

论文与报告

## 基于多Agent系统和神经网络的路由选择策略

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摘要

我国长信网的接通率为45%左右,链路的利用率也仅为30%~40%.据估计,接通率每提高一个百分点,收益可达10亿元,针对目前所使用的路由选择方法的不足,提出全新的基于多Agent系统和神经网络预测的路由选择策略,包括网络模型、选路过程、Agent内涵的刻划,并介绍了用递归神经网络进行预测的思想.仿真结果表明,其良好的分布性和智能预测能力使之优于其它方法.为解决网络接通率低和负荷不平衡问题提供了良好途径.

关键词 [路由选择](#) [多Agent系统](#) [接通率](#) [负荷平衡](#) [神经网络预测](#)

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## Routing Strategy Based on Multi-Agent Systems and Neural Network

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Abstract

In mainland China, long distance telecommunications network's switch and link usage rates are only about 45% and 30%~40%, respectively. It is estimated that raising one percent of switch rate of the current network will result in revenue almost one billion RMB. In the paper, by analysing the demerit of routing schemes being used, a new intelligent routing strategy based on multi-agent systems and neural network forecasting is presented, including network model, routing procedure, and agent connotation depiction. Meanwhile, recurrent neural network forecasting is introduced. Simulation demonstrates it is outstanding by virtue of distribution and intelligence. Hence it provides an excellent way to improve switch rate and balance of network load.

Key words [Route selection](#) [multi-agent systems](#) [switch rate](#) [load balancing](#) [neural network forecasting](#)

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