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Are internet service providers becoming too powerful?







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The Fight Over Net Neutrality

By Jane Fullerton Lemons



Introduction



Demonstrators at a Verizon store in New York City on Dec. 7, 2017, urge the Federal Communications Commission to maintain rules requiring net neutrality, or equal treatment of all internet traffic. The policy's defenders say it protects consumers, but critics say it thwarts innovation and ultimately will hurt consumers. (Cover: AFP/Getty Images/Don Emmert)

Advocates of an unfettered internet are fighting to restore Obama-era regulations requiring Comcast, Verizon, AT&T and other internet service providers (ISPs) to treat all internet traffic equally in terms of speed, access and cost. The socalled net neutrality rules, instituted in 2015 when Democrats controlled the Federal Communications Commission (FCC), were repealed in December 2017 after Republicans regained control of the agency. The FCC is led by former telecommunications lawyer Ajit Pai, a free-market champion of deregulation who has criticized the net neutrality rules as burdensome and unnecessary. More than 20 states are suing to preserve net neutrality, arguing that federal regulations are needed to keep the large ISPs from becoming too powerful. But defenders of the FCC vote say net neutrality harms the ability of the ISPs to improve their networks and ultimately hurts consumers and businesses. The European Union, meanwhile, has passed laws protecting net neutrality and labeled equal access to the internet a basic right.

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Overview

Comedian John Oliver is not exactly known for his calm demeanor as he discusses the leading issues of the day on his expletive-filled HBO show "Last Week Tonight." But one topic really gets him worked up: the future of the internet.

In two widely viewed episodes in 2017 and 2014, Oliver explored a fundamental question: Should government regulate the internet to ensure all digital traffic is treated equally, known as net neutrality, or should telecom companies be in control?

Like other defenders of net neutrality, Oliver worries that Comcast, Verizon, AT&T and other companies that provide online access are becoming so big and powerful that they will soon be determining who sees what on their computers, at what price and at what speeds. His conclusion: Internet providers "should not be able to engage in any [expletive] that limits or manipulates the choices you make online."

Oliver's shows each went viral, drawing more than 21 million total views online and fueling so many public comments to the FCC that its website crashed — twice.

With almost 90 percent of Americans online — and the telecom industry generating \$750 billion in annual revenues — both sides of the net neutrality debate agree on the importance of an open internet to consumers and the U.S. economy. The dispute centers on how much regulation is needed. 2

Consumer advocates and content providers argue that because the internet plays a central role in American life, the government must ensure that it remains open and accessible to everyone equally. That means that internet service providers (ISPs) should not have wide latitude over what people can see online or the speed with which they can access it. Without net neutrality, they say, ISPs could block content or charge companies like Netflix and Twitter more for using internet "fast lanes" to reach consumers.

> The stakes were dramatically highlighted in December 2017 when the Federal Communications Commission (ECC) with a new Republican majority, scrapped net neutrality regulations



Ajit Pai, appointed by President Trump as Federal Communications Commission chairman, says the FCC's repeal of net neutrality regulations, enacted in 2015 when Democrats controlled the agency, represents a shift from "pre-emptive regulation" to "targeted enforcement." Democratic FCC Commissioner Mignon Clyburn said, however, that by rescinding net neutrality, "we have basically handed the keys to the internet to large internet service providers." (AFP/Getty Images/Saul Loeb)

that the same commission, with a Democratic majority, had adopted in 2015. The earlier rules had barred ISPs from blocking or slowing consumer access to the internet and from charging content providers a fee to reach their customers. The 2015 rules also had placed broadband providers — Comcast, Verizon, AT&T and others that provide high-speed internet service — into the same legal category as telephone companies, requiring them to provide equal access and internet speeds to all websites and applications.

The FCC's 2017 action replaced those rules with what commission Chairman Ajit Pai characterized as a "light-touch regulatory framework." It also removed broadband providers from the utility-type classification, meaning the government will no longer subject broadband service to the stringent rules that utilities face.

The loss of net neutrality is "awful for consumers and it's awful for citizens. I tend to see this from a small 'd' democratic perspective," says Michael Copps, a former Democratic member of the FCC, who argues the internet has become just as important as the telephone was for previous generations and should be regulated as such. "Surrendering to anybody the gatekeeper control is not only bad for consumers, it's antithetical to democracy."

But the ISPs say they are committed to net neutrality and will ensure equal access to all. Anything less, they say, would hurt their bottom lines.

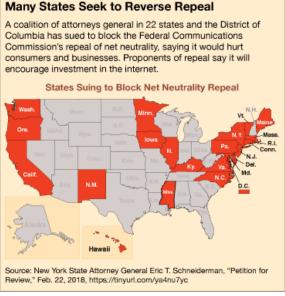
"Our companies have committed to consensus net neutrality principles very publicly — no blocking, no throttling, no unreasonable discrimination, and transparency of how they operate their networks," says Brian Dietz, senior vice president of NCTA — The Internet & Television Association, the trade

association representing the cable and broadband industry.

The real threat to a vibrant internet, ISPs say, is heavy-handed government regulation that stifles innovation and investment in new technologies. Rescinding the net neutrality rules restores "a regulatory regime that emphasizes private investment and innovation over lumbering government intervention," said Joan Marsh, AT&T executive vice president of regulatory and state external affairs. 5

The FCC's new rules were published in the *Federal Register* on Feb. 22. Although they are months away from being fully implemented, foes of the new rules have filed a host of lawsuits. The coming legal battles will pit ISPs against groups that want an unfettered internet, including state and local elected officials, consumer groups and content providers, including tech industry giants such as Amazon, Facebook and Google. 6

So far, a coalition of attorneys general from 22 states and the District of Columbia has sued to reinstate the net neutrality rules. They joined other companies that have filed similar suits, including Mozilla, developer of the Firefox Web browser and the video-sharing website Vimeo, as well as open-internet advocacy groups such as Free Press, Public Knowledge and the Open Technology Institute.



Source: New York State Attorney General Eric T. Schneiderman, "Petition for Review," Feb. 22, 2018, https://tinyurl.com/ya4nu7yc

Long Description

In addition, more than half the states have introduced legislation to enact their own net neutrality regulations, with Washington state in early March becoming the first to pass a law protecting net neutrality.

Pai, a former Verizon general counsel who was appointed FCC chairman by President Trump, has become a lightning rod for the issue because he voted against the 2015 rules and led the fight for their repeal when he became chairman last year.

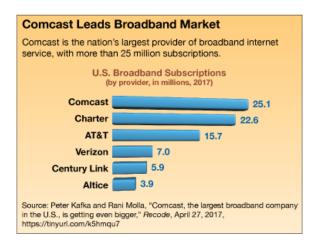
The new policy, Pai said, represents a shift from "pre-emptive regulation" to "targeted enforcement based on actual market failure or anti-competitive conduct." He stressed that this is "not a completely hands-off approach. Nobody gets a free pass."

The two Democratic FCC members disagree. Commissioner Mignon Clyburn said that by rescinding the rules, "we have basically handed the keys to the internet to large internet service providers.... They have the ability to do all the things that we fear the most." 10

After the FCC repealed net neutrality, The Associated Press (AP) asked seven major ISPs about their plans, and several promised not to block or throttle lawful content.

But when the AP asked the ISPs whether they might charge websites for faster access to consumers, known as "paid prioritization," none of the seven companies — Verizon, AT&T, Comcast, Charter, Cox, Sprint and T-Mobile — would rule out that possibility. Most said they had "no plans" for paid prioritization, while a few declined to answer the question.

Open-internet advocates dismiss the ISPs' promises to abide by net neutrality principles by pointing to examples when they violated it. One instance involved Comcast, the nation's largest ISP, which blocked or slowed file-sharing applications in 2005. "The problem is very real," says Timothy Karr, senior director of strategy and communications at Free Press, which has compiled examples of ISPs violating net neutrality principles. 12



Long Description

The FCC's reversal on net neutrality shifts much of its historical internet oversight role to the Federal Trade Commission (FTC). The two agencies issued an agreement in December pledging cooperation in the enforcement of net neutrality principles. [13]

The FCC's action will allow the FTC to play a larger enforcement role, says Margaret McCarthy, executive director of Mobile Future, the trade association representing the mobile telecom industry. "The FCC and the FTC are working together to be the cops on the beat, which we think is really critical."

But net neutrality advocates say the FTC is not up to the task. FTC Commissioner Terrell McSweeny, a Democrat, agrees. While her agency is good at many things, she said, don't count on it to protect the internet. The FTC, McSweeny said, does not have telecommunications expertise.

Consumer advocates say the loss of net neutrality could particularly hurt areas with limited access to broadband service or with fewer ISP choices.

Currently, the top six ISPs control more than 71 percent of the U.S. internet market. But because the market is regionalized, the ISPs do not usually compete directly with each other. Thus, unlike in other countries, most Americans — especially in rural areas — have only one choice when it comes to internet service. The United Kingdom, by contrast, has more than 50 ISPs. 15

The FCC's decision to repeal net neutrality "will have an outsized impact on rural and poor communities because these are the communities that don't have choices for how they access the internet," says Heather West, senior policy manager for Mozilla.

In fact, many Americans have no access to internet service. The most recent FCC data found that 39 percent of the rural population — or 23.4 million people — lacked access to what the agency regards as basic fixed broadband service. That compares to 4 percent of the urban population. 16

Public opinion polls show overwhelming bipartisan support for retaining net neutrality regulations. Various polls have found from 52 percent to 83 percent of those responding favored retaining the 2015 FCC rules. 17

The partisan divide on the issue exists only in Washington, West says. "We've seen an amazing groundswell of grassroots activism and engagement on this," she says. "It's been really clear, survey after survey, that outside of Washington there's incredible support for enforceable net neutrality protections."

As consumer advocates, internet companies, regulators and others debate net neutrality, here are some of the questions they are asking:

Is ending net neutrality good for consumers and businesses?

Advocates of net neutrality contend the FCC's about-face on the 2015 rules will harm internet users.

"Potentially, these changes could affect everyone," says West of Mozilla. "Taking these rules back means the ISPs are in a position to determine what I have access to, whether that's fast access or access at all."

Democratic FCC Commissioner Jessica Rosenworcel, who voted to retain the 2015 regulations, said overturning them "hands broadband providers the power to decide what voices to amplify,

which sites we can visit, what connections we can make and what communities we create." 18

But Mobile Future's McCarthy says repealing the 2015 rules "really isn't the end of net neutrality. There's widespread agreement across all the players in the internet ecosystem that protecting openness online is really critical — for consumers, for small businesses and entrepreneurs — and that it's been a critical ingredient for the internet becoming the great American success story that it is "

Despite the ISPs' repeated assurances they will follow net neutrality principles, consumer advocates fear ISPs could charge content providers and tech companies a fee for access to internet "fast lanes." Or they could give priority to preferred content, such as television shows produced by their subsidiaries. Or they could offer bundled packages to consumers providing access to specific sites, much like the channel packages offered by cable television companies. [19]

Asked recently about net neutrality, Sprint CEO Marcelo Claure said he does not see anything wrong with charging internet content providers — such as Netflix, Facebook or Google — for faster service, much like consumers can choose internet service at different speeds. The difference is that the ISP controls the content provider's access to their customers.

"I don't think there's anything wrong for you to eventually charge a higher price for a faster access to your network," he said at a mobile industry trade show in Barcelona, Spain. He compared the concept to a toll road: "In the United States in many roads you drive, you have a faster road and you pay more. There's nothing wrong with that." [21]

Such a prospect worries net neutrality advocates. Besides hurting consumers who cannot afford higher monthly rates, fast-lane pricing could give larger businesses an advantage over smaller businesses or startup companies that might not be able to afford it. They cite Google and Facebook, noting that if those companies had had to pay for access to broadband networks when they were starting out, they might not have developed into the giant tech companies they are.

Reed Hastings, Netflix chief executive officer, argued forcefully for net neutrality rules in 2015. While he still supports the concept, his company has since grown large enough that it can negotiate with ISPs. But he said smaller players could be hurt by the FCC policy change, noting that "where net neutrality is really important is the Netflix of 10 years ago." [22]

Indeed, Netflix already has entered into "peering" agreements with Comcast, Verizon and AT&T that let the movie provider connect directly to their networks to reach its customers more quickly — which some observers say amounts to the kind of fast lanes that ISPs could impose on content providers. [23]

Similar worries led a coalition of small businesses to send a letter to FCC Chairman Pai last year, calling for the FCC to retain the 2015 net neutrality rules.

"The open internet has made it possible for us to rely on a free market where each of us has the chance to bring our best business ideas to the world without interference or seeking permission from any gatekeeper first," they wrote on behalf of more than 500 small businesses. "This is possible because the principle of net neutrality ensures that everyone has unimpeded access to the internet." [24]

Small businesses could be hampered if ISPs impose fees to access their customers, charge their customers for access to their websites, provide competitors with faster internet speeds or slow down their online traffic.

For consumers, the results could be similar if ISPs charge them for faster access to specific sites or services that they own or favor. An ISP, for instance, could favor one movie service over another, letting Netflix load faster than Hulu or Amazon.

"Right now all your content comes at the same speed," says Benjamin Hermalin, an economics professor and a vice provost at the University of California, Berkeley. With no net neutrality rules, "your content could come at different speeds."

Does net neutrality impede investment and innovation?

FCC Chairman Pai frequently says the net neutrality rules adopted in 2015 created regulatory uncertainty, causing ISPs to delay the investments necessary to improve their networks and pursue innovations in the telecom industry. Such an outcome harmed the internet and, ultimately, consumers, he said.

Removing those rules, the argument goes, will reduce uncertainty and encourage spending on things like expanding broadband infrastructure and access.

The 2015 regulations that classified ISPs as a "common carrier" — a transportation or communication network subject to a more stringent level of federal oversight. Under Title II of the 1934 Communications Act, common carriers "are like the proverbial sledgehammer being wielded against the flea," Pai said, and do not match the internet marketplace. "Let the marketplace evolve organically," he said, "and if you see any harm to consumers, then take targeted action to address that problem." [25]



Students at Monroe Intermediate School in rural Lower Peachtree, Ala., work in the computer lab, which lacks a high-speed internet connection. Repealing net neutrality "will have an outsized impact on rural and poor communities," says Heather West, senior policy manager for Mozilla. According to the FCC, 39 percent of the nation's rural population lacks high-speed service. (Getty Images/The Washington Post/Michael S. Williamson)

According to the U.S. Telecom trade association, the telecom industry's investment dropped by \$2.4 billion from 2014 to 2016, partly because of the net neutrality regulations. Comcast, for instance, said it delayed introducing a streaming TV service because of the more stringent regulatory environment. [26]

"For decades, the internet flourished under a bipartisan regulatory approach that allowed it to operate, grow and succeed free of unnecessary government controls," said Kathy Grillo, a Verizon senior vice president, adding that net neutrality rules were outdated and unnecessary. "It undermined investment and innovation, and posed a significant threat to the internet's continued ability to grow and evolve to meet consumers' needs." [27]

A group of economic researchers concluded that reducing regulatory barriers could make it more profitable for broadband providers to reach underserved areas, especially in rural and lower-income communities. Their analysis of FCC data found that although broadband adoption increased from 68 percent of the population in 2012 to 73 percent in 2017, "high-speed access tends to be skewed toward denser, urban centers where the economics are more favorable to a network operator, resulting in large areas with limited broadband access." As a result, the analysis found, more than 10.6 million

households have no access to high-speed landline internet or have access to only one high-speed provider. [28]

Smaller ISPs have come down on both sides of the issue. An ISP in Arkansas said it delayed a planned expansion to make sure it was complying with the 2015 rules. But a group of more than 40 small providers told the FCC they "encountered no new additional barriers to investment or deployment," and said the rules were needed to ensure a level playing field as they try to compete with the large ISPs. [29]

Net neutrality advocates deny that the 2015 regulations hampered broadband investment. Based on an analysis of company filings with the Securities and Exchange Commission (SEC), the Free Press said the telecommunications industry increased its capital investments following adoption of the 2015 rules. 30

"We found that not a single publicly traded U.S. ISP ever told its investors (or the SEC) that Title II negatively impacted its own investments specifically," according to the Free Press report. The group found total capital investment by publicly traded ISPs was more than 5 percent higher during the two-year period following the FCC's vote than it was in the two years before the vote. 31

Key Net Neutrality Terms

Broadband — High-speed data transmission, typically through a single cable or optical fiber, that can handle large amounts of data simultaneously. Wireless broadband is known as Wi-Fi.

Common carrier — A public utility, transportation or telecommunication company that provides the public with essential services, such as electricity; placing internet providers in this category means they face the same regulatory scrutiny as utilities.

DSL — A digital subscriber line provides high-speed internet access by using unused higher frequencies in telephone lines.

5G — Fifth-generation wireless technology, projected to be much faster than the current 4G standard. It could launch in 2018.

ISPs — Internet service providers are companies that build the "pipes," or lines, that bring the internet to homes and businesses.

Net neutrality — The principle that ISPs should treat all internet traffic equally in terms of speed, access and cost.

Paid prioritization — The practice of ISPs charging higher fees to companies that want consumers to be able to reach their websites more quickly.

Title II — Communications Act provision that can be used to classify internet service providers as common carriers, subjecting them to tougher utility-style regulations.

In January, three leading telecommunications companies filed their quarterly earnings reports. Comcast and AT&T reported earnings and revenue that topped analysts' expectations. Verizon's earnings missed expectations, but its revenue exceeded estimates. All three companies are in the midst of transforming their business model from one based on phone service into one combining data and internet services. [32]

The media industry is watching Comcast's earnings report particularly closely because the company has business interests on both sides of the net neutrality debate. It produces content through NBC and Universal Pictures, and as the nation's largest ISP it owns the "pipes" to deliver that content to consumers. Verizon has a digital content and advertising arm that includes Yahoo and AOL. AT&T hopes to finalize its acquisition of Time Warner this year, although the Justice Department has challenged the merger.

During a public call discussing its earnings report, AT&T Chairman Randall Stephenson praised the FCC's "rationalized" regulation, but said the industry needs long-term predictability of the rules of the internet in the form of legislation.

"We obviously believe this is a step in the right direction," he said, "but this regulatory pendulum is going to keep swinging back and forth unless Congress steps forward and writes new laws to govern all internet companies and to protect the consumer. We believe that we need clarity." [33]

Net neutrality advocates say the FCC's decision to rescind the rules will hurt internet content providers; money sent to ISPs for faster access to online consumers will leave content providers with less money to invest in new products, they say.

The loss of net neutrality could especially hurt small businesses and startups, because ISPs could charge them more for faster delivery of content, says Nicholas Economides, an economics professor at New York University

"When innovative companies have higher costs, they will have a much harder time becoming established and growing and contributing to U.S. growth," Economides says. In the long term, "that will have the effect of slowing down U.S. growth in the tech sector and U.S. growth in general."

Does repealing net neutrality encourage internet censorship?

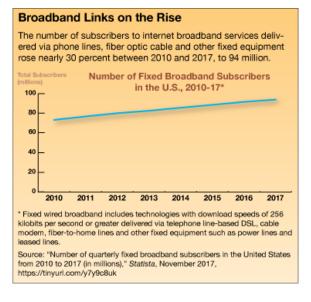
Proponents of net neutrality regulations worry that without them, ISPs will be able to censor internet content.

"The internet is the public square of the 21st century," said New York state Attorney General Eric Schneiderman, who has sued the FCC, contending the agency's decision to revoke net neutrality violates federal law. "But without net neutrality, it will become a private square — with massive corporations deciding what people and ideas get in." [34]

By removing the sanctions against blocking or slowing online content, the new rules do not prohibit ISPs from discriminating among different kinds of content, net neutrality advocates say. With no requirement to treat all online content equally, ISPs could favor their own content over a competitor's. Comcast, for instance, could prioritize shows on NBC, which it owns, while slowing those from rival networks.

"There's nothing in the books now going forward to keep that from happening," says Copps, the former FCC commissioner. "Censorship is a strong word, but that's what it is."

But broadband companies insist they will not do it. "We do not block websites, nor censor online content, nor throttle or degrade traffic based on the content, nor unfairly discriminate in our treatment of internet traffic," said Bob Quinn, AT&T senior executive vice president of external and legislative affairs. [35]



Long Description

Like other free-market advocates, Andrew Magloughlin, a regulatory policy intern at FreedomWorks, a conservative advocacy group, thinks censorship concerns are a false narrative. If a company were to engage in anticompetitive censorship of website content, it would be subject to antitrust regulations enforced by the FTC — and would face further penalties from the public backlash that would follow.

"Fears of a content-restrictive internet are fantasy," he said. "This is a problem that simply doesn't exist. Content-based censorship provokes backlash from customers who appreciate such content. Comcast would face a consumer exodus if it blocked the New England Patriots website just because it prefers the Miami Dolphins." [36]

Hermalin, the Berkeley professor, acknowledges that censorship is possible, but says ISPs will be wary of a public reaction. He predicts that a kind of economic censorship is more likely.

"The bigger fear is they will block content for economic reasons," he says, adding that "one of the dangers is that that they will favor their own content at the expense of other content."

Other observers express concern about censorship of thoughts and ideas along the lines of what happens in countries like China, where the government retains control over the internet.

"Indeed, a broadband carrier like AT&T, if it wanted, might even practice internet censorship akin to that of the Chinese state, blocking its critics and promoting its own agenda. Allowing such censorship is anathema to the internet's (and America's) founding spirit," said Tim Wu, the Columbia Law School professor who coined the term network neutrality. [37]

The internet's development in the United States has been a democratizing force, particularly for underrepresented groups, said Willmary Escoto, a Google policy fellow at Public Knowledge, a public interest group that advocates for an open internet. The internet has enabled marginalized communities to illuminate social injustices that were once in the shadows. 38

The internet, for example, played a key role in helping the tea party become a potent conservative political movement and in transforming the Black Lives Matter from a hashtag into a liberal movement against racism and police shootings of unarmed black men. [39]

"Live streaming is transforming the growth of citizen journalism, providing a distressing view of shootings like these, and empowering citizens to share their story without the fear of censorship," Escoto said.

Carmen Scurato, director of policy and legal affairs for the National Hispanic Media Coalition, said dismantling net neutrality opens the door for corporations to limit free expression, organizing efforts, educational opportunities and entrepreneurship. "An open internet is the primary destination for our communities to share our stories in our own words — without being blocked by powerful gatekeepers motivated by profit," she said. 40

The power those gatekeepers wield became apparent last year after several companies ended their affiliation with the American neo-Nazi website The Daily Stormer in the aftermath of a violent white nationalist rally in Charlottesville, Va.

Cloudflare, a security company that protects websites from being taken down by hackers or extortionists, ended its relationship with The Daily Stormer, which meant the website could not continue to stay online. [41]

Cloudfare's action was tantamount to kicking The Daily Stormer off the internet — a form of censorship, according to observers of the net neutrality debate who wondered how and whether such actions could be applied to other viewpoints across the political spectrum.

Cloudfare itself was uncomfortable with its actions, said Chief Executive Officer Matthew Prince. The power to censor is "terrifying," he said, calling for a review system that would allow such decisions to be made with objectivity and consistency. "The internet is a really important resource for everyone," Prince said, "but there's a very limited set of companies that control it, and there's such little accountability to us that it really is quite a dangerous thing." [42]

The key to avoiding internet censorship is to keep the people who control the networks from controlling the content, says Robert McChesney, a communications professor at the University of Illinois, Urbana-Champaign.

"This is about the control of information, all information — journalism, entertainment, the works," he says. Without net neutrality regulations, that control will rest in the hands of a few companies.

"The core principle of democracy is, you don't want monopolists to have control over anything remotely close to your means of information," he says. "That is a recipe for disaster."

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Background

Expanding Regulations

The principle of common carriage, which underlies the debate over net neutrality, has played a central role in regulating transportation and communications worldwide for centuries. Under common carriage laws, ship owners, innkeepers, stable keepers and others engaged in "public callings" must serve any and all customers who reasonably seek their services. 43

Common carriers in the United States have included railroad, shipping, utility and telecommunications companies. In 1887, Congress responded to a public outcry over the growing power and wealth of the railroads by passing the Interstate Commerce Act, which required that shipping rates be "reasonable and just." The railroads were accused of forming trusts to set prices and of discriminating against smaller businesses by charging higher prices per mile for short hauls than for long ones.

The new law also established the Interstate Commerce Commission (ICC), the first federal agency established to regulate a private industry.

In 1910, Congress expanded the ICC's jurisdiction to cover the telecommunications industry, including a new technology, the telephone, and an older one, the telegraph. It defined both as common carriers.

The pioneering days of radio in the 1920s paralleled the early days of the internet, with little regulation of the new medium. As the number of licensed broadcast stations grew from five in 1921 to 500 in 1924, Congress created the Federal Radio Commission in 1927 to regulate the public airwaves. [45]

Less than a decade later, Congress passed the Communications Act of 1934, which consolidated all radio, television and telephone regulations under the new Federal Communications Commission, which replaced the Federal Radio Commission. The FCC was charged with overseeing interstate and foreign communications. Telecommunications companies were regulated as common carriers under Title II of the act, thus requiring phone companies and others to provide access to their networks at reasonable rates. (46)

In the 1940s, the FCC addressed the growing power and commercialization of radio by asserting that radio stations were to serve the public interest. The agency published the "Public Service Responsibility of Broadcast Licensees" — commonly known as the Blue Book — to outline how broadcasters should fulfill that obligation. 47

In 1949, as radio and television broadcasting continued to grow, the FCC instituted the Fairness Doctrine, requiring stations licensed by the FCC to provide time for controversial subjects and to air opposing views on those issues. 48

Computer Revolution

During the 1960s and '70s, technology developed in two key ways that laid the groundwork for today's internet. First, computers advanced from specialized scientific uses to tools the public could use. Second, a "network of networks" began evolving into what would become the internet. 49

Computer advances in the 1960s forced the FCC to face its earliest decisions about how to regulate the burgeoning technology. The agency debated whether such communications systems

fell under the same common-carrier legal framework as telephone communications.

After undertaking "Computer Inquiries" in the 1970s and '80s, the FCC concluded the new technologies were an "enhanced service," meaning they would be regulated less stringently under Title I of the 1934 Communications Act, rather than as a common carrier "basic service" such as the telephone. 50

The Defense Department, meanwhile, was developing the precursor to the internet, the ARPANET (Advanced Research Projects Agency Network). Created in 1969, it consisted of seven research-university computers that exchanged packets of information over telephone wires. But the phone companies showed no interest in the new technology. [51]

After the government completed its research in 1971, AT&T turned down an offer to take over operation of the ARPANET — an offer that would have amounted to monopoly ownership of what became the internet. Like many at the time, AT&T officials did not see its commercial value. [52]

But explosive growth was just around the corner. In 1991, British computer scientist Tim Berners-Lee and colleagues at CERN, the European Organisation for Nuclear Research, in Geneva, created the World Wide Web, allowing documents and photos to be sent via hypertext links. After the first website went online in 1991 at CERN, the number of internet-connected computers jumped from 2,000 in 1985 to more than 2 million in 1993, and the number of internet users exploded — to 14 million worldwide. [53]

In the early 1990s, the federal government began turning over operation of its computerized networks to the private sector. By 1995, the internet was fully privatized. 4

In the mid-1990s, Congress undertook the first significant overhaul of telecommunications policy since 1934. The Telecommunications Act of 1996 drew a regulatory distinction between traditional phone companies and cable companies. Phone companies continued to be regulated as "telecommunications services" and subject to the utility-style Title II regulations of the original law. But cable companies were classified as "information services" and therefore subject to less stringent oversight. The act also attempted to reduce regulatory barriers to entry and competition in the telecommunications industry. [55]

Dawn of Broadband

In 1999, Democratic FCC Chairman William Kennard advocated "vigilant restraint" when regulating the internet.

"The internet is really blossoming, but some policymakers and politicians want to control it and regulate access to it," Kennard said. "We should not try to intervene in this marketplace. We need to monitor the rollout but recognize we don't have all the answers because we don't know where we're going." ⁶⁶

Those comments came at time when people primarily got their internet over their phone lines. Cable television operators were just beginning to offer internet services. Two factors were at play: Cable could offer faster internet connections, so the companies offering internet access over phone lines wanted access to the cable lines, too. And cable services were regulated less stringently than phone lines.

This situation began the debate about whether broadband service was as essential as phone or electric services and, therefore, should be subject to the same level of regulation. Supporters of net neutrality regulations argued that internet service, regardless of whether provided by phone or cable companies, met the threshold to be classified as a common carrier: It provides an important service, is transmitted over a common network infrastructure and has few suppliers.

But the telecom industry and free-market advocates denied that the internet is a monopoly and said it doesn't fit the mold for regulation as a public utility.

Over the next two decades, the FCC struggled with how to classify emerging broadband services and how to regulate the internet. The companies providing access battled each other in court in an attempt to gain competitive advantage. And several of those companies merged.

In 2002, the FCC under Republican Chairman Michael Powell took the first steps toward keeping broadband services deregulated when it decided cable companies would not be forced to share their lines with competitors. That was a departure from the treatment of telephone operators, which had to allow competitors to use their networks.

The FCC classified cable internet access as an interstate information service under Title I of the 1934 Communications Act, rather than a telecommunications service under the act's Title II. That meant cable broadband services would not be subject to utility-style regulation as a "common carrier" under Title II. 57

In June 2003, Wu, who was then an associate professor at the University of Virginia, first used the phrase "network neutrality" in a prescient paper for an academic journal. "Communications regulators over the next decade will spend increasing time on conflicts between the private

interests of broadband providers and the public's interest in a competitive innovation environment centered on the Internet," he wrote. [88]

Powell, meanwhile, challenged the broadband industry to preserve four "internet freedoms." In a February 2004 speech, he said internet customers should expect the freedom to access any legal content, to use applications, to attach personal devices to their home connections and to obtain meaningful information about their service plans. [59]

The following year saw several developments. In March 2005 the FCC found that Madison River Communications, a phone company providing dial-up internet service in the Southeast and Midwest, had had been blocking subscribers from using Vonage, an internet phone service that competed with its traditional calling options — the kind of action advocates contend could happen without net neutrality regulations. The company negotiated an agreement with the FCC in which it agreed to end the practice.

In June 2005, the U.S. Supreme Court overturned a lower-court ruling that would have forced cable companies to share their infrastructure with competitors delivering internet service via phone lines. The Supreme Court's decision was based on whether the FCC had the authority to determine how to classify an internet provider — not on how cable operators should be classified. [61]

As a result, in September 2005 the FCC reclassified internet access via phone lines as a Title I interstate information service under the Telecommunications Act. That put DSL — a technology that provides high-speed internet access over telephone lines — in the same category as cable broadband services, which were no longer considered a Title II common carrier. 62

That same month, Republican FCC Chairman Kevin Martin expanded on Powell's "internet freedoms" speech with a policy statement outlining principles to ensure broadband networks were operated in a "neutral manner." The statement represented the agency's first attempt to establish a formal net neutrality policy, but it stopped short of implementing the guidelines as rules. [63]

Two months later, AT&T CEO Edward E. Whitacre Jr. suggested that he wanted to charge internet companies such as Yahoo for delivering their content to customers through AT&T's "broadband pipe" — thereby voicing what net neutrality advocates feared would happen without regulations to prevent it.

"Now, what they would like to do is use my pipes free, but I ain't going to let them do that because we have spent this capital, and we have to have a return on it," he said. "The internet can't be free in that sense, because we and the cable companies have made an investment, and for a Google or Yahoo or Vonage or anybody to expect to use these pipes [for] free is nuts!" [64]

In August 2008, the FCC rebuked Comcast for blocking or throttling access for some customers using the popular BitTorrent software to download online files, including music and videos. The FCC said the action was unlawful, marking the first and only time the FCC officially found a U.S. broadband provider in violation of net neutrality principles. But Comcast appealed the decision, and a federal court ruled in April 2010 that the action was outside the FCC's authority.

Net Neutrality

The FCC headed by Democratic Chairman Julius Genachowski adopted its first formal regulations on net neutrality in 2010. The Open Internet Order prohibited cable and DSL providers from blocking or throttling internet services, but it imposed fewer restrictions on the new wireless technology.

Verizon challenged the order, and a federal court in January 2014 sided with Verizon, saying the FCC had relinquished its authority by not classifying broadband as a Title II carrier. The court, however, did say the FCC should be able to regulate broadband and told it to come up with better rules that would be enforceable.

The Verizon decision marked the second time courts handed the FCC a setback in its efforts to implement net neutrality policy. But the issue got a push from comedian Oliver, who in June 2014 first discussed net neutrality on his HBO show. The episode went viral, drawing more than 14 million views online. It helped fuel so many public comments that the FCC's website crashed as a filing deadline approached for the proposed net neutrality regulations. [67]

The issue got a second push from President Barack Obama, who in November 2014 urged the FCC to "implement the strongest possible rules to protect net neutrality" by reclassifying broadband providers as Title II common carriers.

In February 2015, the FCC adopted formal net neutrality regulations after Democratic Chairman Wheeler announced support for regulating all broadband under the Title II regulations that govern phone companies. "These enforceable, bright-line rules will ban paid prioritization, and the blocking and throttling of lawful content and services," he



As FCC chairman, Tom Wheeler successfully pushed the FCC to adopt net neutrality rules in 2015. The rules, he said, would ensure "the rights of internet users to go where they want, when they want, and the rights of innovators to introduce new products without asking anyone's permission." (Getty Images/Bloomberg/Pete Marovich)

wrote. This will ensure, he continued, "the rights of internet users to go where they want, when they want, and the rights of innovators to introduce new products without asking anyone's permission." [69]

Later that month, the FCC approved a new Open Internet Order, on a 3-2 party-line vote, applying the Title II standards to both wired and wireless internet providers, thereby subjecting those ISPs to the more stringent regulatory framework. 70

Cable, telecom and wireless internet providers and others challenged the legality of the regulations, but a federal court in June 2016 allowed the new rules to take effect. 71

After taking office in January 2017, President Trump named Pai as FCC chairman. Pai quickly announced plans to reverse the agency's 2015 net neutrality rules, which he had voted against as a commission member. In May, comedian Oliver again used his HBO show to defend net neutrality. 72

The FCC voted Dec. 14, 2017, again on a 3-2 party-line vote, to rescind the 2015 net neutrality regulations.

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Current Situation

Flurry of Lawsuits

The battle over net neutrality is heading to the courts.

As soon as the *Federal Register* published the rules implementing FCC's December 2017 repeal of net neutrality on Feb. 22, consumer groups, internet companies and attorneys general from 22 states and the District of Columbia began suing the agency.

Repealing net neutrality would have "dire consequences for consumers and businesses" because it would "allow internet service providers to put corporate profits over consumers by controlling what we see, do, and say online," New York Attorney General Schneiderman said. He led the coalition of attorneys general in supporting the suit filed earlier by Mozilla and Vimeo. [73]

Public interest groups Free Press, Public Knowledge and the Open Technology Institute also have filed lawsuits seeking to protect net neutrality. [74]

"This rule defies the will of a bipartisan majority of Americans and fails to preserve a free and open internet," said Michael Beckerman, president of the Internet Association, a trade group representing tech companies. [75]

States Act

On March 5, Democratic Gov. Jay Inslee of Washington signed a net neutrality bill, setting up a potential clash with the FCC. It bans ISPs from blocking or slowing content, and from speeding up apps and services in exchange for money from developers and website owners.

The measure was among 61 bills introduced in 27 states aimed at retaining net neutrality in their states. Although most of those efforts have been initiated by Democrats, a number of Republicans are supporting net neutrality. The bill signed by Inslee, for instance, was sponsored by Republican state Rep. Norma Smith, who represents a rural district with constituents concerned about retaining open internet access for their homes and businesses.

"This is not a partisan issue here," Smith said. "Everyone is concerned about equal access to the internet and being able to participate in the 21st-century economy." [7]

Taking another approach, a Republican governor and four Democratic governors — from Vermont, Montana, Hawaii, New Jersey and New York — have signed executive orders forbidding their states from doing business with ISPs that violate net neutrality principles. [78]

"This is a simple step states can take to preserve and protect net neutrality," said Democratic Gov. Steve Bullock of Montana. "We can't wait for folks in Washington, D.C., to come to their senses and reinstate these rules." [79]

State officials will continue to take action on the issue, said Danielle Dean, a policy director for the National Conference of State Legislatures. "Net neutrality is going to be a big issue for states in 2018. We expect more and more bills to be filed," she said "The issue will be contentious, and there will be heated conversations about what role states should take." [80]

Municipalities have joined the fray, too. In December, 68 mayors and county leaders signed a letter opposing the FCC's rollback of the 2015 net neutrality rules. In particular, they took issue with the part of the FCC order that seeks to prevent states and localities from enacting their own net neutrality rules, saying they were "deeply disturbed by the Commission's efforts to preempt our ability to protect consumers and businesses in our communities." [81]

These state and local efforts will likely lead to a separate legal battle over whether states and municipalities have the authority to circumvent the FCC's order. The wireless communication industry trade group CTIA argues that broadband internet service is an "interstate offering" that makes it the purview of the FCC and not individual states. [82]

Bret Swanson, a visiting fellow at the American Enterprise Institute, a conservative Washington think tank, said internet access and applications are "inherently nonlocal services" that fall under federal jurisdiction. "If ever there were an economic activity that met the definition of interstate commerce," he said, "it is the internet." [83]

Republican FCC Commissioner Michael O'Rielly agreed, saying broadband is "an interstate information service" that should be subject to "a uniform, national framework." This position, he said, is consistent with the U.S. Constitution. [84]

"A hodgepodge of state rules could severely curtail not only the next generation of wireless systems that we have been working so hard to promote," he said, "but also the technologies that may rely on these networks in the future."

Senate Debate

In addition to the lawsuits, the FCC's December action is sparking debate in Congress, most notably leading to a long-shot Democratic-backed effort to reverse the new rules. The action could have ripple effects on other legislative issues aimed at extending the reach of broadband networks, particularly in underserved rural areas, or reauthorizing the FCC for the first time since 1990. 85

In the Senate, Democrats have enough support to force a vote on a resolution reversing the FCC repeal of net neutrality. They would use a legislative tool called the Congressional Review Act, which gives Congress the power to reverse a federal agency's ruling within 60 legislative days of its publication in the *Federal Register* — in this case, Feb. 22.

Sen. Ed Markey, D-Mass., who sponsored the resolution calling for repeal of the rule, said he has "a tsunami" of support. "The internet doesn't belong to big internet service providers and special interests who want to turn it into a toll road where consumers will pay more while the biggest corporations get to ride in the fast lane," he said. 66

All 49 senators who caucus with the Democrats plus one Republican, Susan Collins of Maine, back the measure. Democrats need one more Republican to support the bill for it to pass. But even if it does, the measure is unlikely to pass in the House. The bill's supporters aim to force Republicans to take a public stand on the issue during an election year. [87]

Senate Minority Leader Chuck Schumer, D-N.Y., began the countdown to that vote with a Feb. 27 opinion piece in *Wired* magazine, urging another Republican senator to vote for the measure and avoid the FCC's "dystopian vision for the future of the internet." [88]

Later that day, dubbed a "day of action" by net neutrality advocates, Democrats introduced bills in both chambers. In the Senate, Markey predicted that grassroots support for reinstating net neutrality rules would grow and nudge senators to vote for passage.

"When we take this vote on the Senate floor," Markey said, "every one of my colleagues will have to answer this question: 'Whose side are you on?" [89]

A Republican who could be the tie-breaking vote on the Congressional Review Act introduced his own bill to codify some elements of net neutrality. The measure from Sen. John Kennedy, R-La., who has not announced his position on the resolution, would prevent ISPs from "slowing down and controlling Web content." It does not, however, block paid prioritization. [90]

On the House side, Rep. Mike Doyle, D-Pa., introduced a companion bill to the Democratic effort. (Rep. Marsha Blackburn, R-Tenn., introduced a companion bill to Kennedy's measure last year.)

In December, Blackburn and more than 100 fellow House Republicans sent a letter to the FCC in support of the repeal. "This proposal is a major step forward in the effort to clear the way for the substantial investment necessary to advance our internet architecture for the next generation and close the digital divide," they said. [92]

Internet service providers characterized the Democratic effort to overturn the FCC decision as a step backward in the policy-making process.

The process "only delays us from really providing consumers some basic protections on the internet," said AT&T's Quinn. He and other telecom industry representatives called for bipartisan legislation to solve the "vexing issue" of net neutrality. 93

In January, AT&T took out full-page newspaper ads calling for a national net neutrality law that would govern not just ISPs like itself but also tech companies and content providers such as Google and Facebook, ISPs are concerned about the potential for a patchwork of state laws. They support efforts to ban blocking or slowing internet content, but would stop short of prohibiting paid prioritization. That issue is a key difference between the Republican and Democratic bills currently pending. Congress has tried before to come up with such a law but failed to reach an agreement.

"We should work together on comprehensive legislation that will preserve the open internet ecosphere and finally end this arduous debate," said Robert M. McDowell, chief public policy adviser at Mobile Future and a former Republican FCC commissioner. 95

The intensified congressional activity comes as members gear up for this fall's midterm elections. Given the widespread public interest net neutrality has generated, the seemingly arcane topic appears likely to become a key campaign issue.

"Net neutrality will be a major issue in the 2018 campaigns," Sen. Schumer said. 96



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Outlook

Continuing Battle

Given how rapidly technology has changed over the past 50 years, experts say it is difficult to predict what the future holds for net neutrality. But they expect the battle in the courts and legislatures over internet regulation to continue for years.

Meanwhile, the new FCC policy of light-touch regulation will begin this spring after the Office of Management and Budget completes a review of the repeal.

"My bet is that the broadband companies will manage to be good for about 15 minutes," says Harold Feld, senior vice president of the public interest group Public Knowledge. "Then the problem of having a system that is built on 'you can do what you want until you run into trouble' means the only way you find your limits is when you run into trouble."

Some observers say it is time to update the 1996 Telecommunications Act. After all, as futurist and technology researcher Richard Adler wrote, "Two decades is a long time in the world of technology, and telecom is vastly different today than it was then." In the 1990s, fewer than 20 percent of Americans had cellphones or residential internet service, and internet service was provided through dial-up connections. 97

While some in Congress and the industry would like to revamp the law, says Carr of Free Press, it would be a complicated process involving countless lawyers and lobbyists. "It's become a bit of a hot potato," he says, "not only because of the issue of net neutrality, but there are a whole host of contentious issues.

Technological change could further complicate things.

In the world of telecommunications, Verizon and AT&T plan to begin offering fifth-generation, or 5G, wireless services this year that will bring customers faster speeds and the ability to connect to more

In addition, a number of new technologies are on the horizon, such as voice activation, augmented reality, artificial intelligence and automated cars. And the Internet of Things, in which "smart" household objects can send and receive data via the internet, will continue to expand. [98]

From using smart transportation to reduce traffic fatalities to creating prosthetic limbs with 3D printing, McCarthy, of Mobile Future, says the future of technology is intertwined with the internet and therefore with the rules that govern it.

"How we use that connectivity," she says, "is going to be so much more than just looking at the screen of your smartphone. That all requires dollars and wires and all kind of technology deployment, and the regulatory environment can have a huge impact on that."

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Pro/Con

Is regulation necessary to ensure unfettered online access?

Pro		Con	
	Heather West Senior Policy Manager, Mozilla.		Margaret McCarthy Executive Director, Mobile Future.



Written for CQ Researcher, March

In 2015, the Democratic-controlled Federal Communications Commission (FCC) issued an order ensuring meaningful, enforceable protections for a free and open Web. But in 2017 the new Republican FCC chairman, Ajit Pai, decided to remove those protections. This is an existential threat to the internet. His order ending net neutrality will benefit internet service providers (ISPs) at the expense of users, innovators and small businesses.

We believe the FCC order also erodes free speech, competition, innovation and user choice. This order should, and will, result in efforts in Congress and challenges in the courts to protect a neutral and open internet.

Net neutrality is two interconnected problems: rules, and the authority to enforce them. Most experts agree on what rules are needed for an open internet. Ensuring authority to enforce these rules has been the topic of the latest net neutrality debate, with some stakeholders objecting to the FCC's use of its Title II authority under the Telecommunications Act. Under Title II, the agency can treat ISPs as "common carriers" that must give other companies unfettered access to the internet.

The rules should apply to all types of network connections - fixed, mobile, wired and wireless. ISPs should not be able to block or throttle lawful traffic, nor should they be allowed to charge more for preferential treatment, such as providing faster access to content.

People must be able to run applications and to access the content of their choice via their internet provider. Such protections should apply regardless of the sender, receiver, content, website, platform, application, feature, device or equipment.

Title II regulatory authority, with appropriate forbearance, is still the best way to protect net neutrality. It also ensures other important goals, such as universal service, assistive services, infrastructural protections and privacy of browsing history.

The FCC should adopt and enforce net neutrality rules, including receiving and processing complaints, assigning liability to ISPs for violations and recovering those penalties.

It should also adopt universal service rules in the context of broadband services.

Finally, the FCC should take later action, including rulemaking and adjudication, to evaluate future practices that might undermine neutrality, and if necessary to prohibit them.

We will continue to work in Congress, the courts and with our allies and internet users against the FCC's decision to destroy net neutrality.



Written for CQ Researcher, March 2018

Open internet access is essential for full participation in American life. Consumers should be able to use their broadband connection to see the legal content of their choosing, and innovators should continue to have low barriers to entry in the broadband economy.

The United States has consistently employed regulatory restraint when it comes to federal oversight of internet service providers (ISPs), and this restraint has helped make our communications and technology sector the envy of the world. Dating back to the Clinton administration, policymakers focused on the power of competition and markets to spur investment in faster, higher-capacity networks. The result was a huge boon for the American economy. "Edge" companies like Google, once small startups, grew into household names without the need for regulations circumscribing ISPs' behavior.

That changed in 2015, when the Federal Communications Commission (FCC) classified broadband internet access as a commoncarrier service under Title II of the Communications Act. We have moved light years from the dial-up dark ages of 1996, the year of the last meaningful update to the law. The legal gymnastics required to construct the 2015 Title II order show how ill-suited it is to treat ISPs like a utility.

Further, the vitriol of the net neutrality debate obscures the impact of the 2015 decision. The application of Title II turned the internet ethos of "permissionless innovation" on its head. There are real examples of services that carriers declined to bring to market, to the detriment of consumers who could have reaped new benefits and efficiencies.

The FCC's decision to remove the specter of Title II in December 2017 restored our historically successful regulatory approach. This is critical, as the wireless industry is poised to invest billions of dollars to deploy 5G technology, enabling connectivity that will power the Internet of Things and rival today's wired broadband speeds.

We can recognize the centrality of internet access to prosperity in the digital age and protect its hallmark openness without demanding the use of an outdated legal tool.

Instead of shoehorning today's dynamic broadband and mobile technologies into a regulatory regime written for monopoly telephone service, we should work toward a comprehensive law for the entire internet ecosystem. Congress can build on the consensus around an open internet to protect consumers and incentivize continued investment in a broadband economy that works for everyone.

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1880s-1920s	Federal regulatory powers grow.
1885	Inventor Alexander Graham Bell establishes American Telephone & Telegraph Co., which achieves a virtual monopoly on U.S. telephone service that lasts until 1982.
1887	Public outcry over railroads' high prices prompts Congress to pass the Interstate Commerce Act to regulate rail operators as "common carriers" — companies providing an essential public service.
1927	Congress creates Federal Radio Commission to regulate the public airwaves.
1930s-1940s	Debate over access to airwaves foreshadows net neutrality controversy.
1934	Communications Act of 1934 establishes Federal Communications Commission (FCC) to oversee interstate and radio communication. The law classifies telephone companies as common carriers.
1949	FCC's Fairness Doctrine requires radio and TV stations to provide airtime for controversial subjects and opposing views.
1960s-1990s	Rise of the internet leads to net neutrality debate.
1960s	Defense Department's Advanced Research Projects Agency Network (ARPANET) paves the way for development of the internet.
1980s	Studying the growing convergence of telecommunications and computers, FCC concludes the new technologies are an "enhanced service," meaning they would be regulated less stringently under Title I of the Telecommunications Act.
1995	The U.S. government turns the internet over to the private sector.
1996	Congress overhauls the 1934 Communications Act, drawing a regulatory distinction between phone and cable companies Fewer than 20 percent of Americans have cellphones or internet service at home.
2000s-Present	Net neutrality is passed, then rescinded.
2002	FCC takes first steps toward deregulating broadband services by deciding not to force cable companies to share their infrastructure with competitors.
2003	Tim Wu, a University of Virginia law professor, coins the term "network neutrality."
2005	FCC issues net neutrality as a policy, but not a rule.
2008	FCC rebukes Comcast for blocking or slowing access to popular file-sharing software — the only time the agency found a U.S. broadband provider in violation of net neutrality principles. Comcast appeals.
2010	Federal appeals court rules in Comcast's favor, saying the FCC's action exceeded its authority. The FCC subsequently adopts the first net neutrality regulations, prompting a lawsuit from Verizon.
2014	Federal appeals court sides with Verizon, saying the FCC legally can regulate broadband but that it relinquished its authority by not classifying broadband the same as telephone service.
2015	Democratic-controlled FCC enacts "Open Internet Order," subjecting internet service providers (ISPs) to a more stringent regulatory framework by putting them in the same public-utility classification as telephone service.
2016	Federal appeals court allows the FCC regulations to take effect.
2017	Now Republican-controlled, FCC rescinds the 2015 net neutrality rules FCC and FTC agree to jointly police the internet.

Short Features

FCC Chair Uses Humor to Parry Critics

Ajit Pai stirred passions in fight to repeal net neutrality rules.

To his many critics, Federal Communications Commission (FCC) Chairman Ajit Pai is Darth Vader reincarnated.

They have branded Pai, who pushed the agency to rescind Obama-era rules protecting net neutrality, the destroyer of a free and open internet, and a scoundrel who "murdered Democracy in cold blood."

But Pai's supporters say he has taken highly effective actions as chairman, such as removing regulations that stifle industry growth and innovation.

Pai, 45, a former lawyer at telecommunications conglomerate Verizon Communications, laughs off his critics. The day before the contentious vote in December rescinding the rules, he recorded a tongue-in-cheek video, promoted on YouTube, listing "7 things you can still do on the Internet" after the demise of net neutrality. "You can still ruin memes," he tells viewers in the final segment, gyrating to music while wielding a lightsaber. And a week before the vote, he joked during a speech that "we only have seven more days to use the internet."

Pai and Michael O'Rielly were the only Republicans on the FCC when the agency voted 3-2 along party lines in 2015 to adopt the net neutrality rules. Pai, a strong believer in deregulation and free markets, said at the time that the rules gave the FCC "the power to micromanage virtually every aspect of how the internet works. It's an overreach that will let a Washington bureaucracy, and not the American people, decide the future of the online world."

Pai was born in Buffalo, N.Y., after his parents immigrated to the United States from India in 1971, and he was raised in Kansas. He graduated from Harvard University in 1994 and got his law degree from the University of Chicago, where he was editor of the law review.

From 1998 to 2001, Pai was a telecommunications lawyer in the Justice Department's Antitrust Division. He then worked as associate general counsel at Verizon, one of the internet service providers (ISPs) that has fought net neutrality, from 2001 to 2003. Pai was a lawyer at the FCC from 2007 to 2011.

With a Republican seat on the FCC open, President Barack Obama appointed Pai to the agency in 2011 at the request of Senate Republican Leader Mitch McConnell of Kentucky, and the Senate confirmed him in 2012. President Trump made Pai chairman in January 2017 to replace Democratic Commissioner Tom Wheeler, who resigned after Trump took office, in keeping with agency custom. Trump renominated Pai in March 2017 to a full term as chairman, and the Senate voted 52-41 in October to confirm him. 5



Federal Communications
Commission Chairman Ajit Pai
appears in a Twitter sketch he
created to poke fun at critics of
the commission's repeal of net
neutrality rules. (CQ
Researcher/Screenshot)

Since becoming an FCC commissioner, Pai has criticized what he sees as the agency's heavy-handed approach to regulation. "We need to fire up the weed whacker and remove those rules that are holding back investment, innovation and job creation," he said in December 2016.

The intense national debate over net neutrality has obscured many of Pai's other actions as FCC chairman. "I would wager he's been the most productive of any FCC chair," Roslyn Layton, a visiting scholar at the American Enterprise Institute, a conservative think tank in Washington, said of Pai. "He's removed unnecessary regulations, promoted innovation and improved public safety." [7]

Pai has worked to bring the latest broadband technology to unserved areas, increased transparency at the FCC, taken steps to help minority businesses enter the broadcasting industry and toughened enforcement of laws targeting robocallers, according to the FCC.

But some of his other actions have prompted angry reactions from consumer advocacy groups, which say Pai is allowing too much consolidation in the broadcast industry.

"Every single thing they're doing is for incumbent telephone cable and media companies," said Gigi Sohn, a distinguished fellow at the Georgetown University Institute for Technology Law & Policy and a former counselor to Wheeler at the FCC. "Pai wants to make the big bigger and the rich richer." 9

Pai's critics note that the same day the FCC held its net neutrality vote it voted to move ahead with a proposal to modify or eliminate rules barring broadcast companies from owning TV stations that

reach more than 39 percent of all TV households in the country. 10

The FCC's inspector general is investigating whether that and other rules changes pushed by Pai were designed to clear the way for right-leaning Sinclair Broadcast Group — known for adding conservative content to its local programming — to buy 42 TV stations from Tribune Media. An FCC spokesman called the accusation "absurd." [11]

Under Pai, the FCC also did away with a rule, first instituted in 1975, that had prevented entities from owning a radio or TV station and a newspaper in the same market. And it brought back the "UHF discount," which allows broadcasters to understate the reach of their stations for purposes of complying with the 39 percent rule. 12

- Val Ellicott

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European Union Backs Net Neutrality

"Access to the internet is a basic right."

In the debate over net neutrality, the European Union (EU) has come down firmly on the side of consumer choice.

"Internet providers must treat all traffic equally. I do not want a digital motorway for the lucky few, while others use a digital dirt track," EU technology chief Andrus Ansip said in February. "Access to the internet is a basic right. It has to stay open for everybody." [13]

Current EU policy prohibits internet service providers (ISPs) in all 28 member states from blocking or slowing any content, services or applications — a far different stance from that of the Republican-controlled Federal Communications Commission (FCC). The agency voted in December to scrap net neutrality rules implemented in 2015 during the Obama administration because it said those rules would harm innovation.

"I think Europe and the U.S. can agree on the need to preserve the freedom of the internet economy," Ansip said. "Where we may differ is how to do it." 15

A key difference between the United States and Europe is the number of companies offering internet access to homes or on mobile phones. In Britain, more than 50 companies offer access. France has four major broadband operators and nine



At a trade show in Barcelona, Spain, in February, European Union technology chief Andrus Ansip criticized the U.S. stance on net neutrality. "Internet providers must treat all traffic equally," he said. (AP Photo/picture-alliance/Andrej Sokolow)

regional bodies will follow suit."

low-cost options. That compares with just six major internet service providers in the U.S. market. 16

Canada currently has a "robust" net neutrality policy, said Michael Geist, founder of the Canadian Internet Policy and Public Interest Clinic, a legal clinic at the University of Ottawa focused on technology policy. But Canada's proximity to the United States means it could be affected by the U.S. policy change, particularly if ISPs implement plans that give priority to some websites over others.

"The most profound impact will be on businesses attempting to break into the large American market," Geist said. "If a two-tier internet is put in place, it could allow internet service providers to pick and choose which sites and applications get preferential treatment, which could seriously hamper innovation and the growth of new businesses." [7]

As the FCC has wrestled with how to regulate the internet, other countries have been watching, says Nicholas Economides, an economics professor at New York University.

When the FCC, then under Democratic control, enacted its net neutrality rules in 2015, countries such as Brazil, Chile and India did so as well, says Timothy Karr, senior director of strategy and communications for the Free Press, an advocacy group in Washington pressing for an open internet. "Now that the United States is stripping away those protections, I think there's reason to be concerned that these other countries and

That was on the minds of Europeans, too. When the FCC was considering reversing the net neutrality rules last year, more than 200 European civil society organizations and companies signed a letter to FCC Chairman Ajit Pai warning him the move "could negatively impact the world's shared internet ecosystem." Access to the entire internet is vital for people and businesses outside the United States, they said.

"The open internet makes it possible for all of us to bring our best business ideas to the world without interference or seeking permission from any gatekeeper first," the business leaders wrote. "This is possible because the principle of net neutrality ensures that everyone, no matter where they are located, has unimpeded access to internet opportunities."

France's top internet regulator, Sébastien Soriano, argued net neutrality is a worldwide responsibility for democracies. Soriano also is chairman of the regulatory body that oversees EU net neutrality policy.

"Having net neutrality rules in one country creates benefits for all others — because innovators and people from all over the world will enjoy an open access to the end users of this country," he said. "The worldwide openness of the internet has been a great factor in its success, and it is now a global responsibility to preserve it." [19]

At a February global technology trade show in Barcelona, Spain, Pai defended the FCC's actions, saying America's internet economy "became the envy of the world thanks to a market-based approach that began in the mid-1990s," but that the 2015 net neutrality regulations had hampered ISPs' ability to make investments.

"The United States is simply making a shift from pre-emptive regulation, which foolishly presumes that every last wireless company is an anticompetitive monopolist, to targeted enforcement based on actual market failure or anti-competitive conduct," he said. 20

But other experts say the FCC vote hurts the United States' reputation as a global internet leader and sets a negative example for countries still developing their internet policy.

"This will be another instance of the U.S. ceding leadership in a global area," said Nick Frisch, a resident fellow at Yale Law School's Information Society Project. "It is going to set a bad example for other countries, coming from the country that invented the internet." [21]

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The Next Step

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Contacts

Federal Communications Commission

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888-225-5322

www.fcc.gov

Federal agency that regulates interstate and international communications by radio, television, wire, satellite and cable.

Free Press

1025 Connecticut Ave., N.W., Washington, DC 20036

202-265-1490

www.freepress.net

Independent organization advocating for open internet access.

Internet Association

1333 H. St., N.W., Washington, DC 20037

202-869-8680

internetassociation.org

Trade association representing the internet industry.

Mobile Future

607 14th St., N.W., Washington, DC 20005

202-772-0453

mobilefuture.org

Trade association representing the wireless communications industry.

NCTA — The Internet & Television Association

25 Massachusetts Ave., N.W., Washington, DC 20001

202-222-2300

www.ncta.com

Trade association representing the cable and broadband industry.

Open Technology Institute

740 15th St., N.W., Washington, DC 20005

202-986-2700

www.newamerica.org/oti

Technology arm of the New America think tank.

Public Knowledge

1818 N St., N.W., Washington, DC 20036

202-861-0020

www.publicknowledge.org

Public interest group that advocates for an open internet.

U.S. Telecom Association

601 New Jersey Ave., N.W., Washington, DC 20001

202-326-7300

www.ustelecom.org

Trade association representing the wired and wireless telecommunications industries.

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