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Flooding-Limited and Multi-Constrained QoS Multicast Routing Based on the Genetic Algorithm for MANETs

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Abstract

A wireless MANET is a collection of wireless mobile hosts that dynamically create a temporary network without a fixed infrastructure. The topology of the network may change unpredictably and frequently. Therefore, multicast routing in ad hoc networks is a very challenging problem. This paper proposes a multi-constrained QoS multicast routing method using the genetic algorithm. The proposal will be flooding-limited using the available resources and minimum computation time in a

dynamic environment. By selecting the appropriate values for parameters such as crossover, mutation, and population size, the genetic algorithm improves and tries to optimize the routes. Simulation results indicate its better performances compared to other methods.