Abstract

Ad hoc networks are a temporary network that consists of a set of similar mobile nodes that move freely and independently and communicate with other nodes via wireless links. The performance of ad hoc wireless network routing protocol is increased when the motion of mobile nodes is reduced while considering the performance factors such as packet delivery ratio and routing overhead. The gateway can be considered as centrally located nodes where the flow of traffic is very high. Packet delays are for AODV & DSR is increased when the mobility is reduced because of centrally located gateway nodes. Based on the traffic of number of relayed packet we have to decide which gateway can be used. This can be considered as a gateway selection problem. This causes the congestion at the media access control (MAC) level which in turn may lead to increase the high packet delays, since few nodes have to carry excessive loads. Such nodes may have higher battery power consumption which may cause degradation in routing performance. Along with that there are so many other problems on which this work will focus like: Gateway selection problem, Load balancing between the various gateways, Congestion Control. So this work will add an additional load effective routing mechanism IGTSM (Intermediate Gateway Traffic Sharing Model) which can consider and manage this congestion & load control at the time of the route.
Load Balancing Through Intermediate Gateway Traffic Sharing Model (IGTSM) For WMN

- Prashanth A. K. Acharya, David L. Johnson & Elizabeth M. Belding, "Gateway-aware Routing for Wireless Mesh Networks"; in Dept of CSE, University of California.
- Shigeto Tajima, Teruo Higashino, Nobuo Funabiki & Shoji Yoshida, "An Internet Gateway Access-Point Selection Problem for Wireless Infrastructure Mesh Networks"; in GSIST, Osaka University.
- A Hamed Mohsenian Rad and Vincent W. S. Wong, "Joint Optimal Channel Assignment and Congestion Control for Multi-channel Wireless Mesh Networks"; in University of British Columbia.
- A B M. Alim Al Islam, S. M. Iftekharul Alam, Vijay Raghunathan, & Saurabh Bagchi "Multi-Armed Bandit Congestion Control in Multi-Hop Infrastructure Wireless Mesh Networks"; in Purdue University.
- Sherif M. ELRakabawy & Christoph Lindemann, "Practical Rate-based Congestion Control for Wireless Mesh Networks"; in University of Leipzig.

Index Terms

Computer Science
Distributed Systems
Keywords
IGTSM (Intermediate Gateway Traffic Sharing Model); WMN Gateway Load Distribution;