Evaluating the Performance of Wireless Ad-Hoc Networks with Low Forwarding Index

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Abstract

Wireless ad-hoc networks have become an important area of research in wireless communication system. In particular, studying the capacity of wireless ad-hoc networks has been a key area of investigation in the research community. In this paper we shall attempt to remedy the situation to the extent that we shall seek efficient clustering algorithms and evaluate the performance of them. Our main objective is to study the problem of evenly distributed
cluster formation in ad-hoc wireless environment. It is desirable to have these clusters as evenly distributed as possible over the network to avoid the congestion in the network. Clusterhead form a virtual backbone and are responsible to route packets (message) for nodes in their cluster. In our analysis we will discuss the concept of forwarding index for the clusterhead of the cluster to avoid the congestion in the network. The clusterhead-forwarding index of the network (cluster) is the minimum value of the largest load occurring at a clusterhead taken over all nodes in the cluster, where load of clusterhead is defined as the number of paths (routes) passing through that clusterhead.

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Index Terms

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