Abstract

As Wireless Sensor Networks are evolving in a wide range where high load demands dominate and affects the overall performance of the network, congestion remains a serious problem that has to be tackled effectively. Since the capacity of shared wireless medium is limited, channel contention and network congestion can be experienced during the operation of the network. In this paper, a new cross-layer protocol stack for congestion control is proposed that attempts to control network congestion during collisions. The proposed protocol stack aims to avoid buffer overflow at each node during high traffic density and thus reduce packet losses during transmission in order to achieve efficient communication in WSN. The simulation results show
that the proposed cross-layer protocol efficiently mitigates packet losses and improves overall network throughput.

References


Index Terms

Computer Science

Hpc Applications

Keywords

Congestion Control, Buffer Overflow, Collisions, Back-off Time, Wireless Sensor Networks