Abstract

In this paper, a new protocol called MFQMAC is proposed, which has the following features. (i) It assures quality of service through service differentiation among different classes of traffics. (ii) It provides fairness among traffic flows of the same priority class. It maintains fairness without decreasing the channel utilization and solves the unfairness problem between two communicating stations with same prioritized traffics. (iii) It is fully distributed and applicable not only to single hop but also for multi-hop environment. The performance of the protocol is evaluated from QoS as well as fairness point of view through extensive network simulator-2 simulation. It was found that, the protocol, MFQMAC assures high aggregate throughput and low end-to-end delay and jitter in comparison to other MAC protocols and hence said to have enhanced Quality of Service. Further, the protocol also have a better fairness index from IEEE 802. 11 and FQA, which confirms its fairness assurance.

Index Terms

Computer Science  Mobile Networks

Keywords

MANET  Quality of Service  DCF  Fairness