Abstract

Vehicle Ad-hoc Network is vulnerable to several attacks. One of the main attacks is the black hole attack which absorbs all the data packets in the network. In this paper, we have analyzed the performance of VANET in presence of black hole node by using different routing protocols AODV, DSR and AOMDV. This paper analyzed that which protocol is more vulnerable to the black hole attack and how much is the impact of attack on these three protocols. The main parameters considered are throughput, end-to-end delay and scalability. These parameters are compared for each routing protocol both using with black hole attack and without black hole attack. Simulation shows that DSR has high performance in terms of throughput, delay and scalability. The simulation setup comprises of 20 Vehicular nodes moving with constant speed of 10 meter per second. Simulation is carried using Network Simulator (NS2) 2.35.

References

Performance analysis of Black Hole Attack on Vanet’s Reactive Routing Protocols

- Rajeev K. Shukla, NS2 Guide, 2010; http://home.iitk.ac.in/~rajeevs/research-ns2.html

Index Terms

Computer Science

Wireless
Keywords

VANET – Vehicle Ad-hoc Network   AODV – Ad Hoc On Demand Distance Vector Routing
RREQ – Route Request
DSR – Dynamic Source Routing
RREP – Route Reply

AOMDV – Ad Hoc On Demand Multipath Distance Vector Routing

black hole attack