Abstract

A wireless mesh network consists of radio nodes which are organized in a mesh topology and a wireless mesh network is implemented using wireless technologies like 802.11, 802.15, 802.16, cellular technologies or combination of more than one type. The nodes in the network may have a single or multi radios, if the node poses multi radios the channels can be efficiently utilized and the average network throughput can be increased. The single radio mesh nodes face problems due to limited channel bandwidth hence by using multi radio nodes or routers with non overlapping channels can increase the overall capacity of the network. The main concern in this type of networks with multi radio nodes is Channel Allocation or Assignment (CA). The main focus of a channel assignment algorithm in multi radio network is to select channels with less interference and to distribute the load evenly among all the available channels. In this study a cross layer based channel selection algorithm is proposed which proposes a static channel assignment combined with a interference based channel re-assignment strategy.


A Cross Layer based Channel Assignment Algorithm in Multi Radio Multi Channel Wireless Mesh Networks


Index Terms

Computer Science

Wireless
Keywords
Channel Allocation