

## The Next Big Battle in Internet Policy

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When your smartphone can talk to your fridge, network neutrality will be more important than ever.



Former Alaska Sen. Ted Stevens famously observed the Internet is a "series of tubes" Photo by Alex Wong/Getty Images.

For two years, network neutrality, the nation's most high-profile and contentious Internet policy conflict has taken a backseat to other debates—privacy investigations by the Federal Trade Commission, cybersecurity orders from the White House, proposed copyright legislation like SOPA and PIPA, software patents in courts, and censorship abroad. After nearly a decade of (rarely productive) debate, net neutrality—restrictions on Internet service providers to ensure consumers experience freedom online—has rarely been in the news since early 2011.

But that quiet won't last much longer. We have merely been in an extended intermission, and soon we will watch the third act in this play unfold. At

stake is access to the mobile Internet on the handhelds and tablets in our pockets—as well as access by the chips increasingly embedded in our clothes, toasters, and heart monitors.

#### Act I: Dial-up, from Internet's birth to circa 2005

Network neutrality is a proposed legal principle that would prohibit Internet service providers from blocking or slowing down access to certain websites and online software. The idea is simple: Internet users should be able to choose where to go online and which applications to use. Comcast, say, shouldn't be allowed to block Skype just because it could siphon the communications giant's telephone business.

During the Act I of the network neutrality play, policy debate concerned dial-up Internet services and was confined to lawyers and computer scientists. In the early 1990s, Americans used their home phone lines to connect their desktop computers to the Internet via ISPs like AOL, Earthlink, or Netzero. Back then, the ISPs didn't have cost-effective technology to select particular sites for blocking or privileging. Plus, even if the most popular services—say, AOL—wanted to block some sites, users could switch to other ISPs, and AOL would lose business. Though government rules required phone companies to complete dial-up calls to anyone—your mom or your ISP—it was primarily market choice that ensured de facto network neutrality.

#### Act II: High-Speed Broadband, 2005-2010

Here, the battle moved from dial-up services to always-on, high-speed broadband Internet service. The phone companies introduced DSL, a new technology that provided higher speeds than dial-up and didn't tie up a home phone line. Then cable companies, which had previously only offered TV service through their lines, put new technologies into their systems to offer access to the Internet that was far faster than both dial-up and DSL. But, with these new technologies, users couldn't just place phone calls to dial-up providers like Earthlink and Juno. A phone company, like Verizon, would generally offer one ISP on their DSL line—their own. Same with cable companies—these days, your ISP probably isn't Earthlink, it's Comcast or Time Warner Cable. In a series of orders from 2003 to 2005, the FCC ruled that neither cable companies nor phone companies had to allow users to choose independent ISPs. And in another body blow to network neutrality, technologies were created to help the phone and cable companies block or discriminate against specific websites.

A few months after these FCC decisions liberated the cable and phone execs from potential competition, the CEO of what eventually became AT&T told [Businessweek](#) that it was "nuts" for Google, Yahoo, or any other company to use his "pipes" for "free" without paying him and making a special deal with his company. That quote kicked off a

multiyear debate featuring: failed legislation in 2006 (as a consolation prize, this gave us the hearing at which the late Sen. Ted Stevens famously observed that the Internet is not a dump truck but a “[series of tubes](#)”); the Federal Communications Commission dinging Comcast for secretly blocking BitTorrent transmissions; and a [major federal court decision](#) casting down on the FCC's power to adopt network neutrality policies, among other things.\*

In December 2010, after seven years of debate, the FCC adopted a network neutrality rule.

Act III: Mobile and Everything Else, 2012-?

But while the order focused on home broadband connections, it did very little to secure neutrality for the wireless, mobile Internet. It merely forbade wireless ISPs like AT&T, Verizon, and T-Mobile from “blocking” websites and applications that “compete with their voice or video telephony services.” Wireless ISPs can block all other content and can even discriminate—by, for example, making all Netflix traffic wait in line behind all other traffic—against anything—all websites and even those competing applications. This is the policymaking equivalent of taking away the bad guy’s broadsword and crossbow and letting him keep his gun.

The future of the Internet is mobile—on tablets and smartphones. According to Cisco, average smartphone usage nearly tripled in 2011 (from 55 MB to 150 MB per month). In 2011, mobile data traffic in the United States was eight times the size of the entire global Internet in 2000. That’s traffic. What about devices? Five million purchased the new [iPhone 5](#) within three days of its release. Sixty-six million people bought a tablet in 2011, and the trend for 2012 is up. As for software, several companies, including Facebook and Twitter, have moved to a mobile-first software development strategy.

So since the 2010 order, the fights over network neutrality have centered on the mobile Internet. This summer, Verizon settled with the FCC, paying a fine for [blocking “tethering” applications](#) on handheld devices. These tethering apps enable users to share their handheld’s 3G connections with their laptops. Furthermore, Stanford professor Barbara van Schewick, author of [Internet Architecture and Innovation](#), has called the FCC’s attention to [Verizon’s apparent discrimination](#) against Google’s mobile payment option, Google Wallet.

Last week, three nonprofit organizations announced an intention to file the very first complaint under the [FCC’s 2010 order](#). These organizations—Free Press, New America Foundation’s Open Technology Institute, and Public Knowledge—are accusing AT&T of blocking the iPhone’s FaceTime software on its 3G and 4G networks. (Disclosure: The New America Foundation is a partner with Slate and Arizona State University in [Future Tense](#).) AT&T is doing so, they claim, by making FaceTime unavailable to users in particular payment categories—all those who do not pay for the new “Mobile Share” data plan but stick with their existing unlimited or tiered data plans. Neither Verizon nor Sprint has implemented the same restrictions.

And now a new complication is emerging. Increasingly, Internet access is ubiquitous, found in devices that talk to other gizmos without worrying much about us humans. Soon, almost everything will be embedded with a microchip and connected to the Internet. The chip in your car will tell your thermostat and light switches when you’re pulling into the driveway—saving energy without compromising on comfort. People call this the “Internet of things,” as the connected objects include our refrigerators, cars, package deliveries, bicycles, heart monitors, eyeglasses (according to Google), and more. Without wireless network neutrality, then companies like AT&T, Sprint, and T-Mobile would have the legal power to block mobile software or mobile devices that want to use their networks to communicate with other devices. The person who makes the chip in your car would need the permission of a mobile carrier; so would the person creating software to allow your iPhone to control all of your appliances. These developers of machine-to-machine devices and software would have increased legal and business costs, and some of them might never see the light of day. It could set back the future, making our world of things less connected.

As we connect to one another increasingly through a mobile infrastructure—as we increasingly rely on our “things” to communicate wirelessly—the carriers of that traffic can jam up innovation economic growth in a range of sectors. They could limit and control new markets for all our “things”—and make this play a tragedy.

Correction, Oct. 2, 2012: Due to an editing error, a phrase was originally left out of this sentence. A court decision in 2010 said that the FCC did not have the power to adopt network neutrality policies. ([Return](#) to the corrected sentence.)

This article arises from Future Tense, a collaboration among Arizona State University, the New America Foundation, and Slate. Future Tense explores the ways emerging technologies affect society, policy, and culture. To read more, visit the [Future Tense blog](#) and the [Future Tense home page](#). You can also follow us [on Twitter](#).

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