Abstract

Vehicular Ad-hoc Network (VANET) is an emerging and promising technology that places great demand on the access capability of the existing wireless technology. In VANET one primary issue is Medium Access Control (MAC), which aims to utilize the radio spectrum efficiently, to resolve potential contention and collision among vehicles for using the medium. Contention reduces the performance of single channel MAC layer and the workload distribution is also not well defined. So multi channel MAC protocols are useful to provide better quality of services (QoS) wherein, multi channel interference is a major problem to assign channel to a particular vehicle. Hence a survey is necessary on multi channel MAC protocols based on various parameters in vehicle to vehicle (V2V) and vehicle to infrastructure (V2I) communication. This paper gives a brief overview of various issues involved in the design of multi channel MAC protocol in VANET.

References


Daniel Jiang, Vikas Taliwal, Andreas Meier, And Wieland Holfelder, Ralf Herrtwich And Daimler Chrysler Ag, “DESIGN OF 5.9 GHZ DSRC-BASED VEHICULAR SAFETY COMMUNICATION”, Wireless Communications, IEEE 2006.


Tony K Mak, Kenneth P, Laberteaux, Raja Sengupta and Mustafa Ergen, “Multichannel Medium Access Control for Dedicated Short-Range Communications”, IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, VOL 58, NO 1, JANUARY 2009.


A Survey and Qualitative Analysis of Multi-channel MAC Protocols for VANET


Index Terms

Computer Science Wireless

Keywords
Control channel Service channel Beacon period Coordinating Access Point Beam Table
Adaptive Broadcast Frame and Road side unit.