

基于流量矩阵的节能路由研究

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摘 要：随着互联网规模的日益扩大，如何降低网络能耗，已经成为亟待解决的一个科学问题。当前已有的路由节能方案不同程度存在降低网络性能，路由可用性和网络链路负载不均衡等诸多问题。因此本文提出了一种基于网络流量矩阵的互联网路由节能算法。该方法根据网络中的实时流量矩阵和最大链路利用率动态的关闭网络中的链路，从而达到节能的目标。实验结果表明，该算法在保证网络效率基础上，能够将网络链路利用率最小化，同时降低网络能耗。

关键词：绿色网络；链路利用率；流量矩阵；节能算法

Research on energy-saving routing based on traffic matrix

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Abstract: With the expansion of the Internet scale, how to reduce the network energy consumption has become a scientific problem to be solved urgently. Current existing routing energy-saving solutions to different degrees exist to reduce the network performance, availability and uneven distribution of flow routing and other issues, so this paper proposes a Internet routing energy-saving algorithm based on traffic matrix. The method dynamically shuts down the links in the network according to the real-time traffic matrix and maximum link utilization so as to achieve the goal of energy saving. The experiment results show that the algorithm is based on the guarantee efficiency of the network, to minimize the network link utilization and energy consumption.

Key words: green network; flow matrix; link utilization; energy saving routing algorithm

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