Abstract

Reliability is one of the major issues with wireless networks. Failure in multiple radio channels often lead to poor communication even complete disruption in services. Increasing reliability of a network may point to the requirement of multiple paths between two terminals in the network. Hence, a link fault tolerant network design with low cost is important. Fault tolerance of a network is defined as the ability of the network to endure any link or node failure and cater uninterrupted connection for all services. The paper presents a technique to counter the issue of fault tolerance in a wireless mesh network (with static subscriber stations) so that it can sustain malfunction in multiple radio channels and optimize the spectrum usage. A K-fault tolerant network has at least K+1 number of distinct routes between two nodes. So, given a set of nodes and the cost of links there is a need to design a network assigning minimal number of links satisfying some specified connectivity requirements between a pair of terminals.
Fixed Channel Allocation in Wireless Mesh Network Subject to Efficient Spectrum Usage and Reliability Constraint

- S. Latha, Ph. D thesis titled "On some aspects of topological design of computer networks," Faculty of information and communication engineering Anna University Chennai, 2009.

Index Terms

Computer Science
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Fault tolerance  link deficiency.