论文

一种基于多主体模糊知识交换的动态网络路由方法

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摘要
路由是通信网络中重要的研究课题,但对于高度动态网络环境,现有的许多路由方法仍存在一些局限性。本文将多Agent(主体)迁移合作系统应用于解决动态网络路由问题,提出了基于模糊知识的多Agent合作模型和用于计算路由的基础合作算法,并讨论了影响系统的几个关键因素。通过对动态网络仿真的试验研究,分析了系统的性能——开销特性和合作策略。研究结果表明,所提出理论模型和算法适合于解决动态网络的路由问题,并且能提高路由系统的响应性能。

关键词　路由　多Agent系统　迁移Agent　模糊知识　动态网络

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Dynamic network routing based on the fuzzy knowledge exchange among multi-agents

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Abstract
Routing is an important topic in communication network research. But many existing routing mechanisms are awkward to highly dynamic network environment. With a proposed cooperative model of multi-agents based on fuzzy knowledge and a basic algorithm for routing computation, a multiple mobile agents cooperating system is applied to the problem of dynamic network routing. Some key factors of the system are discussed in the context. With the help of a simulative dynamic network and the experiments on it, the performance-overhead characteristic of the system is analyzed and the comparison among some cooperation strategies is made. The results show that the proposed theoretic model and algorithm are suitable to the routing of dynamic network and able to improve the responsibility of the routing system.

Key words　Routing　Multi-agent system　Mobile agent　Fuzzy knowledge　Dynamic network

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