Abstract

Due to wireless sensor networks (WSN) characteristics, routing in these networks is a challenging task particularly when the wireless nodes, which are energy constrained, are moving. Mobility in WSNs can cause frequent route changes or breaks. In case of route breaks, each routing protocol reacts differently which in turn cause a different pattern in the energy consumption. Therefore, it is important to consider the impact of mobility on energy level of sensor nodes to select a proper routing scheme for a particular WSN. In this paper, an attempt has been made to measure energy consumption level of the sensor nodes while moving through the WSN environment on different locations. The main contribution of this paper is to compare and analyze performance of the mobile nodes using two well-know routing protocols, DSR and AODV, in terms of three performance metrics as energy efficiency, packet delay, and packet lost rate. The comparison has been done using NS2 network simulator.
Effects of Sensor Nodes Mobility on Routing Energy Consumption Level and Performance of Wireless Sensor Networks


Index Terms

Computer Science

Wireless

Keywords
Sensor mobility  energy efficiency  energy consumption level