

A Spot Pricing Framework for Pricing Intra-Domain Assured Bandwidth Services

Aparna Gupta

Decision Sciences & Engineering System

Shivkumar Kalyanaraman

Electrical, Computer & Systems Engineering

Lingyi Zhang

Decision Sciences & Engineering System

Rensselaer Polytechnic Institute

Troy, NY 12180

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Abstract

The Internet today offers primarily a best-effort service. Research and development efforts are currently underway to allow the provision of better than best-effort quality of service assurances. In this article we develop a spot-pricing framework for bandwidth assured Internet service contracts. A nonlinear pricing model forms the basis for the framework. The price process is obtained for different demand profiles of the customer-base and demand arrival characteristics. Simulation modeling and analysis tools are employed to implement the pricing framework and analyze the price process. The framework when implemented at access or exchange points of different service provider domains will provide assured bandwidth for inter-domain traffic.

Keywords: Internet Quality of Service, QoS assurance, spot-pricing, nonlinear pricing, simulation modeling.