

ABSTRACT

Title: Data Dissemination in Vehicular Adhoc Networks

A Vehicular Adhoc Network is considered as a variation form of a Mobile Ad hoc Network (MANET). A Vehicular Ad hoc Network (VANET) is a technology that employs moving vehicles as nodes in a network to create a mobile network to provide communication among nearby vehicles, as well as between vehicles and nearby fixed Road Side Units (RSUs). Vehicular Ad-hoc networks is a method for establishing inter- vehicular as well as road to vehicle communication which is frequently required in avoiding vehicular nodes collisions and increases safety services ,public services, improves driving-services comfort. Several solutions have been projected to establish a competent and reliable network.

The basic problem stands in acquiring feedback from the destination nodes to avoid network flooding. Reliable data broadcasting is even harder to obtain when we are dealing with wireless networks. The simple broadcasting without a rebroadcasting bounding mechanism at each node may result in an excess of redundancy, channel contention, and collisions leading to the broadcast storm problem. Redundancy indicates a situation where a node hears the same messages from more than one neighbors. Channel contention is due to the different nodes which are simultaneously trying to rebroadcast the received messages thus contending for the shared media, increasing the probability of collisions. To address redundancy, the decision whether or not rebroadcast must be controlled at each node receiving the message. The challenge is that each vehicle must periodically broadcast their location and speed profiles to neighboring vehicles. But when the vehicle network is highly congested, these single-hop messages may create a broadcast storm, overloading the VANET system and Delaying message transmission

The proposed research establishes an effective and reliable communication between vehicles and road side units (RSUs). The key idea behind the proposed scheme is to control the number of packets in the network by making all the nodes flood packets at different rates to mitigate broadcast storm problem. The objective of proposed research is to reliably disseminate the data, efficiently utilize the limited bandwidth and maximize the dissemination capacity. The proposed strategy is planned to be implemented through analysis and simulation using network simulation and comparison of results to existing state of the art research.