Abstract

Today, there are various methods available for increasing the throughput of a multichannel wireless mesh network. These can be either static allocation or dynamic allocation. In this study, a hybrid multichannel wireless mesh networking architecture is proposed and every mesh node has both static and dynamic interfaces. Static-Dynamic Combined Channel Allocation protocol (SCCA) is an algorithm proposed, considering both throughput and delay in the channel assignment. SCCA gives advantages of both static and dynamic allocation methods. Interference and Congestion Free Routing (ICFR) is included to further improve the throughput of the wireless mesh network. Simulation results indicate that ICFR decreases the packet delay considerably without affecting the network throughput.

References

- M. Alicherry, R. Bhatia, and L. Li, "Joint Channel Assignment and Routing for
- M. Kodialam and T. Nandagopal, &quot;Characterizing the Capacity Region in Multi-Radio Multi-Channel Wireless Mesh Networks,&quot; Proc. ACM MobiCom, 2005.
- B. Raman, &quot;Channel Allocation in 802.11-Based Mesh Networks,&quot; Proc. IEEE INFOCOM, 2006.
Performance and Evaluation of Adaptive Dynamic Channel Allocation protocol in Hybrid Multichannel Wireless Mesh Networks

- Y. Ding, K. Pongaliur, and L. Xiao, "Channel allocation and Routing in Hybrid multichannel multiradio Wireless Mesh Networks;"

**Index Terms**

Computer Science  Wireless

**Keywords**

Wireless mesh network  hybrid channel allocation  multichannel  routing.