

Recent Developments in the U.S. on Network Neutrality

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Introduction

One of the hotly contested public policy debates of this decade in the United States is whether and to what extent the U.S. government should regulate the Internet. Until fairly recently, the Federal Communications Commission (the “FCC” or “Commission”), the agency with principal regulatory authority over telecommunications including the Internet, has taken a deregulatory approach and has not imposed any significant regulation on the Internet. Indeed, it has preempted efforts by various States to treat Voice over Internet Protocol (“VoIP”) in the same manner as traditional telephony and preempted State regulation of broadband Internet access services generally. There is little dispute over the wisdom of these actions.

However, there is a vibrant dispute about whether telecommunications carriers, who provide the underlying transport for Internet services, and interactive Internet service providers (“ISPs”), who facilitate the ability of the end user to access the Internet, should be permitted to treat different content providers differently for what, in other contexts, would be legitimate business reasons, including charging higher fees on Internet content providers or users who tax the existing capacity of the network. A vocal segment of those interested in the Internet, including several leading members of the U.S. Congress, view the Internet as an open forum for the unfettered dissemination of lawful content and are concerned that, unless precluded from doing so, telecommunications carriers and ISPs can, and will, use their control over the transmission medium to restrict or degrade public access to content. These advocates of “net neutrality” argue that the FCC should act to preclude such conduct.

Telecommunications carriers and ISPs, on the other hand, maintain that the rapid growth in high volume data services, particularly video streaming and Internet games, are placing a heavy demand on the existing infrastructure and that (a) those making that kind of demand on the network should be required to bear some of the cost, and (b) the carriers and ISPs should be given broad discretion to determine how best to manage their networks. They maintain that there is a multitude of providers and that the market will preclude either providers of transport or ISPs from discriminating against any content provider and assure that the rates charged for transport and other services will remain reasonable. They also argue that imposing any regulation of the Internet will reduce incentives to invest in new Internet infrastructure, raise Internet prices, threaten network security, and diminish innovation and technical development.

This issue came to a head, of sorts, earlier this year when Comcast Corporation (“Comcast”), the largest U.S. cable company and a major broadband service provider, was accused by a public interest group and several of its customers of blocking customers’ ability to

download video material when they used BitTorrent, an open-source, peer-to-peer (“P2P”) networking protocol. Comcast maintained that any problems associated with its customers’ receipt of material was the result of its efforts to manage its network and ensure that, since it operates a shared network, the use of the BitTorrent protocol did not impair the service of its other Internet customers. In response to the complaints, the FCC opened a formal investigation and took the extraordinary step of holding two public hearings around the country to examine the “net neutrality” issue in general and the complaints against Comcast in particular. In a decision released in late August, the Commission held, by a vote of 3 to 2, that Comcast’s network management actions were “discriminatory and arbitrary,” selectively targeting and interfering with connections of P2P users, were unreasonable network management practices, and therefore violated its Internet Policy Statement. The Commission ordered Comcast to stop those network management practices by the end of 2008, develop a compliance plan and disclose to the FCC and the public its future network management practices. The dissenting Commissioners questioned the Commission’s jurisdiction to adjudicate the dispute and the sufficiency of the evidence on which the majority acted, as well as raised several procedural objections to the FCC’s decision to act. On September 4, 2008, Comcast challenged the Commission’s decision in the U.S. Court of Appeals for the D.C. Circuit. Public interest groups also appealed, agreeing with the underlying decision but challenging the FCC’s action allowing Comcast to continue using its network management practices until the end of the year.

This article provides an overview of the FCC’s regulatory jurisdiction over the Internet, its Internet policies and proceedings to date and discusses the implications of the Commission’s recent enforcement decision.

Background

The Telecommunications Act of 1996 marked a major turning point in the U.S. regulatory philosophy for telecommunications. Building on previous but limited deregulatory actions of the FCC, that Act made competition the favoured regulatory tool for ensuring the quality and diversity of telecommunications service and the reasonableness of telecommunications rates. While Congress did not eliminate command and control regulation, and actually imposed a number of regulations designed to open the existing telecommunications infrastructure to competitive carriers, it made clear that command and control regulation was to be employed only where marketplace regulation could not, or did not, ensure a high-quality communications service to residents and businesses throughout the U.S. at reasonable rates or otherwise did not ensure

that telecommunications providers served the public interest. That Act also addressed the regulation of the Internet for the first time. Specifically, it added Sections 230(b) and 706 to the Communications Act of 1934 (the "Communications Act"), which set forth that it was the policy of the U.S., among other things, to promote the continued development of the Internet and other interactive computer services, preserve the "vibrant and competitive free market that presently exists for the Internet," and encourage the development of new Internet services which "maximize user control over the information received" via the Internet.

In 2005, the FCC adopted a set of principles (the "Internet Policy Statement") to explain its philosophy of Internet and broadband regulation based on the congressional directives under Section 230(b) and 706. The principles are:

- *"To encourage broadband deployment and preserve the open and interconnected nature of the public Internet, consumers are entitled to access the lawful Internet content of their choice."*
- *"To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement."*
- *"To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to connect their choice of legal devices that do not harm the network."*
- *"To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to competition among network providers, application and service providers, and content providers."*

Because the Internet was still developing and evolving, the Commission expressly declined to adopt rules enforcing the Internet Policy Statement, but instead signaled that it planned to rely on these principles in future policymaking actions. However, it stated that the principles are subject to "reasonable network management."

Until the Comcast case arose, questions under the Internet Policy Statement were raised primarily in connection with the FCC's consideration of various mergers of telecommunications providers, including the merger of SBC Communications Inc. and AT&T Corporation and the merger of Verizon Communications and MCI Communications, among others. In each of those cases, the FCC found, after an extensive review of the parties' broadband practices, that there was no evidence that the providers engaged in discrimination or degradation and rejected arguments that the mergers would likely increase the providers' incentives to do so. However, the FCC incorporated the Internet Policy Statement as a condition to its approval of those mergers.

The Commission addressed similar Internet concerns raised in the 2006 transaction involving the sale of the cable systems of Adelphia Communications Corporation to Time Warner Cable Inc. ("Time Warner") and Comcast. In that proceeding, the FCC rejected arguments that the transaction would give Comcast and Time Warner greater incentives to discriminate against unaffiliated providers of Internet content or applications. It also dismissed the allegation that Comcast had engaged in blocking certain emails, finding that the blocking had been inadvertently caused by automatic anti-spam software. However, the Commission stated that parties affected by future blocking or degrading of Internet content or applications could file a complaint with the FCC.

Shortly after the Commission adopted its Internet Policy Statement,

the FCC launched an inquiry into broadband industry practices, seeking evidence of whether network platform providers and others favour or disfavour particular content. Soon thereafter, a public interest group called Free Press filed the complaint against Comcast that led to the recent decision. It asked the FCC to declare that intentional degradation of targeted Internet applications by an Internet service provider violates the Internet Policy Statement. Concurrently, a coalition led by Free Press filed a petition for declaratory ruling and Vuze, Inc., an online video content distributor, filed a petition for rulemaking seeking rules to prohibit the practice of blocking, degrading or unreasonably discriminating against P2P traffic and clarification of what constitutes reasonable network management practices. Both petitions specifically complained of Comcast's network practices.

In response to those filings, the FCC launched an investigation of Comcast in January 2008. Between November 1, 2007 and January 14, 2008, the FCC received over 22,000 complaints regarding Comcast's practices. In addition, the FCC received more than 6,500 comments in response to Free Press's petition for declaratory ruling and Vuze's petition for rulemaking related to Comcast's practices. Based on the record developed in its investigation, the comments and other filings received in connection with Free Press's declaratory ruling request and Vuze's petition for rulemaking, the FCC issued the decision against Comcast.

Summary of FCC Decision

Comcast's Practices. The focus of the FCC's investigation was whether Comcast's network management practices were reasonable and acceptable under the Internet Policy Statement or constituted impermissible interference with its customers' use of P2P networking applications, including those that use the BitTorrent protocol. According to the Commission, "BitTorrent is an open-source, peer-to-peer networking protocol that has become increasingly popular among Internet users in recent years. Unlike traditional methods of file sharing, which typically require establishing a single [Transmission Control Protocol ("TCP")] connection between a user's computer and a single service, BitTorrent employs a decentralized distribution model: Each computer in a BitTorrent 'swarm' is able to download content from the other computers in the swarm, and in turn each computer also makes available content for those same peers to download, all via TCP connections. Furthermore, a computer can download different portions of the same content from multiple computers simultaneously, with each computer providing a different portion of the same content. . . . BitTorrent thus harnesses the numerous individual Internet connections, rather than relying on a single, central pipeline, to distribute large files 'cheaply and quickly', and the efficiency of that peer-to-peer network is dependent directly on Internet users' ability to establish TCP connections for both downloading and uploading content." Both established and new online content distributors rely on BitTorrent and similar P2P technologies to distribute movies and other video programming legally to millions of online viewers.

In 2007, Comcast subscribers began to complain about problems using BitTorrent and similar technologies over their Comcast broadband connections. Initially, Comcast denied any responsibility for the users' problems. However, after the Associated Press and the Electronic Frontier Foundation -- an advocate for net neutrality regulation -- published results of separate testing that showed that Comcast was selectively targeting customers who upload files using BitTorrent and other P2P protocols, Comcast admitted that it targets P2P traffic for interference.

FCC Jurisdiction to Enforce the Internet Policy Statement.

Comcast challenged the Commission's jurisdiction to adjudicate the dispute. While the FCC has jurisdiction over the Internet, the basis of the FCC's jurisdiction over the Internet differs from the basis of its jurisdiction over "telecommunications." Title II of the Communications Act gives the FCC express jurisdiction over telecommunications service, which is the pure transport of content (i.e., what the end user puts into the communications pipe is what comes out the other end), and sets forth in some detail the obligations imposed on telecommunications service providers and the manner in which the FCC is to regulate them. The FCC has concluded, however, that the Internet is not a telecommunications service under the Communications Act, but an "information service," and the FCC has more limited jurisdiction over information services, which are defined in Section 3(2) of the Communications Act as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications ..." Its jurisdiction over information services, and the Internet, rests on its jurisdiction over "interstate and foreign communications by wire or radio," and its power to regulate is dependent on its ability to demonstrate that its actions are necessary to enforce or implement express policies found in the Communications Act. Here, Comcast maintained that, while it may be engaged in interstate communications by wire, there was nothing in the Communications Act that related to the manner in which it managed its service.

The FCC rejected Comcast's arguments. It held that its review of Comcast's network management practices was reasonably ancillary to the effective performance of the Commission's responsibility to further the national Internet policy codified in Section 230(b) of the Communications Act. The Commission also found that review of Comcast's network management practices was reasonably related to its authority under Section 706 of the Act, which charges the Commission with facilitating the "reasonable and timely deployment of advanced telecommunications capability," and under Section 256 of the Act, which requires the Commission to promote nondiscriminatory access to public telecommunications networks. It reasoned that Section 706 applied because prohibiting conduct that impairs access to new applications would lead to increased consumer demand and thus deployment of high-speed Internet access, and that Section 256 was relevant because regulation of Comcast's network management practices would promote the ability of Comcast subscribers and subscribers of other networks, including public telecommunications networks, to share content and applications with each other without operator-imposed barriers. The Commission also relied on more generic provisions of the Act, including the goal of promoting rapid and efficient communications service at reasonable rates, prohibiting unreasonable charges and practices of telecommunications carriers, eliminating market entry barriers, and "assur[ing] that cable communications provide and are encouraged to provide the widest possible diversity of information sources and services to the public."

The FCC further held that Comcast should not be permitted to challenge the FCC's jurisdiction for two reasons. First, the FCC noted that, in litigation before the U.S. District Court for the Northern District of California over Comcast's network management practices, Comcast argued that the FCC had subject matter jurisdiction as grounds for successfully securing a stay of the litigation. The FCC said that it was disturbed that Comcast would make such representations to a U.S. district court, and then make opposite assertions to the FCC. Second, the FCC concluded that Comcast waived its ability to challenge the FCC's jurisdiction in the Adelphia-Time Warner-Comcast transaction. The FCC noted that, in its order approving that transaction, the FCC rejected Free Press's assertions that the transaction would likely result in

Comcast's interference with subscriber access to Internet content or applications and stated that parties may file a complaint in the future if they have evidence that any company is intentionally blocking or degrading Internet content or applications. Thus, the FCC reasoned that because Comcast consummated the Adelphia-Time Warner-Comcast transaction as approved by the FCC without filing a petition for reconsideration or seeking judicial review regarding the FCC's ability to adjudicate future complaints, Comcast is now barred from challenging the FCC's jurisdiction over such complaints.

The Commission also rejected arguments by Comcast and others that it should not proceed against Comcast in an adjudication but instead should review network management practices in a broader proceeding looking to adopt rules defining permissible and impermissible practices. The FCC concluded that adjudication was a preferable way to proceed, as compared to a rulemaking, for three reasons. First, it was premature to adopt rules. The Internet is a new medium and traffic management questions are novel. Second, because of the complex and varied nature of Internet access networks, the FCC said it did not think that a single approach was good policy. Finally, the FCC concluded that a case-by-case approach was consistent with congressional directives and FCC precedents of maintaining a minimal regulatory environment governing the Internet.

Comcast's Interference with P2P Applications. Based on the record, particularly the studies conducted by the Associated Press and the Electronic Frontier Foundation, the Commission found that Comcast network practices "actively interfere[] with attempts by some of its high-speed Internet subscribers to share files on line" and that the interference was not limited to situations where there was network congestion. The FCC stated that the "record leaves no doubt that Comcast's network management practices discriminate among applications and protocols rather than treating all equally." It held that "Comcast determines how it will route some connections based not on their destinations but on their contents; in laymen's terms, Comcast opens its customers' mail because it wants to deliver mail" based on the content rather than the address. As such, the FCC concluded that the complainants had established a *prima facie* case that Comcast's practices contravened the federal Internet policy and the FCC's Internet Policy Statement. It held that Comcast's interference with P2P traffic "contravene[s] the federal policy of 'promot[ing] the continued development of the Internet' because ...[it] impedes customers from running applications of their choice, 'rather than those favored by Comcast and [that it] limited consumers from accessing lawful Internet content of their choice,' including video programming ..." distributed by Vuze and others.

In reaching this conclusion, the Commission rejected Comcast's argument that the Internet Policy Statement only prohibits blocking content and did not reach delays or impairments, which is what was involved in this case. The FCC found that, because of the manner in which Comcast interfered with P2P transmissions, some subscribers were effectively denied access to content since they would be required to reinitiate the download. Upon finding *prima facie* evidence that Comcast's actions violated the federal Internet policy, the FCC next considered whether Comcast had demonstrated that these network management practices were reasonable.

Reasonableness of Comcast's Network Management Practices.

The FCC concluded that Comcast's disparate treatment of particular applications posed a significant risk of anticompetitive abuse. That was particularly true because the P2P applications, including those using BitTorrent, were a competitive threat to Comcast's video-on-demand service because Internet users are able to view high-quality video online that they might otherwise watch and pay for on Comcast's cable systems. "Accordingly, for Comcast's practice to

qualify as reasonable network management, the company's justification for its practice must clear a high threshold." Drawing from First Amendment law governing whether governmental action that adversely affects speech is constitutional, the FCC held that, in order for Comcast to justify its practice, Comcast had to show that it furthered "a critically important interest and [was]... narrowly or carefully tailored to serve that interest."

With respect to the first prong of this standard, the FCC assumed without deciding that easing network congestion is a critically important interest. However, the FCC concluded that Comcast's practices were not carefully tailored to its interests in easing network congestion. First, the FCC found that Comcast's practices were over-inclusive because: (1) they affected customers using a disfavoured application, even when that subscriber was using only a little bandwidth; (2) they occurred regardless of whether the network was congested; and (3) Comcast had targeted a wider geographic and system area than merely congested neighbourhoods by deploying some of its network management equipment several routers upstream. The FCC also found that Comcast's practices were under-inclusive in that they allowed a customer to use an extraordinary amount of bandwidth during peak congestion periods so long as a disfavoured application was not used. The Commission also listed several ways that Comcast could manage its network traffic without discriminating, including capping subscribers' capacity and then charging overage fees; reducing the connection speeds of high-capacity users; and working with application vendors to promote backbone bandwidth optimisation and improved application performance.

The Commission acknowledged that providers must engage in some network management and, consistent with federal policy, may block transmissions of illegal content, such as child pornography or transmissions that violate copyright law. "To the extent, however, that providers choose to utilize practices that are not application or content neutral, the risk to the open nature of the Internet is particularly acute and the danger of network management practices being used to further anticompetitive ends is strong." Therefore, the FCC concluded that the "record evidence overwhelmingly demonstrates that Comcast's conduct poses a substantial threat to both the open character and efficient operation of the Internet, and is not reasonable."

Remedy for Comcast's Violations. The FCC declined to impose a fine against Comcast and stated that its primary objective was for Comcast to end its unreasonable network practices. Within 30 days of the release of the Commission's decision, Comcast was required to: (1) disclose to the FCC the precise contours of the network management practices, including specific information about the equipment that was used, how it was configured and under what circumstances it was used; and where and when it was deployed; (2) submit a compliance plan with interim benchmarks of how it intends to transition to nondiscriminatory network management practices by the end of 2008; and (3) disclose to the Commission and the public the network management practices it intends to deploy, including the thresholds that will trigger any limits on customers' access to bandwidth.

Comcast filed a compliance plan with the Commission in late September 2008 advising the Commission that it would deploy a "protocol agnostic" congestion management system by the end of the year. While many of the details are still being worked out, the system will monitor network usage over particular segments of the network and where specific upload or download usage exceeds prescribed levels, the system will identify the subscriber using a disproportionate share of the bandwidth and will temporarily assign a lower priority status to that customer's traffic. Where the network is congested, the identified subscriber's traffic will be delayed until

the traffic drops below the threshold usage.

Discussion

The problems Comcast faced in dealing with high-bandwidth uses of its Internet network are not unique to Comcast, as the comments filed in the FCC proceeding indicated. The increasing availability of, and demand for, video downloads, interactive games and other high capacity services present a problem for all ISPs and Internet backbone providers. Moreover, there is little question but that P2P protocols, such as those targeted by Comcast, impose significant burdens on the network and can interfere with the experiences of other Internet users. As the U.S. Federal Trade Commission, a federal regulatory agency with jurisdiction to enforce the antitrust and consumer protection laws, concluded, "the use of bandwidth-intensive applications like certain peer-to-peer file-sharing protocols by even a small minority of users is already consuming too many network resources as to be worrisome ... [and] even a small portion of Internet users may effectively degrade service for the majority of end users."

Consequently, the issue is not whether ISPs and others can undertake network management practices that will facilitate access to the Internet by all subscribers. Rather, the issue is whether those providing access should be free to address this problem without government involvement or whether the government should oversee the solutions in order to assure that those entities which control the Internet pipes do not improperly limit the public's access to the content the Internet can provide. Those who favour leaving the issue to the marketplace argue that there is no evidence of discriminatory or improper action by ISPs and others and thus those urging government involvement are proposing a solution in search of a problem. They also maintain that government intervention will impair the ability of network-providers and application-writers to develop innovative and creative means of solving problems and expanding the opportunities the Internet can offer. In particular, network providers are concerned lest the government imposes some form of higher speed or different priority distribution services to content providers and subscribers at different prices or otherwise transferring the increasing costs of network deployment to those benefiting from that deployment. For example, VoIP requires, as the Commission recognised, priority over other uses in order to work properly.

The FCC's decision here does not address most of these arguments. While at first blush Comcast's actions here could be viewed as demonstrating that a problem exists at least at some level, it is also possible that Comcast simply chose the wrong network management tool and failed to advise its subscribers what it was doing. Indeed, Comcast and BitTorrent reached an agreement on March 27, 2008 to work together, along with other industry players, to develop distribution technologies for new media content. And, Comcast agreed to migrate to a protocol-neutral network management technique, essentially the same result achieved through Commission intervention. Thus, as Commissioner McDowell noted in his dissent, the marketplace addressed the problem.

Moreover, the Commission's decision turned in part on its determination that Comcast had an incentive to discriminate against BitTorrent and other P2P applications because they were used for the distribution of video programming -- the mainstay of much of Comcast's cable services. However, as Commissioner McDowell noted, there was no evidence that Comcast in fact was motivated by a desire to prejudice these other sources of video content or to advance its own interests. Indeed, as McDowell noted, Comcast did not block video content available on YouTube, which does not use P2P software.

Although the FCC made clear that its decision only addressed Comcast's particular conduct at issue and did not reach other conduct, including prioritising VoIP communications over other packets, it is questionable whether the decision can be limited to the precise facts in the Comcast case. For example, the decision clearly indicates that the Commission views its Internet Policy Statement to preclude management practices that target particular applications or protocols, even where those protocols materially burden the network and degrade service to others if those practices adversely affect subscribers when there is no congestion. It is unclear, however, whether ISPs can favor a particular protocol, other than VoIP, or whether they will have to meet the heavy burden imposed on Comcast to justify its network practices in order to favour particular protocols or services, at least where the ISP does not have an economic interest in the favoured entity.

Further, it is clear that subscribers, and presumably content providers and others, must be advised of the network management practices employed by an ISP. Providing consumers with information relevant to their use of a product or service is generally advisable and useful, but it is unclear how much detail must be provided, although that may be addressed in the FCC's review of Comcast's compliance plan. It is also unclear how the FCC intends to enforce the requirement that network management techniques must be "narrowly tailored" to meet the harms they are designed to address. While the concept was taken from First Amendment jurisprudence, it is doubtful that First Amendment learning will provide much guidance here.

It is also unclear how the Commission's assertion of jurisdiction to resolve the matter will be received in Court. The issues are technical and courts tend to defer to the Commission's expertise in those circumstances, as the administrative process intends. However, there is some question whether the statutory provisions on which the Commission relied actually support its enforcement actions here. In addition, the FCC's claim that Comcast's network management system looked at the content of the data being transmitted has been challenged by Comcast. Commissioner McDowell's dissent also raises questions whether there is evidence in the record to support the Commission's conclusion that Comcast acted in a discriminatory fashion in deciding to employ the network management practice it used. The lack of a factual basis for the conclusion that Comcast was acting discriminatorily may prove problematic for the Commission.

Conclusion

This enforcement action against Comcast is clearly just the opening round in what will be a long and protracted process in defining the government's role with respect to the Internet and in determining how much freedom ISPs and others have in managing their networks and deciding how to price and offer their services. The decision itself leaves many unanswered questions, although it appears that at least this Commission views with suspicion any action by an ISP that can be characterised as discriminatory or which precludes or impairs, on the basis of content, a subscriber's ability to access content of his or her choice. Whether the Commission will go further and seek to impose a "common carrier" type regulation on ISP providers and Internet backbone operators or will limit its regulatory activity to express content-based discrimination, action designed to promote the ISP's own interests by denying subscribers access to content, or similar kinds of conduct is an open question. Indeed, the election of a new President in November and the expiration of the term of one Commissioner is likely to change the make-up of the Commission and that could result in a change in the FCC's approach to the net neutrality issue itself. For example, Senator Obama's website states that he favours net neutrality "to preserve the benefits of open competition on the Internet." Senator McCain, on the other hand, has espoused and continues to favour an unregulated Internet, and has stated that he does not favour "prescriptive regulation like 'net-neutrality,' but rather ... believes that an open marketplace with a variety of consumer choices is the best deterrent against unfair practices... ."

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