

A Framework for Pricing and Charging in Digital Libraries

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Digital Libraries will have a major influence on the design of future information systems. They will set the stage for future complex information technologies to evolve and provide "transparent" services to a variety of users. We consider commercial Digital Libraries as information economies consisting of several players: authors and publishers who create and sell their collections, suppliers (e.g. computer systems) who provide information storage, indexing and access services, information-agents who provide searching and presentation services, and users who request for services.

In such an economic framework, one can envision suppliers and information-agents competing to provide services for information storage, searching, access and presentation. In providing such services, several issues arise, among them are pricing and Quality of Service (QoS) to access and view information objects. These issues play an important role in allocating resources--such as processing time, network bandwidth and buffers, memory, cache and network I/O. Using this framework, we present the interactions among the players, service models, pricing and charging/billing mechanisms (QoS based), and corresponding implementation issues in large digital libraries.