INDEX: A Platform for Determining how People Value the Quality of their Internet Access
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Abstract

The continuing exponential growth of the Internet and the emergence of new time-critical applications have led to the integration of a large number of different services on the Internet. In the process, the question of how to efficiently allocate bandwidth as a scarce resource has become a crucial issue for the continued proliferation of these new services. Future growth depends on the division of services into quality-differentiated market segments and the pricing structure of each segment. Successful growth requires service providers to offer combinations of quality and price that match user need. But to do this providers must understand the structure of user demand. Such understanding is lacking at present.

This paper describes a platform designed to obtain a basic understanding of how individuals value Internet usage when offered different Quality of Service choices. The Internet Demand Experiment (INDEX) has two main objectives: (a) Measurement of user demand for Internet access as a function of Quality of Service (QoS), pricing structure, and application; and (b) Demonstration of an end-to-end system that provides access to a diverse group of users at attractive price-quality combinations. The data being collected is expected to reveal the correlation between user application and service demand, how demand varies with user experience, and up to what extent users form discrete market segments. This paper gives an overview of both the technology employed at INDEX and the goals of the experimental design.

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