Abstract

Wireless Mesh Networks are looming as a key technology for next generation of existing wireless networks. The network falls into the category of infrastructure less wireless networks that rely on high mobility and dynamic topology. Though mesh topology provides good reliability, market coverage and scalability, there are number of issues and challenges in WMN. Amongst all, the most prevailing issue is the problem of packet loss due to congestion. The routing protocol always uses the best shortest path for the transmission of data. Congestion occurs when each time the protocol chooses the same path. Congestion problem can be overcome by involving a congestion control algorithm. In this paper, a congestion control scheme based on AODV routing protocol has been proposed. In this technique, buffers at the intermediate nodes are checked against two cases. First the capacity of the buffer on the whole is checked, if it crosses a certain threshold then second condition i.e. the capacity of the packets present in the buffer for the available destinations is checked against a second threshold. If it crosses a certain threshold value then data forwarding is carried out through alternate paths. The proposed technique has improved the performance of AODV protocol.
Simulation results for AODV carried out in NS-2 clearly show the increase in throughput and decrease in end to end delay.

References


Index Terms

Computer Science Wireless

Keywords

Congestion, Routing, Wireless Mesh Network, AODV.