

Abandoning net neutrality discourages improvements in service

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Charging online content providers such as Yahoo! and Google for preferential access to the customers of Internet service providers might not be in the best interest of the millions of Americans, despite claims to the contrary, a new University of Florida study finds.

"The conventional wisdom is that Internet service providers would have greater incentive to expand their service capabilities if they were allowed to charge," said Kenneth Cheng, a professor in UF's department of decision and information sciences. Cheng and his co-authors are scheduled to present the findings at the International Conference on Information, Technology and Management in New Delhi, India, next week. "That was completely the opposite of what we found."

The research discovered that cable and telephone companies providing broadband to deliver the content of companies such as Google and Yahoo! are more likely to expand their infrastructure -- resulting in quicker loading and response in a customer's personal computer -- if they don't charge these companies for preferential treatment, Cheng said.

The findings are timely because of industry pressure on Congress to consider legislation that would allow broadband service providers to give preferential Internet service to online content providers willing to pay a fee. That would, in effect, end the current practice of "net neutrality," he said.

"Abandoning net neutrality has far-reaching and rippling effects when you consider how the Internet has become part of our daily life experience," said Subhajyoti Bandyopadhyay, a professor in UF's department of decision and information sciences, who did the study with Cheng. "If the broadband service providers are allowed to charge the content providers and my favorite content provider does not happen to pay my local broadband service provider, would I have to switch favorites in order to have a faster Internet experience?"

The UF researchers, who took no position on the issue, developed an analytical model based on game theory to determine the winners and losers if net neutrality were abandoned, as well as whether the practice's demise would give broadband service providers greater incentive to expand capacity.

Not surprisingly, they found that broadband service providers were the ones to gain the most from ending net neutrality because they could collect fees from content providers. The content providers such as Yahoo! and Google, in turn, would be the biggest losers.

Consumers will "win" if their favorite online provider is the one paying a fee to the telephone or cable company because it comes with a guarantee that its site would have the opportunity to load faster than its competitors, Cheng said. But those consumers who prefer a content provider that paid no such fee will "lose" in having to endure slower service, he said.

More important, the researchers found that the incentive for broadband service providers to expand and upgrade their service actually declines if net neutrality ends. Improving the infrastructure reduces the need for online content providers to pay for preferential treatment, Bandyopadhyay said.

"The whole purpose of charging for preferential treatment to content providers is that one content provider gains some edge over the other," he said. "But when the capacity is expanded, this advantage becomes negligible."

He gave the analogy of the expansion of a two-lane highway where drivers willing to pay a toll to subsidize road improvements are rewarded with exclusive use of a faster lane.

"If the road is upgraded from two to four lanes, with one express lane, these drivers might say 'Three lanes are good enough for me. I don't want to have to pay a toll any longer,'" he said. "So the desire to pay a toll when the road is expanded gets lesser."

The experience of other countries also suggests that better service – up to three times faster – results when there is greater competition, Cheng said.

"In Japan and Korea, where there is net neutrality and much greater competition among broadband providers than in the United States, there are also higher broadband speeds," he said."

Tim Wu, a Columbia Law School professor who is credited with popularizing the term 'network neutrality,' praised the study. "Kenneth Cheng is doing important research on a topic that is vital to the future of networking," he said.

Source: University of Florida

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