Internet Interconnection and the Off-Net-Cost Pricing Principle

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Abstract

The paper develops a framework for Internet backbone competition. It analyzes the impact of access charges on competitive strategies in an unregulated retail environment in which operators compete for consumers and websites. The paper compares socially optimal access charges with freely negotiated ones.

The paper derives three main insights. First, in a remarkably broad range of environments, operators set prices for their customers *as if* the customers' traffic were entirely off-net. Second, in the absence of direct payments between websites and consumers, the access charge determines the allocation of communication costs between websites and consumers and affects the level of traffic. We characterize for this environment the socially optimal access charge. When backbone operators have market power, however, they do not have in general the incentives to choose the socially optimal access charge. In contrast, when websites charge micropayments, or when websites sell goods and services, the impact of the access charge on welfare is reduced; in particular, the access charge is neutral in a range of circumstances. Third, the paper studies the impact of alternative contractual choices (peer vs customer relationships) in the Internet.

Keywords: Internet, Networks, Interconnection, Competition Policy.

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