Reliable priority based QoS real-time traffic routing in VANET: Open issues & parameter

ABSTRACT

It has proven that to provide priority to different traffic types in wireless vehicular networking (VANET) is attracting wide attention for guaranteeing high quality real-time traffic routing. Choosing a reliable and stable route with Quality of Service (QoS) constraints is always a challenging task because of the high mobility in VANET. This paper proposes an approach that prioritizes the transmission of traffic data packet according to the transmission distance and urgency metrics of messages before making a selection of routes. The approach utilizes a priority classifying a mechanism to differentiate traffic information into various priorities imposed in the VANET communications. The performance of the proposed approach was simulated extensively using NCTUns simulator in terms of throughput, packet loss and delay. The results obtained show efficient solutions on the impact of mobility for the prioritized flows in enhancing safety messaging. This approach makes safety messages to be transmitted with high reliability and low delay as compared to non-prioritized traffic flows.