Abstract

Mobile Ad-hoc Networks (MANETs) are highly decentralized, independent and self-organizing networks. It is significant to study the cost of the network, to optimize the routing method by means of cross layer interaction across the layers of the network. In this paper, first we generate a minimum cost spanning tree for a given network of N- nodes using an efficient algorithm, Then we study the problem of constructing a K-node Multicast Minimum Spanning Tree (KMMST) for any given multicasting group with K nodes, where K is less than n. Comparing the cost associated with the minimum spanning tree of the entire network with n nodes and the cost of KMMST, it is found that the cost of KMMST is significantly less compared to cost of the n nodes spanning tree.

Reference

- D. Pan and Y. Yang, “FIFO-Based Multicast Scheduling Algorithm for Virtual Output

**Index Terms**

Computer Science  
Networks

**Key words**

K-nodes multicasting  
cost  
spanning tree
routing