Strategic Media Access Control and QoS Aware Scheduling based Routing Protocol (SMAC-SBRP) for Heterogeneous Mobile Ad hoc Networks

Abstract

Over the past several years of research Quality of service (QoS) has become a thrust area of research for mobile ad hoc networks. This research work aims at the design and development of strategic media access control and QoS aware scheduling protocol which ensures reliable transmission of packets. The proposed routing scheme has adaptive broadcasting request – to-send (RTS) mechanism, prioritized clear-to-send (CTS) mechanism, selective data transmission method and overhearing acknowledgement (ACK) mechanism. The QoS aware scheduling mechanism is utilized. The proposed protocol has been tested on NS-2 using the performance metrics such as throughput, packet delivery ratio, overhead, packets drop and delay. The simulation has been carried out based on mobility speed and pause time. Mobility speed is taken for ensuring the proposed protocol’s performance on heterogeneous environment where the nodes may move at different swift. Simulation results shows that the proposed routing protocol has attained better QoS in terms of throughput, packet delivery ratio, overhead, packets drop and delay based on both pause time and mobility speed.

References


Index Terms

Computer Science
Networks

Keywords
Media Access Control Routing Protocol QoS and Ad Hoc Networks