

Probing Question: What is Net neutrality?

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Image Credit: Melissa R. Saint-Hilaire

"Internet Freedom, under attack. What do we do? Stand up, talk back," shouted a group calling themselves the Raging Grannies, outside the Dinkelspiel Auditorium at Stanford University. Inside, the Federal Communications Commission prepared to hold a public hearing on broadband network management practices, a topic most people might not expect to draw protesters.

At the heart of the Grannies' complaint is the issue of "Net neutrality." Google and Microsoft, among others, favor it; telecommunications firms such as Comcast and Verizon tend to oppose it. Damian Kulash Jr., lead singer of Internet-phenom rock band OK Go, even penned a New York Times op-ed championing the cause. But what, exactly, is "Net neutrality?"

"The question you asked, while it sounds really simple, has perplexed people for a couple of years," said Jeff Kuhns, associate vice provost for information technology at Penn State. Kuhns explained that when customers purchase Internet or cellular phone service, they pay for access to that network — think of Verizon Wireless's "It's the network" slogan. For the proponents of Net neutrality, once customers have paid for network access, they should be able to use the network however they see fit (within the law). "Net neutrality is about nondiscrimination," said Kuhns. "It really is about allowing people to connect to any legal site they want using any legal equipment they want, and not being hampered by their network provider."

How might a network provider such as Comcast or Verizon hinder access? "In its worst form," Kuhns explained, "it could involve you being denied access to a particular site. It could have you redirected to some other site. Or it could simply involve providing a lesser degree of connection for some sites than you would otherwise expect to have." Kuhns offered a recent example involving cable giant Comcast. An investigation by the Associated Press revealed that Comcast had intentionally slowed network access for users of BitTorrent, a peer-to-peer protocol often used for distributing large audio and video files.

That example caught the public's attention, Kuhns said. "When this really started to become an issue a couple of years ago," he noted, "most of the regulators didn't want to talk about it because they said there were no examples of companies violating Net neutrality principles." Since then, however, network providers such as AT&T, Comcast and Verizon have repeatedly used their control of telecommunications channels by preventing public access to specific material online, he added. Examples include censoring political speech from an online Pearl Jam concert, refusing text-messaging access to pro-choice group NARAL and blocking network access to competitors.

Comcast and other providers claim that they need to manage limited network resources in order to maintain quality of service for all users. Kuhns, though, sees better ways to preserve the quality of online experience. Rather than restrict particular uses of the network for everyone, Kuhns explained, Penn State regulates speeds for heavy users. With this per-user philosophy of network management, Kuhns explained, "It doesn't matter what you're doing on the network: If you exceed certain limits, then your network access is throttled back." The network remains neutral, valuing equally all the data traveling across it, but certain users receive only limited access.

Congress and regulators have once again taken up the issue. A telecommunications bill recently passed by the U.S. House of Representatives included no guarantee of Net neutrality, but supporters hope that a similar bill in the Senate will provide one.

For Kuhns, who's testified before the U.S. Senate Committee on the Judiciary, only regulation can guarantee Net neutrality. Because of a lack of broadband competition in America, he said, companies have little monetary incentive to maintain neutrality. He's also a member of Educause, a nonprofit association focusing on the role of information technology in higher education. Yet as more and more of peoples' lives move online, Kuhns explained, Net neutrality will become a more pressing concern.

Without a guarantee that providers will preserve neutral networks, Kuhns said, "I think what many people worry about, though the tide may be turning here, is that we'd see a particular application or a particular legal use of a network denied under the banner of 'network management' when really it's a form of network censorship."

Source: By Jesse Hicks, Research Penn State

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