Abstract

Ad hoc network consist of autonomous self-organized nodes. Nodes use a wireless medium for communication. Thus two nodes can communicate directly if and only if they are within each other’s transmission radius. In Ad hoc networks, routing not only has to be fast and efficient, but also adaptive to the changes in the network topology; otherwise, the performance may be severely degraded. In a routing task, a message is sent from a source to a destination node in a given network. Two nodes normally communicate via other nodes in a multi-hop fashion. In this paper we analyze an ACO (Ant Colony Optimization) based routing algorithm with AOMDV protocol for load balancing to route packets through shorter and feasible routes. Each ant while moving towards destination collects information about address of each visited node of the followed path means the pheromones values. During backward travel, local network traffic model and routing table is modified by ant based on the goodness of the followed path. The performance of ACO with AOMDV has provides the possibility of light load traffic routes that is not possible to find in normal AOMDV routing protocol and provides the efficient load balancing on the basis of high and low pheromones value. Simulation results shows that the proposed ACO based routing protocol gives performance improvement over other routing protocol by continuously checking for better paths in the network with less overhead.
improve reliability and load balancing of using aco mechanism in ad hoc network

references


Index Terms

Computer Science

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Keywords
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