Abstract

Multi-hop Ad Hoc Networks are self-organizing networks characterized by dynamically changing topology due to node mobility and time varying characteristics of the wireless channel. Routing is a crucial issue in these networks. Several routing protocols have been proposed which fall into either of these categories: proactive, reactive or hybrid routing protocols. Proactive protocols have the advantage of less route establishment latency but suffer from heavy control overhead. Since routes maintained may never be used, system resources are unnecessarily wasted making proactive approaches less efficient. The reactive protocols overcome this drawback. These incur less overhead due to their "on demand" nature; nodes maintain routing information only when it is needed. Hence reactive protocols e.g. AODV, DSR etc are preferred and widely adopted. But the on-demand behavior of these approaches itself leads to another problem, e.g. the "broadcast storm" problem and thus challenges their usability. In this paper we highlight limitations and operational challenges of widely adopted reactive protocols and survey different optimization approaches suggested to overcome these challenges.

References
- M. A Rabayyah and R. Malaney, "A New Scalable Hybrid Routing Protocol for
Routing Protocols for Multi-hop Ad Hoc Networks: Operational Challenges and Design Optimizations


Index Terms

Computer Science

Wireless

Keywords

MANETs  VANETs  DV  AODV  QoS.