

网络、通信、安全

基于一种新的蚁群算法的QoS组播路由问题的研究

张凌, 毛力

江南大学 信息工程学院, 江苏 无锡 214122

收稿日期 2008-5-6 修回日期 2008-8-12 网络版发布日期 接受日期

摘要 在解决QoS (Quality of Service) 组播路由问题上, 针对蚁群算法缺点, 提出了一种融合量子粒子群算法(QPSO)思想的多行为蚁群算法。该算法采用QPSO作为前期搜索, 根据各粒子历史最优值来初始化路径信息素浓度, 后期利用多行为蚁群算法来优化路径。仿真结果表明: 该算法寻优能力强, 可靠性高, 是解决QoS组播路由问题的有效方法。

关键词 [服务质量](#) [量子粒子群](#) [多行为](#) [蚁群算法](#) [组播路由](#)

分类号 [TP393](#)

Research on QoS multicast routing problem based on novel ant colony algorithm

ZHANG Ling, MAO Li

School of Information Engineering, Southern Yangtze University, Wuxi, Jiangsu 214122, China

Abstract

In allusion to the flaws of ant colony algorithm, a multi-behaved ant colony algorithm in combination with QPSO is presented for solving the QoS multicast routing problem. Firstly it adopts QPSO algorithm to approach early stage searching, and then initializing the concentration of pheromone based on each particle's historical optimum value, finally it makes use of multi-behaved ant colony algorithm to optimize the path. The simulation results have demonstrated that this algorithm has strong optimization ability and high reliability. It's the effective algorithm in solving QoS multicast routing problem.

Key words [Quality of Service \(QoS\)](#) [Quantum-behaved Particle Swarm Optimization \(QPSO\)](#) [multi-behaved](#) [ant colony](#) [multicast routing](#)

DOI: 10.3778/j.issn.1002-8331.2009.23.034

通讯作者 张凌 aqws729@yahoo.com.cn

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(532KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ 本刊中 [包含“服务质量”的相关文章](#)
- ▶ 本文作者相关文章

- [张凌](#)
- [毛力](#)