Abstract

In ad hoc networks, Clustering provides a hierarchical structure in which certain nodes are assigned the extra task (such as routing) of the network. Ordinary nodes do not participate in the routing instead they rely on coordinators of the clusters (clusterheads) for packet delivery. If a suitable tap is not applied on the number of nodes that join a clusterhead as its members, formation of bottleneck can takes place at the overloaded clusterheads. The performance of the network may get affected due to the bottleneck. This paper proposes a cluster formation algorithm in which, if the number of members of a clusterhead exceeds the predefined threshold value, a procedure of cluster division is executed. This relieves the clusterheads from the burden of excessive members. Simulation study of the proposed algorithm justifies the facts by observing an improvement in the performance in terms of E2E delay, PDF and throughput.

References

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**Index Terms**

Computer Science  Wireless

**Keywords**

Mobile ad hoc network  clustering  clusterhead  load  energy