Abstract

Wireless Mesh Networks (WMNs) is a heterogeneous network consisting of different types of nodes and links (such as Bluetooth, wifi etc). A WMN can be configured as self-Reconfigurable network where each node in the network automatically sets and maintains link connectivity among each other in the mesh network. Obtaining an optimal path in a mesh network and then maintaining QoS is always a challenging problem in multiradio WMN. In Self Reconfigurable Wireless Mesh network system the router (Access point) can take the switching decision autonomously based on the cost parameter. Therefore objective of the system is to design cost based high throughput multi radio based network. MAC estimated link bandwidth and delay in the network can together gives a good measurement of the network state in general and route state in particular. This enables the network to choose the path with high throughput.
However when the behaviour of the network is dependent on multiple parameters, resolving them is real difficult. Thus we propose a fuzzy based system to resolve the quality of the path. The objective is to combine the state of the network with routing decision as well as seamless connectivity management by integrating QoS driven service with that of handoff management. The ARS with fuzzy logic results in improved packet delivery ratio and control overhead.

References


Index Terms

Computer Science Wireless

Keywords

Wireless mesh networks, Self-Reconfiguration, Multiradio wireless, IEEE 802.11, fuzzy logic.