A Survey of Routing Protocols for Vehicular Ad-hoc Networks

With number of moving vehicles, vehicular Ad Hoc Network (VANET) is formed. These are provided with the wireless connections. This network is one kind of class of Mobile Ad Hoc Network (MANET) where the communication occurs between various vehicles moving on the paths. VANETs have heterogeneous nature as they provide wireless communication in between various moving vehicles (V2V) together with vehicle to fixed Units present on the Road Side (RSU). This have been developed as an important research area as with this, the Intelligent Transport System (ITS) gets improved which targets for improvement in the safety of road, better traffic flow, reduction in congestion, etc. There are a lot of challenges in the VANET field, such as bandwidth limitation, scalability, security, privacy and also the routing issue. For obtaining effectual communication in between various vehicles, routing is an important element that requires to be examined. The routing protocols performance are based on the several internal factors such as movement of the nodes and external factors such as topology of the road and complications that inhibits the useful information. Basically, the routing protocols for
Vanet has been divided into two categories as protocols based on topology of network and protocols based on position of vehicles. Greedy forwarding is one of the most suitable solutions for routing in the VANETs as it maintains only the location of adjacent vehicles in place of each destination entered for routing. It is also observed that carry-and-forward is the different and important consideration for designing all routing protocols in VANETs.

References


Index Terms

Computer Science Wireless
Keywords

Vehicular Ad-hoc Network (VANET), MANET, ITS, V2V, Greedy forwarding, carry-and-forward.