

论文

综合业务双环LAN的一种新协议及数学建模

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摘要

为了提高网络吞吐量, 以发展综合业务局域网, 该文首先提出了一种新的局域网介质存取方式——双令牌双环协议, 然后对其进行了数学建模研究。文中设定很短的服务时间, 且提出“虚拟服务员”的概念后, 将双令牌双环LAN这种有两个物理服务员的系统等效为1个虚拟服务员进行间歇式服务的排队模型。模拟实验表明, 双令牌双环LAN在提高环形LAN可靠性的同时, 较大幅度地提高了网络吞吐量, 为综合业务环形LAN的应用提供了理论依据。

关键词 [双环LAN](#) [双令牌存取方式](#) [数学建模](#)

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A New Protocol of the Double Loop LAN of the Integrated Services and Its Mathematic Modeling

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Abstract

To improve the throughput of the networks and develop the integrated services LAN, a new medium access mode of LAN—double token and double loop protocol is put forward firstly, and then the mathematical modeling research on it is carried through. After the service time being assumed short and the “virtual waiter” being put forward, the system of double token and double loop LAN which has two physical waiter is equivalent to the followed queue model of the interim service with one virtual waiter. The simulation experiment shows that this double loop LAN can not only improve the dependability of the loop LAN, but also enhance the throughput of the networks in a large range, so the academic foundation for the application of this double loop LAN is provided under the condition of the integrated services.

Key words [Double loop LAN](#) [Double token access mode](#) [Mathematical modeling](#)

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