Abstract

Many Medium Access Control (MAC) protocols have been specifically designed for Wireless Sensor Networks (WSN) where energy awareness is an essential design issue. Sensor nodes sense environmental conditions, such as light, temperature, sound, or vibration etc., and transmit the sensed data to the sink node through multi-hop communication links. Energy awareness is one of the most important issues in WSNs. The radio transceiver is the most power consuming component in a sensor node. Transceiver power consumption is varying with different modes like transmit, receive, listen, and sleep. By using MAC protocol we can able to switch the radio interface into different modes. A new approach of an Energy Aware MAC (EA-MAC) algorithm is proposed in this paper. Also, we compare EA-MAC (proposed approach) with S-MAC (Sensor MAC) and ML-MAC (Multi-Layer MAC) based on Energy consumption, throughput and average end-to-end delay. From this comparison study, we conclude that EA-MAC algorithm is better in the case of consumed less energy and sending more data than S-MAC and ML-MAC.
A Novel MAC Algorithm for Energy Aware Wireless Sensor Networks

References


Index Terms
Keywords
Network lifetime  layer duration  Energy Aware  MAC