable packet loss. For solving this problem, we propose an efficient data routing scheme for controlling data delivery from nodes to BS. In our proposed approach every node is aware about the link quality of all nodes and is able to deliver data to the BS through the most reliable and energy-efficient route.