

Abstract

Wireless networks have unreliable channels that experience bursty and location dependent errors. Several fair queuing algorithms have been proposed in order to provide QoS in presence of errors in a fair manner. However, most of these algorithms are unpractical as they require perfect channel predication or do not work well with the Link Layer. Wireless Fair Queuing with Retransmission (WFQ-R) algorithm was recently suggested to address these problems by penalizing flows that use wireless resources without permission in the link layer. However, the WFQ-R algorithm is based on Stop-and- Wait LLR scheme which also costs the network extensive delay and low utilization. In this paper, a new wireless fair queuing based on the WFQ-R algorithm is proposed to work with the window-based error control schemes in the link layer. The proposed algorithm has shown outstanding results compared with WFQ-R in terms of lower queuing delay, better throughput and fairly allocated resources.