
An Improved Multicast Routing Algorithm with Delay-constrained Based on Genetic Algorithm

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ABSTRACT

Computing the delay-constrained least-cost multicast routing tree is an NP-complete problem. In this paper, we propose an improved multicast routing algorithm based on genetic algorithms (GA). In the proposed algorithm, we use a novel algorithm of the selection of spare path as the spare paths of GA. Also we proposed a method to deal with dynamic joining and leaving of the nodes, the method is distributed. In the simulation, we use a novel algorithm to generate a random networks model. The execution time of the proposed algorithm is shorter than some of the similar algorithms.

Keywords: multicast routing; genetic algorithm; delay-constrained; distributed