Abstract:

A wireless sensor network (WSN) contains a number of sensor nodes that collect data from the environments and send it to a base station (or sink node). The base station sends the collected data to the destination nodes through some intermediate nodes which forward data packets to the following one hop neighbor. The packet scheduling is the process of designing the structure of ready queues and selection of possible packets. Packet scheduling schemes can be classified according to some factors such as data types, data priorities, data deliveries, and number of ready queues at each sensor node. To consider the efficiency of the packet scheduling schemes, previous works have used only one or two performance metrics. This paper uses seven perform metrics to analyze the performance of three new scheduling algorithms in WSNs with two well-known previous scheduling schemes. The simulation results illustrate the packet scheduling algorithms that are the most suitable for the applications that consider a certain metric.