

Will ISPs Choose Blunt Weapon?

By IPB Staff

As Comcast starts to experiment with ways to balance quality of service on its access networks at times of peak congestion, it will permit lighter users to enjoy peer-to-peer applications without restrictions, but will have to develop some means for charging heavy users of bandwidth, irrespective of protocols used by those applications.

As sometimes happens, the precise solution Comcast ultimately comes up with may not be the optimal economic solution; it will be the politically expedient solution. In fact, the optimal economic solution might well be to charge users of P2P applications more for the use of those applications.

The solution Comcast likely will come up with will not do so, but rather will charge higher overall access prices for heavy users of bandwidth. There's a clear logic here: use more, pay more.

From an economist's point of view, though, a blunt price mechanism might not have the desired effect. For in a real sense, it is not simply bandwidth usage that is important in preserving the overall performance of the access connections, but the type of applications being run.

And the issues facing wireless network operators are different from the issues faced by wired broadband networks.

To protect all users of shared access resources from service degradation, it makes sense to charge a congestion premium or use traffic management techniques, say researchers at the Phoenix Center. When congestion-causing applications degrade the experience of other users, the most efficient traffic management actions would be targeted at applications that cause congestion externalities and not upon all applications generally, say George S. Ford, PhD, Thomas M. Koutsky, Esq. and Lawrence J. Spiwak, Esq., Phoenix Center analysts.

Ironically, service providers tend to do too little to reduce the harmful effects of negative externalities caused by network congestion, they say. So those who argue that the Federal Communications Commission needs to impose prohibitions against network management practices because broadband providers will always be "too aggressive" in clamping down on uses of their network have it precisely backward, the researchers argue.

Differential Pricing Enhances User Welfare



Source: The Phoenix Center

"It is socially desirable to charge a congestion premium when congestion-causing applications are used on a broadband network," Ford, Koutsky and Spiwak say. That is especially true when the congestion charge targets a particular congestion-causing application, not blanket "price-per-bit" rules, they argue.

Indeed, if such charges are not targeted, then the price premiums may not achieve their desired purpose, Phoenix Center argues.

The objective of such charges is to attenuate congestion by requiring users of bandwidth-greedy applications to consider more fully the congestion costs imposed on others.

“The fact that a broadband service provider operator may engage in application-specific traffic management techniques should not necessarily be viewed by a policymaker as evidence of illicit anticompetitive intent, the researchers say.

In fact, congestion is more likely to occur in shared media networks, such as wireless broadband networks, where all users share the common pool of spectrum capacity.

The complexity of this issue indicates that specific, prescriptive rules that ban entire categories of traffic management techniques across all network architectures and topologies can result in sub-optimal outcomes, they say.

“Our focus is upon the presence of congestion externalities: that is, the use of applications by some users that reduce the value of broadband service to other users on the broadband network, without compensation, by causing delays or other service quality problems,” the researchers say.

“In the presence of a congestion externality, network management—including, but not limited to, the differential treatment of particular applications—is welfare enhancing,” Ford, Koutsky and Spiwak say. **FAT**

[« Return to Previous Page](#)