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Network Economies for the Internet-Application Models

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ABSTRACT

We propose a decentralized model of network and server economies, where we show efficient QoS (Quality of Service) provisioning and Pareto allocation of resources (network and server resources) among agents and suppliers, which are either network routers or servers (content providers). Specifically, it is shown 1) how prices for resources are set at the suppliers based on the QoS demands from the agents and 2) how dynamic routing algorithms and admission control mechanisms based on QoS preferences emerge from the user classes for the network economy.

KEYWORDS

Internet Economics, Distributed Systems, Mechanism Design, Optimization, Network Economy

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