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The Next Frontier for Network Neutrality

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ARTICLES

THE NEXT FRONTIER FOR NETWORK NEUTRALITY

PHILIP J. WEISER*

TABLE OF CONTENTS

Introduction	274
I. Untangling the Strands of the Policy Debate	276
A. The Legacy of Best Efforts Connections and the Evolving Internet.....	277
B. The Internet As It Is.....	279
C. The Limits of Laissez-Faire.....	284
D. Raising the Level of the Debate	288
II. A Consumer Protection Strategy for Broadband Regulation.....	290
A. The Role of the FTC in Requiring Disclosure of Broadband Service Offerings	291
B. The Role of Effective Disclosure, Self-Regulation, and FTC Enforcement	298
III. Toward a New Competition Policy Strategy	301
A. The Past As Prologue?.....	302
B. The Terminating Access Monopoly and the Bilateral Monopoly Problem.....	307
C. Categorical Rules Versus Legal Standards.....	310
1. The Call of the Categorical Rule	311
2. The Possible Precision of a Legal Standard.....	313
a. The Possible Legitimate Justifications for Exclusive Arrangements.....	313

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b. The Presence of Effective Enforcement Mechanisms	318
c. The Value of Continuing Best Efforts Internet Access	320
Conclusion	322

INTRODUCTION

Broadband Internet access is the *sine qua non* of the information age. Indeed, recent surveys suggest that broadband is the communications service that consumers can “least live without.”¹ In less than a decade, broadband Internet technology has already transformed the music industry (Napster and iTunes), is in the midst of revolutionizing the delivery of voice communications (Vonage and Skype), and is beginning to change the video programming industry (YouTube). It is not surprising, therefore, that the regulation of broadband has generated heated policy debates.

What is surprising about broadband policy is that the debate quickly moved to the halls of Congress, thereby politicizing the issue, overshadowing the Federal Communications Commission’s (FCC) policymaking role, and crowding out any room for reasonable debate and discussion.² With the likelihood of congressional action now dimmed, the FCC has moved to evaluate—by issuing a Notice of Inquiry and investigating Comcast’s network management practices—the concern that owners of broadband networks are using, or will use, their control over those networks to undermine competition for Internet-enabled services and content.³ Similarly, the Federal Trade Commission (FTC) has weighed in on the issue, holding a set of hearings on the state of broadband competition and issuing a report that sets forth its blueprint for competition and consumer protection policy analysis.⁴ Consequently, as the rhetorical temperature cools down in Washington, D.C., there is a new opportunity for reasoned analysis of how policymakers should, or should not, regulate broadband networks.

The challenge for policymakers is to bring reasoned analysis to bear on a topic that continues to generate more heat than light in policy circles and

1. See *North American Homes Rate Broadband As Key Wireline Service*, IQ ONLINE, Oct. 27, 2006, <http://www.arm.com/iqonline/news/marketnews/15168.html>.

2. As one observer put it, “The subject of Net Neutrality has become so politicized that it’s almost impossible to have a rational debate on the subject.” Posting of George Ou to RealWorldIT, *A Rational Debate on Net Neutrality*, ZDNET, <http://blogs.zdnet.com/Ou/?p=512> (June 4, 2007, 5:40 EST) [hereinafter Ou, *A Rational Debate*].

3. Broadband Industry Practices, Notice of Inquiry, 22 F.C.C.R. 7894 (2007), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-07-31A1.pdf; Public Notice, Comments Sought on Petition for Declaratory Ruling Regarding Internet Management Policies, WC Docket No. 07-52 (Jan. 14, 2008), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-08-92A1.pdf. For the full text of the report, see FED. TRADE COMM’N, BROADBAND CONNECTIVITY COMPETITION POLICY (2007), available at <http://www.ftc.gov/reports/broadband/v070000report.pdf> [hereinafter BROADBAND CONNECTIVITY].

4. See BROADBAND CONNECTIVITY, *supra* note 3.

that many telecommunications companies appear to believe will fade away. During the fall of 2007, the revelation that Comcast had interfered with BitTorrent (a peer-to-peer application) and engaged in an undisclosed form of network management that interfered with its customers' experience dealt a blow to broadband providers who hoped their networks could escape any form of regulatory oversight.⁵ Similarly, a decision by Verizon to initially exclude NARAL, a pro-choice group, from using Verizon's text messaging service to reach its members raised concerns among consumer groups who called for both greater transparency as to the relevant terms of service and regulatory oversight of currently unregulated services. A *New York Times* editorial, for example, condemned Verizon's conduct (even though Verizon quickly changed its position), saying that "[f]reedom of speech must be guaranteed, right now, in a digital world just as it has been protected in a world of paper and ink."⁶ Although neither the Comcast nor the Verizon episode has yet to spur the adoption of new regulations, both controversies provided ammunition for the argument that broadband service providers should not be allowed to operate free from any regulatory oversight.⁷

In an effort to reframe the policy and academic debates over broadband regulation, this Article sets forth a blueprint for a "next generation regulatory strategy."⁸ In particular, it seeks to escape the pitfalls of the

5. See *infra* notes 71–80 and accompanying text (discussing how the BitTorrent incident highlighted the need for more transparency in network management so that restrictions are reasonable and consumers are able to make informed choices regarding providers).

6. Editorial, *The Verizon Warning*, N.Y. TIMES, Oct. 3, 2007, at A24. Following the uproar in this case, a group of public interest groups called for a greater level of regulatory oversight of instant messaging—notably, the imposition of a common carrier obligation to treat all communications on a nondiscriminatory basis. See Public Knowledge et al., PETITION FOR DECLARATORY RULING STATING THAT TEXT MESSAGING AND SHORT CODES ARE TITLE II SERVICES OR ARE TITLE I SERVICES SUBJECT TO SECTION 202 NONDISCRIMINATION RULES, at ii (Dec. 11, 2007), available at <http://www.publicknowledge.org/pdf/text-message-petition-20071211.pdf> (arguing that "[d]iscrimination in providing mobile services" stifles speech, competition, and innovation in contravention of Title I and Title II of the Communications Act).

7. Recognizing this point, one reporter observed that an FCC hearing into the Comcast-BitTorrent matter and the introduction of a bill by Representative Markey "signals a clear revival of a temporarily dormant debate over whether Net neutrality laws are needed." Anne Broache, *Comcast vs. BitTorrent to be Focus of FCC Hearing*, CNET NEWS.COM, Feb. 22, 2008, http://www.news.com/Comcast-vs.-BitTorrent-to-be-focus-of-FCC-hearing/2100-1028_3-6231737.html.

8. In so doing, it builds upon my previous work in the area. See *Broadband Competition Hearings Before the Fed. Trade Comm'n* (2007) (testimony of Philip J. Weiser, Prof. of Law and Telecommunications and Executive Director of the Silicon Flatirons Program, University of Colorado), available at <http://www.ftc.gov/opp/workshops/broadband/presentations/weiser.pdf>; Robert D. Atkinson & Philip J. Weiser, *A Third Way on Network Neutrality*, NEW ATLANTIS, Summer 2006, at 47, available at <http://www.thenewatlantis.com/archive/13/TNA13-AtkinsonWeiser.pdf>; Philip J. Weiser, *Toward a Next Generation Regulatory Strategy*, 35 LOY. U. CHI. L.J. 41 (2003) [hereinafter Weiser, *Toward a Next Generation*]; see also JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, *DIGITAL CROSSROADS: AMERICAN TELECOMMUNICATIONS POLICY IN THE INTERNET AGE* (MIT Press 2005); Joseph Farrell & Philip J. Weiser, *Modularity, Vertical Integration*

ongoing debate over broadband regulation (centered on calls for and against “network neutrality” regulation), which has failed to focus on the critical issues and has remained mired in rhetorical claims. Indeed, reflecting his concern that even the academic discourse has often featured categorical claims about the optimal regulatory strategy,⁹ Internet pioneer David Clark remarked that “[m]ost of what we have seen so far (in my opinion) either greatly overreaches, or is so vague as to be nothing but a lawyer’s employment act.”¹⁰

This Article proceeds in three parts. Part I outlines the policy debate to date, explaining how it has presented polarized perspectives on the network neutrality issue. In so doing, Part I cautions against congressional action and recommends that the FCC and the FTC be afforded an opportunity to develop an effective consumer protection and competition policy strategy. Part II discusses my proposed consumer protection strategy, suggesting that the FTC oversee a system of effective disclosure and enforcement of broadband provider terms of use policies. Part III sets forth a competition policy strategy, arguing that either the FTC or the FCC (or both) will need to develop an effective institutional strategy to guard against anticompetitive refusals to provide access to quality of service (QoS) assurances.

I. UNTANGLING THE STRANDS OF THE POLICY DEBATE

One casualty of the network neutrality debate on Capitol Hill is that the issue became more politicized and polarized than traditional technology policy debates, which often stay below the radar and are initially discussed and considered by a more select group of policymakers. As the Center for Democracy and Technology put it, the debate “has often been dominated by slogans, extreme rhetoric, and arguments that focus on attacking straw men rather than grappling with the real complexity of the issue.”¹¹ That

and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age, 17 HARV. J.L. & TECH. 85 (2003).

9. For a sense of the academic debate, see Tim Wu & Christopher Yoo, Debate, *Keeping the Internet Neutral?*, 59 FED. COMM. L.J. 575 (debating the network neutrality issue and offering up their suggested solutions). Compare Christopher S. Yoo, *Would Mandating Broadband Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate*, 3 J. ON TELECOMM. & HIGH TECH. L. 23 (2004) (offering an economic critique of proposals to mandate that broadband providers adhere to certain principles of network neutrality), with Tim Wu, *The Broadband Debate, A User’s Guide*, 3 J. ON TELECOMM. & HIGH TECH. L. 69 (2004) (concluding that the solution to the network neutrality issue lies with establishing rules that pre-commit both industry and government to open market entry).

10. David D. Clark, *Network Neutrality: Words of Power and 800-Pound Gorillas*, 1 INT’L J. COMM. 701, 708 (2007), available at <http://ijoc.org/ojs/index.php/ijoc/article/viewPDFInterstitial/158/83/>.

11. Broadband Industry Practices, Comments of the Center for Democracy & Technology to the FCC, WC Docket No. 07-52, at 3 (June 15, 2007), available at http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519529426 [hereinafter Comments of the CDT].

this otherwise arcane telecommunications policy issue broke through into popular consciousness is to be cheered; after all, the public should care about telecommunications policy. Unfortunately, the debate was cast in relatively absolute terms and stripped of its nuance, thereby creating a set of false choices—either for a complete laissez-faire approach or a very restrictive prophylactic regulatory regime.¹²

One reason for the polarization of the debate on Capitol Hill is that the call for “network neutrality” represents two very distinct phenomena: a commitment to an egalitarian Internet and a concern about the specter of anticompetitive conduct as to Internet-enabled services and content. At least in the congressional arena, the vision that everyone on the Internet should be equal sometimes eclipsed the latter concern, which is animated by economic analysis and requires a more empirically grounded analysis. Similarly, those opposed to network neutrality regulation often indulged in a different form of ideological invective—that the regulation of the Internet would constitute a departure from its laissez-faire roots and jeopardize its evolution. To analyze the state of the network neutrality debate, Section A dissects the rhetoric offered in favor of network neutrality and Section B evaluates the rhetoric invoked against it. Building on this analysis, Section C suggests that the debate is best addressed by the FCC and the FTC. In particular, both institutions are better positioned than Congress to reject the categorical calls for and against regulation, and to recognize that the concerns that animate this debate are best confronted with a scalpel, not a sledgehammer.

A. The Legacy of Best Efforts Connections and the Evolving Internet

The Internet developed initially as an academic curiosity, based on a commitment to the “end-to-end principle.” This principle requires that all Internet traffic, whether an email, a Voice over Internet Protocol (VoIP) “call,” or a video stream, be treated equally and managed through “best efforts” connections.¹³ In such a network, data packets pass from one router to another without the prioritization of any particular packets. In practice, this means that Internet traffic reaches its destination at varying times, depending on the traffic levels of the relevant Internet

12. For a general critique of this phenomenon, see E.J. DIONNE, JR., *WHY AMERICANS HATE POLITICS* (Simon & Schuster 1991). For a specific critical evaluation of the congressional debate on net neutrality, see Atkinson & Weiser, *supra* note 8, at 49.

13. For the classic discussion of the end-to-end principle, see J.H. Saltzer, D.P. Reed & D.D. Clark, *End-to-End Arguments in System Design*, 2 ACM TRANSACTIONS ON COMP. SYS. 277 (1984), available at <http://web.mit.edu/Saltzer/www/publications/endtoend/endtoend.pdf> (expounding the end-to-end principle).

communications links. For those who have found emails arriving hours after they were sent, the concept of unpredictable traffic patterns in Internet networks should sound familiar.

Based on the vision that best efforts Internet access is the only kind of access consistent with the Internet's traditional open architecture, Senator Ron Wyden proposed a ban on any varying levels (or tiers) of service offered to Internet content or service providers. Notably, this proposal treats as irrelevant whether a particular offering requires some form of a QoS guarantee to be effective. As Senator Wyden explained when introducing his bill, any such evaluation is inappropriate because "[c]reating a two-tiered system could have a chilling effect on small mom and pop businesses that can't afford the priority lane, leaving these smaller businesses no hope of competing against the Wal-Marts of the world."¹⁴ Reflecting this perspective, the network neutrality debate is often described as the dispute between those who are for allowing the tiering of broadband Internet services (anti-network neutrality) and those who are against it (pro-network neutrality).¹⁵

Given the political nature of congressional debate, many interested parties adopted shorthand descriptions and sound bites to explain their positions on network neutrality. In an appropriate move for an Internet-related issue, some of these sound bites were memorably captured in videos posted on YouTube.¹⁶ Whether by necessity or design, major Internet companies found themselves aligned with the egalitarian ethos of the Wyden bill, even where their own business models called for a level of complexity ignored in the mainstream policy debate. Nonetheless, in their attempt to frame the network neutrality debate with a slogan, major Internet companies adopted the shorthand that the goal of network neutrality regulation was to protect an Internet that could facilitate "innovation without permission."¹⁷

14. Press Release, Senator Ron Wyden, Wyden Moves To Ensure Fairness of Internet Usage With New Net Neutrality Bill (Mar. 2, 2006), available at <http://wyden.senate.gov/newsroom/record.cfm?id=266467> (quoting Sen. Ron Wyden).

15. See Robert Hahn & Scott Wallsten, *The Economics of Net Neutrality*, THE ECONOMISTS' VOICE (Apr. 2006), available at <http://www.aei-brookings.org/admin/authorpdfs/page.php?id=1269> ("Net neutrality has no widely accepted precise definition, but usually means that broadband service providers charge consumers only once for Internet access, don't favor one content provider over another, and don't charge content providers for sending information over broadband lines to end users.").

16. Compare Ask a Ninja Special Delivery 4 "Net Neutrality", YOUTUBE (May 11, 2006), <http://www.youtube.com/watch?v=H69eCYcDcuQ> (explaining the importance of network neutrality to prevent content discrimination), with Hands Off the Internet, YOUTUBE (Apr. 20, 2007), <http://www.youtube.com/watch?v=tlhSbJYxOnc> (arguing that fair competition in the market will bring maximum choice in suppliers, content, and technology to the consumer without unnecessary government regulation).

17. Letter from Jeff Bezos et al. to Senators Ted Stevens & Daniel Inouye (Apr. 25, 2006), http://netcompetition.org/docs/pronetneut/leaders_042506.pdf. Timothy Berners-Lee,

Protecting would-be Internet innovators is, by all accounts, a crucial competition policy concern. This objective, however, does not necessarily require adherence to an equality norm enforced by an Internet architecture solely defined by best efforts connections. After all, one can imagine the development of QoS offerings that are provided in such a manner as to allow new services to emerge in a competitively fair fashion. Reflecting this view, Andrew McLaughlin, Google's Senior Policy Counsel, explained that "[i]t is much better" to think of network neutrality "as an FTC or unfair competition type of problem."¹⁸ Indeed, in explaining this position, McLaughlin expressly condoned offering QoS assurances as long as they were available to all interested providers.¹⁹ McLaughlin's explanation, however, was later downplayed by Google (whose spokesperson called the statement McLaughlin's "personal view") in the wake of criticism that Google had abandoned the cause of network neutrality.²⁰

B. *The Internet As It Is*

To move the network neutrality debate forward, it is critical to separate it from the aspirations of what the Internet should be and to ground it in what the Internet already is. Stated simply, the Internet is not, and will never again be, a purely best-efforts-based network.²¹ Indeed, given the ability to

the creator of the World Wide Web, echoed these remarks, explaining that "[a]nyone can build a new application on the Web, without asking me, or Vint Cerf [co-creator of the Internet Protocol], or their ISP, or their cable company, or their operating system provider, or their government, or their hardware vendor." Posting of Tim Berners-Lee to Timbl's Blog, *Neutrality of the Net*, May 2, 2006, <http://dig.csail.mit.edu/breadcrumbs/node/132/> (May 2, 2006, 15:22 EST); see also Comments of the CDT, *supra* note 11, at 1 ("CDT strongly believes that the Internet's extraordinary success in facilitating independent innovation and speech is directly linked to the fact that any Internet user can provide content and services to any other willing Internet user, without getting permission from any 'gatekeeper.'").

18. Posting of Drew Clark to GigaOM, *Is Google Changing Its Position on Net Neutrality?*, GIGAOM, Mar. 13, 2007, <http://gigaom.com/2007/03/13/is-google-changing-its-position-on-net-neutrality/>.

19. As Clark detailed:

Peter Pitsch, Intel's director of communications policy, asked [McLaughlin]: "I inferred from what you said about [net neutrality] that you would not object to [carriers] making a particular offering, as long as that offering were made available on a non-discriminatory basis?"

"That is my view," replied McLaughlin. He described a "strong" view of neutrality in which carriers are forbidden from charging companies for quality-of-service (QoS) guarantees "because that breaks the free and open model" of the Internet. "There is a more pragmatic view that it is OK [to charge] as long as it is done in a non-discriminatory way."

Id. (second, third, and fourth alterations in original).

20. *Id.*

21. A number of leading Internet technologists have elaborated on this point. See, e.g., David D. Clark & Marjory S. Blumenthal, *The End-to-End Argument and Application Design: The Role of Trust*, Telecommunications Policy Research Conference 2 (2007), <http://web.si.umich.edu/tprc/papers/2007/748/End%20%20end%20and%20trust%2010%20fi>

deliver real-time services over the Internet—ranging from video conferencing to live video programming—it is important that the Internet evolve so that users can be guaranteed QoS assurances. After all, for commercial firms using the Internet to deliver valued communications services or offer premium content or services, the ability to ensure QoS is essential to their effective use of the Internet. Recognizing this point, the Internet Engineering Task Force—the standard-setting body charged with developing the basic Internet standards—has long evaluated new technologies to provide enhanced QoS.²²

As a practical matter, one can think about the relevant communications links that support Internet traffic in two categories: local access networks and Internet backbone networks. Because of the Internet's "network of networks" architecture, Internet communications can be handed off to a number of providers along the way to their end destinations, meaning that delay can ensue based on congestion at any number of points. In the case of email, for example, delays may not trouble many users because they are not engaged in any mission-critical or real-time communications. But for other applications, such as video conferencing or voice communications, delays can be annoying at best; at worst, they can defeat the utility of the application.

nal%20TPRC.pdf ("Applications and services on the Internet today do not just reside at the 'end points'; they have become more complex, with intermediate servers and services provided by third parties interposed between the communicating end-points."); Jon M. Peha, *The Benefits and Risks of Mandating Network Neutrality, and the Quest for a Balanced Policy*, 1 INT'L J. COMM. 644, 659 (2007), available at <http://ijoc.org/ojs/index.php/ijoc/article/view/154/90> (noting a shift away from end-to-end for "sound technical reasons," such as the ability to provide enhanced security and faster access to stored content).

22. As one Internet Engineering Task Force report states:

The essence of real-time service is the requirement for some service guarantees, and we argue that guarantees cannot be achieved without reservations. . . . [T]he user must be able to get a service whose quality is sufficiently predicable that the application can operate in an acceptable way over a duration of time determined by the user.

Robert Braden, David Clark & Scott Shenker, Memorandum in Response to Request for Comments, Integrated Services in the Internet Architecture: An Overview, at 3 (1994), available at <http://www.ietf.org/rfc/rfc1633.txt>; see also F. Le Faucheur & W. Lai, Memorandum in Response to Request for Comments, Requirements for Support of Differentiated Services-Aware MPLS Traffic Engineering, at 2 (2003), available at <http://www.ietf.org/rfc/rfc3564.txt> ("To achieve fine-grained optimization of transmission resources and further enhanced network performance and efficiency . . . it may be desirable to perform traffic engineering at a per-class level instead of at an aggregate level."). Another article discusses the differentiated services strategy, stating:

[I]t is a simple way of marking every packet for an appropriate service class, so that VoIP traffic can be handled with less jitter than Web browsing, for example. Obviously, this is desirable from a user viewpoint, and it's ironic that the more extreme legislative proposals for so-called "net neutrality" would ostensibly outlaw it, as well as outlawing priority handling for VoIP calls to 911.

Brian Carpenter, *Better, Faster, More Secure*, ACM QUEUE, Dec. 2006-Jan. 2007, at 42, 46, available at http://portal.acm.org/ft_gateway.cfm?id=1189290&type=pdf.

For enterprise consumers, using best efforts connections for business-critical applications (say, delivery of time-sensitive documents via email instead of by fax machine) is not an option. Thus, to ensure that enterprises enjoy guaranteed QoS connections, chief information officers regularly contract for “service level agreements” (SLAs) directly with Internet backbone providers (such as Sprint). SLAs vary, but a typical agreement provides limited assurances against network congestion and for timely delivery of relevant information.²³ Firms with major content hosted on websites (like ESPN.com) limit the opportunities for congestion by contracting with both Internet backbone providers and “content delivery networks” (like Akamai) that have built servers across the country to store (or “cache”) content locally, which limits the likelihood of congestion along the way. In short, the Internet already affords firms with the opportunity to ensure the prioritization of traffic for a fee.²⁴

Even amidst the development of SLAs by backbone providers and local content caching services, local access networks remain a potential bottleneck for Internet communications. Depending on the behavior of local users, congestion can greatly slow or otherwise compromise Internet access.²⁵ Because Internet networks have not adopted QoS management techniques, the general rule of thumb for current Internet users is that time-sensitive applications like VoIP and video programming delivery are often not delivered at the same QoS levels provided by traditional communications platforms (e.g., wireline telephone networks and cable television systems). But over time, and assuming that regulations do not prevent it, broadband networks are likely to adopt technologies that can support QoS levels that rival traditional networks for certain applications while leaving the best efforts network to support other applications.²⁶

23. See Jon Crowcroft, *Net Neutrality: The Technical Side of the Debate*, 1 INT’L J. OF COMM. 567, 572 (2007), available at <http://ijoc.org/ojs/index.php/ijoc/article/viewFile/159/84> (“Many ISPs offer statistical guarantees of performance (above and beyond a simple bland statement of ‘Best Effort’) . . . [such as] zero packet loss . . .”).

24. See Ou, *A Rational Debate*, *supra* note 2 (“[T]here have long been contractual agreements QoS . . . packet prioritization for business customers. These agreements allow customers to pay a premium to permit a certain percentage of traffic (usually a small percent) to get traffic prioritization across a carrier’s network.”).

25. Notably, the speed at which a web page downloads or a Voice over Internet Protocol (VoIP) application operates is not merely the function of the available bandwidth. In particular, even with a high level of bandwidth, “latency”—delay in the delivery of information—or the presence of “jitter”—variability in a communications link—can undermine the delivery of real-time communications. If there is only latency in a network, there are strategies to manage that issue (at least up to a point), but the presence of both latency and jitter is very difficult to manage for purposes of enabling real-time applications.

26. See Andrew Orlowski, *Father of Internet Warns Against Net Neutrality*, REGISTER, Jan. 18, 2007, http://www.theregister.com/2007/01/18/kahn_net_neutrality_warning (discouraging reporting on Robert Kahn’s caution against legislation that restricts innovation and experimentation in network technologies).

For the Internet to develop effectively, it is important for policymakers to appreciate that QoS assurances are not an unfortunate development, but a necessary one that may well be good for customers.²⁷ Thus, it is a considerable overstatement to assert—as the *New York Times* did in an editorial—that such assurances endanger the democratic character of the Internet.²⁸ Rather, as the *Washington Post* countered, it is more accurate to describe the Internet as a democratic medium, albeit one where major players have advantages over smaller upstarts.²⁹ In particular, as the *Washington Post* explained, major companies already use “caching” services (using technology sold by Akamai and other firms) to ensure more effective and expeditious delivery of their content than the start-up companies do by using a single server to provide content all around the world.³⁰

Part of the resistance to QoS assurances is the concern that broadband providers will charge some consumers more than others. Price discrimination, as this practice is commonly known among economists, is not clearly harmful to consumers because it provides firms with a relatively efficient vehicle for recovering their investment in expensive infrastructure (at least in some cases).³¹ Airlines, for example, use price discrimination strategies by offering discounts for a “Saturday night stay-over.” If they were prohibited from offering lower fares for individuals staying over on a Saturday night or charging higher fares to someone booking a trip at the last minute, by contrast, the result would be that many consumers who benefit from selective discounts would pay higher fares than they currently do or not fly at all.

27. A variety of technologies can assure higher levels of quality of service (QoS). See Peha, *supra* note 21, at 649, 653–54 (discussing QoS technologies). Some technologists fear that these technologies will be implemented in an anticompetitive manner. However, that fear does not mean that the technologies are incapable of providing valuable consumer benefits, rather that they can also facilitate anticompetitive discrimination. See John G. Waclawsky, *IMS 101: What You Need to Know Now*, BUS. COMM. REV. June 2005, at 18, 23 (describing the use of Internet Protocol Multimedia Subsystem as a double-edged sword insofar as it institutes “a control layer and a cash register over the Internet and [allows carriers to] creatively charge” for access to its functionalities).

28. Editorial, *Keeping a Democratic Web*, N.Y. TIMES, May 2, 2006, at A24, available at <http://www.nytimes.com/2006/05/02/opinion/02tue3.html>.

29. Editorial, *The Eden Illusion*, WASH. POST, Mar. 13, 2006, at A14, available at <http://www.washingtonpost.com/wp-dyn/content/article/2006/03/12/AR2006031200808.html>.

30. *Id.* As one report explained, content and applications providers might be “willing to pay Akamai [and other content delivery networks] a premium to deliver their content faster and more reliably” to end users. Scott Woolley, *Video Prophet*, FORBES, Apr. 2007, at 68, 72, available at http://www.forbes.com/forbes/2007/0423/068_print.html.

31. For a fuller explanation of the price discrimination concept, see NUECHTERLEIN & WEISER, *supra* note 8, at 176–77.

From the perspective of network operators, the ability to use price discrimination strategies represents a potential new revenue opportunity that can enable them to recoup investments in network upgrades. In general, firms investing a significant amount of money in a fixed cost asset (whether it be building a movie theatre, deploying a broadband network, or developing a blockbuster drug) look for opportunities to make money at the back end.³² For movie theatre owners, for example, one effective version of price discrimination is to charge high prices for popcorn, thereby enabling them to make more money off consumers with more discretionary income and effectively subsidize other consumers' ability to go to the movies. Similarly, as some analysts have noted, broadband network providers must identify additional revenue opportunities to justify investments necessary to upgrade broadband infrastructure.³³

The negative associations with price discrimination often reflect the concern—at least in the telecommunications environment—that telecommunications providers (unlike airlines or movie theatres) cannot be trusted with the freedom to set prices in a flexible manner. This concern is highlighted by former AT&T CEO Ed Whitacre's now-famous description of how he viewed Google:

Now what [Google and other Internet content providers] 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. So there's going to have to be some mechanism for these people who use these pipes to pay for the portion they're using. Why should they be allowed to use my pipes?³⁴

Whitacre's statement is bizarre on many levels (even putting aside the fact that it was an enormous public relations faux pas), starting with the fact that Google does not use much bandwidth for its search application and that its effective search technology has added enormous value to—and demand for—AT&T's broadband network. Indeed, if there were to be a

32. See Hahn & Wallsten, *supra* note 15, at 4 ("The need to cover fixed costs, coupled with society's interest in having platform operators internalize the benefits that accrue to both sides of the market [i.e., the broadband provider and applications developers], suggests that these providers should have maximum price flexibility to encourage innovation."); see also Howard A. Shelanski, *Adjusting Regulation to Competition: Toward a New Model for U.S. Telecommunications Policy*, 24 YALE J. ON REG. 55, 81 (2007) (explaining the importance of allowing recovery of front-end fixed cost investments).

33. See DELOITTE TOUCHE TOHMATSU, TELECOMMUNICATIONS PREDICTIONS: TMT TRENDS 2007, 7 (2007), available at http://www.deloitte.com/dtt/cda/doc/content/dtt_TelecomPredictions011107.pdf ("Clearly, something has to change in the economics of Internet access, such that network operators and ISPs can continue to invest in new infrastructure and maintain service quality, and consumers can continue to enjoy the Internet as they know it today.").

34. Patricia O'Connell, *At SBC, It's All About "Scale and Scope,"* BUS. WK. ONLINE, Nov. 7, 2005, available at http://www.businessweek.com/@/n34h*IUQu7KtOWgA/magazine/content/05_45/b3958092.htm.

revenue payment between AT&T and Google for the relevant value added functionality, it is not at all clear that the money would flow from Google to AT&T (as opposed to vice versa).

The more benign view of price discrimination is represented by how Richard Notebaert, Qwest's former CEO, explained the issue. Notebaert, unlike Whitacre, acknowledged that Google and Amazon are valued customers whose applications enhance the value of Qwest's DSL product. To Notebaert, however, the ability to charge additional fees for premium services was just like Federal Express's premium fee charged for guaranteed holiday delivery.³⁵ Even though few such deals are public, one can readily imagine win-win deals where a video applications provider contracts for guaranteed delivery speeds (say three megabits per second) to all broadband customers—even if a particular broadband subscriber only pays for a lower level of bandwidth for best efforts Internet access (say 512 kilobits per second). Indeed, BellSouth (now part of AT&T) reportedly entered into such an arrangement with Movielink, assuring it greater levels of bandwidth for customers using BellSouth's service in return for a fee. In principle, this deal enabled BellSouth to discount Internet access for some customers while enabling a provider of valuable content to subsidize the more effective delivery of its product to particular customers.³⁶

C. *The Limits of Laissez-Faire*

The rejoinder to the emphasis on preserving the Internet's open architecture through network neutrality regulation is the claim that any regulatory program will, as commentator Randy May put it, "stifle new investment and innovation in broadband networks."³⁷ In particular, May and others claim that robust competition in the broadband marketplace will prevent firms from acting in an anticompetitive fashion. The reality, however, is that the search for the third broadband pipe—i.e., an alternative to cable modem and DSL connections—is ongoing, and the broadband access marketplace is largely a duopoly. In this respect, the broadband market differs from that of, for example, overnight delivery both in that U.S. post office "best effort" delivery is regulated and there is considerable

35. See Marguerite Reardon, *Qwest CEO Supports Tiered Internet*, ZDNET, Mar. 15, 2006, http://news.zdnet.com/2100-1035_22-6050109.html (explaining Notebaert's analogy that like Federal Express and UPS, broadband providers should be afforded the opportunity to enter into similar guaranteed service delivery deals).

36. For a discussion of this issue, see PHILIP J. WEISER, *THE FUTURE OF VIDEO: NEW APPROACHES TO COMMUNICATIONS REGULATION* 19 (2007), available at http://www.aspeninstitute.org/atf/cf/%7BDEB6F227-659B-4EC8-8F84-8DF23CA704F5%7D/C&S_THE_FUTURE_OF_VIDEO.PDF.

37. Press Release, Progress & Freedom Found., PFF's May Warns of Effects of Network Neutrality Provision, (Apr. 25, 2006), available at <http://www.pff.org/news/news/2006/042506maynetneutrality.html>.

competition in the overnight delivery market (there are at least four facilities-based providers). Policies and technological changes may well facilitate the development of wireless broadband platforms,³⁸ but the advent of wireless broadband remains a promise, not a reality. Consequently, it is a stretch to invoke this possibility as a basis for claiming that broadband markets are, even if not competitive, then at least contestable.³⁹

Even if broadband providers continue to possess market power, they still benefit from the applications that ride on their networks and, consequently, have a powerful incentive not to undermine the creation of innovative applications. To explain the implications of this insight, Joe Farrell and I detailed the logic behind the “internalization of complementary efficiencies” (ICE) principle. In essence, the ICE principle explains why there are powerful incentives for platform monopolists or oligopolists to support a wide array of applications. There are, however, a number of exceptions to the ICE principle.⁴⁰ For present purposes, let me focus on two such exceptions: (1) the incentive to undermine an application that can compete with the core platform; and (2) the dynamics of price discrimination.

For even a casual observer of the network neutrality debate, the concept that Internet-based applications can compete with a platform provider’s core product offering (e.g., legacy voice or video revenues) is a familiar one. As network neutrality proponents regularly remind policymakers, the case involving Madison River Communications—a rural telephone company that resorted to the extreme tactic of blocking Vonage’s VoIP service⁴¹—illustrates this exception to ICE. For Madison River Communications, the interest in protecting current voice-based revenues made its case for blocking VoIP services quite compelling. As one observer explained, this sort of interest tempts carriers to protect legacy revenue streams by using “dodgy competitive tactic[s],” such as “slow[ing] down Vonage’s service” or “giv[ing] network precedence to their own

38. For a discussion of spectrum regulation and how it limits efficient entry, see NUECHTERLEIN & WEISER, *supra* note 8, at ch. 7.

39. Wu & Yoo, *supra* note 9, at 588 (explicating Yoo’s argument that wireless broadband platforms provide a basis for the contestability argument).

40. See Farrell & Weiser, *supra* note 8, at 89–90 (listing exceptions to the ICE principle).

41. Madison River Commc’ns, LLC, Consent Decree, 20 F.C.C.R. 4296 (2005), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-543A2.pdf. There have been some examples abroad as well. See, e.g., Cho Jin-seo, *Cable TV Operators Block HanaTV*, KOREA TIMES, Oct. 22, 2006, available at <http://www.asiamedia.ucla.edu/article.asp?parentid=55961> (reporting that cable providers had blocked Internet-based television services).

revenue-generating services.”⁴² Consequently, unless sufficient competition develops to punish firms for degrading particular applications to protect legacy revenue sources, it is difficult to accept a categorical claim that the possibility of anticompetitive conduct in the broadband marketplace is not a plausible policy concern.

The possibility of anticompetitive conduct through exclusive dealing arrangements is a familiar competition policy concern. At least in the case of upstart firms, however, there are powerful policy reasons to believe that such arrangements can be procompetitive. Consider, for example, the reported arrangement between Clearwire and Bell Canada, which required the upstart wireless broadband operator to make Bell Canada the preferred (and perhaps only) provider of VoIP service on its network.⁴³ That arrangement, which appeared to involve either blocking or degrading rival VoIP services, arguably played a role in enabling the upstart to attract financing and support as well as to offer a tailored VoIP offering. In general, whether exclusive dealing arrangements between a platform provider and applications developers are procompetitive or anticompetitive is a complex issue and a matter of considerable debate.⁴⁴ Consequently, it is quite plausible that, in some cases, such arrangements create real efficiencies and should be tolerated on that ground.

Whether the dynamics of price discrimination justify regulatory oversight cannot be determined on a categorical basis. The case for tolerating price discrimination tactics emphasizes that they are an effective means of capturing the revenue necessary to justify high fixed cost investments. In those cases, such as higher fares for business travelers and high-priced popcorn at movie theatres, any effort to ban price discrimination would have the impact of raising the price of otherwise lower-priced offerings (e.g., plane tickets and movie prices), leaving

42. NUECHTERLEIN & WEISER, *supra* note 8, at 571 n.15 (quoting Daniel Klein, *Why Vonage Is Just a Fad*, ZDNET, May 19, 2004, http://techupdate.zdnet.com/techupdate/stories/main/Why_Vonage_Just_Fad.html).

43. See Atkinson & Weiser, *supra* note 8, at 58 (describing the nature of the arrangement).

44. For a very thoughtful discussion of the issue, see Robin S. Lee, *Vertical Integration and Exclusivity in Platform and Two-Sided Markets* (NET Institute, Working Paper No. 07-39, 2007), available at <http://ssrn.com/abstract=1022682>. In particular, Lee analyzes the sixth generation game console market with respect to the arrangement between the platform providers (console makers) and applications developers (game producers). Based on his analysis, he concludes that the use of exclusive arrangements facilitated successful entry by upstarts and thus gave rise to dynamic efficiency benefits. Viewed through a merely static lens, by contrast, he suggests that a ban on exclusive vertical arrangements would benefit consumers. He explains, however, that this conclusion is potentially misleading insofar as it presumes the dynamic benefits (i.e., increased entry) that might not occur in the absence of such arrangements. *Id.* at 4. For a related analysis of the countervailing factors involved in regulating platform competition, see Philip J. Weiser, *The Internet, Innovation, and Intellectual Property Policy*, 103 COLUM. L. REV. 534 (2003).

consumers worse off and lowering overall output. At the same time, some price discrimination arrangements may come at an unacceptable cost—such as crippled functionality of a relevant product—that constitutes, in Joe Farrell's words, "collateral damage."⁴⁵

For opponents of network neutrality, a core challenge is to justify pro-consumer business strategies that on their face appear to limit the availability of applications to protect legacy revenues, enable new products or services to be launched, facilitate price discrimination, or some combination of the above. In many cases, the relevant strategies will limit the product's functionality so that consumers are not able to use cheaper offerings. Consider, for example, the practices of the wireless carriers related to VoIP offerings: the major U.S. carriers specify in their contracts that VoIP is not a permitted use of their wireless broadband offerings.⁴⁶ In Europe, carriers have gone one step further, restricting the functionality of wireless devices by removing the VoIP capability built into the handset.⁴⁷

For network neutrality advocates, the challenge is to demonstrate that restrictions, such as those imposed by wireless providers, harm consumers and require ex ante regulation. To make the case for network neutrality regulation, it is essential to explain (1) what sort of practices fall into the anticompetitive camp (as opposed to the procompetitive one); and (2) why preventing anticompetitive forms of price discrimination is best accomplished through front-end prophylactic rules rather than a more targeted form of oversight. In the wireless case, for example, the restrictions might be justified on the ground that the carriers subsidize the cost of the device and thus must be able to anticipate a certain level of revenues to do so. To make the case that such restrictions are unjustifiable as reasonable (and procompetitive) price discrimination, Tim Wu highlights that the wireless carriers do not sell unlocked, open, and unsubsidized devices as an alternative to the restricted, closed, and subsidized ones.⁴⁸ This observation, while important, hardly undermines the plausibility of legitimate justifications for the restrictions imposed by wireless carriers. Consequently, even if complete faith in the conduct of platform providers is unjustified, complete skepticism is also inappropriate.

45. Joseph Farrell, *Open Access Arguments: Why Confidence Is Misplaced*, in NET NEUTRALITY OR NET NEUTERING: SHOULD BROADBAND INTERNET SERVICES BE REGULATED? 195, 200 (Thomas M. Lenard & Randolph J. May eds., 2006).

46. Tim Wu, *Wireless Net Neutrality: Cellular Carterfone and Consumer Choice in Mobile Broadband* 13 (New America Foundation: Wireless Future Program, Working Paper No. 17, 2007), available at http://www.newamerica.net/files/WorkingPaper17_WirelessNetNeutrality_Wu.pdf.

47. Bill Ray, *Orange and Vodafone Cripple Nokia's Flagship*, THE REGISTER, Apr. 18, 2007, available at http://www.theregister.co.uk/2007/04/18/n95_crippled/.

48. See Wu, *supra* note 46, at 24.

D. Raising the Level of the Debate

The move of the network neutrality debate from Capitol Hill to the FCC and FTC provides an opportunity to tone down the rhetoric and shift the focus of discussion to important consumer protection and competition policy issues. In short, I am skeptical that Congress can craft well-specified legislation in this area, but at the same time, I am reasonably confident that both the FCC and the FTC possess the necessary authority to address network neutrality concerns using their current legislative mandates.

In terms of the search for legislative solutions, the early congressional debates over the issue underscore the difficulties of evaluating a cutting edge policy issue before it is more carefully considered by expert agencies and policy analysts. In particular, the political dynamics at work led to opposing bills that took fairly extreme approaches. On one side, a 2006 bill championed by Congressman Barton threatened to curtail existing FCC authority and limit its jurisdiction to a narrow mandate. On the other side, a 2006 bill championed by Congressman Markey greatly restricted the ability of broadband providers to offer and charge for higher QoS levels. Viewed together, the two bills reflect the confidence of both network neutrality proponents and opponents in diagnosing the state of the marketplace, as neither of them developed a regulatory strategy for conditions of uncertainty when plausible competition concerns are far from definitive.⁴⁹

Congressional action in the network neutrality area is unnecessary because the current state of FCC authority on broadband regulation is considerably broader and more stable than is often appreciated. In particular, the FCC has classified broadband as a Title I information service subject to its ancillary jurisdictional authority.⁵⁰ This regulatory category

49. During 2006, for example, it became difficult to keep track of the network neutrality proposals without a scorecard. For such a scorecard, see Anne Broache, *Net Neutrality Field in Congress Gets Crowded*, CNET NEWS.COM, May 19, 2006, http://news.com.com/2102-1028_3-6074564.html. In general, the bills fit into either the camp of imposing severe restrictions on network operators or in limiting the scope of authorized regulation. Like Congressman Markey's bill (Network Neutrality Act of 2006, H.R. 5273, 109th Cong. (2006)), Senators Snowe and Dorgan proposed a bill (Internet Freedom Preservation Act, S. 2917, 109th Cong. (2006)) that prohibited the prioritization of Internet traffic for a fee. Like Congressman Barton's bill (Communications Opportunity, Promotion, and Enhancement Act, H.R. 5252, 109th Cong. (2006)), Senator Stevens introduced a bill (Communications, Consumer's Choice, and Broadband Deployment Act of 2006, S. 2686, 109th Cong. (2006)) that limited the scope of FCC authority and called for further study of the issue.

50. See *Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 974 (2005) (upholding classification of cable modem service as an "information service"); *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, 20 F.C.C.R. 14,853, 14,862 (2005) (classifying DSL connections as an "information service").

offers the agency considerable flexibility in devising an appropriate regulatory strategy—meaning that it is hardly the case that the agency lacks authority to regulate broadband platforms and that, without congressional authorization, is unable to do so. Notably, the Supreme Court emphasized this point in *National Cable & Telecom Ass'n v. Brand X Internet Services*, explaining that “the Commission remains free to impose special regulatory duties on facilities-based ISPs under its Title I ancillary jurisdiction” and noting that the agency had already begun to do so.⁵¹ Consequently, if Congress does act in this area, a bill along the lines proposed by Congressman Markey in 2008—authorizing the FCC to undertake an investigation of network management practices (among other things)⁵²—is a far sounder course than either of the more extreme courses pursued in 2006.

Another result of the FCC’s decision to classify broadband as a Title I information service is that it not only left the agency with considerable discretion on how to regulate broadband, but also authorized the FTC to oversee broadband service providers. On account of an antiquated statutory constraint, the FTC is not authorized to oversee the conduct of “telecommunications providers,” who are treated as “common carriers” under Title II of the Communications Act of 1934.⁵³ This constraint no longer applies to broadband services, thereby enabling the FTC to oversee the conduct of broadband providers.⁵⁴ Moreover, because state public utility commissions, which traditionally address consumer protection issues as to telecommunications providers, may well lack jurisdiction in this area,⁵⁵ it is important that the FTC step into the breach. Part II of this Article suggests just how the FTC should do so, and Part III proceeds to discuss how the two agencies should address competition policy concerns.

51. *Brand X*, 545 U.S. at 996. James Speta has argued that *Brand X* misconstrues the scope of the FCC’s authority, but I disagree. Compare James B. Speta, *FCC Authority to Regulate the Internet: Creating It and Limiting It*, 35 LOY. U. CHI. L.J. 15 (2003), with Weiser, *Toward a Next Generation*, *supra* note 8, at 85.

52. The text of Congressman Markey’s proposed Internet Freedom Preservation Act is available at <http://markey.house.gov/docs/telecomm/hr5353.pdf>.

53. 15 U.S.C. §§ 44, 45(a)(2) (2000).

54. See *FTC Jurisdiction over Internet Access Services: Hearing Before the S. Judiciary Comm.*, 109th Cong. 3 n.4 (2006) (citing 15 U.S.C. §§ 44, 45(a)(2) (2000)) (prepared statement of the Federal Trade Commission), available at <http://www.ftc.gov/os/2006/06/P052103CommissionTestimonyReBroadbandInternetAccessServices06142006Senate.pdf>; see also *Reconsidering Our Communications Laws: Ensuring Competition and Innovation: Hearing Before the S. Judiciary Comm.*, 109th Cong. (2006), available at http://www.pff.org/issues-pubs/testimony/060616gifford_com.pdf (testimony of Raymond L. Gifford, President & Senior Fellow, The Progress & Freedom Foundation).

55. Cf. Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission, Memorandum Opinion and Order, 19 F.C.C.R. 22,404 (2004) (preempting state regulation of VoIP).

II. A CONSUMER PROTECTION STRATEGY FOR BROADBAND REGULATION

One of the shortcomings of today's broadband policy is that it does not seek to promote greater consumer awareness of broadband offerings and enforce carrier representations. Particularly as the marketplace evolves and competition policy issues become more challenging, policymakers need to ensure that broadband providers state clearly what consumers can expect from their offerings. By so doing, consumers will not only be assured that they receive reasonable service, but application providers will be in a better position to manage their offerings and compete based on an understanding of how the marketplace is evolving.

At present, most consumers are not well-informed about the state of their broadband service and, to the extent that network providers engage in any form of prioritization (or even blocking of particular applications), consumers are generally unaware of the existence of such prioritization. The significance of this issue became clear in the fall of 2007 when Comcast reportedly blocked or degraded BitTorrent and other peer-to-peer applications. In response to these reports, Comcast claimed that, although it had not previously disclosed this practice, it was engaging in reasonable network management. Going forward, this is likely to emerge as a more significant issue as technologies develop that prioritize different forms of Internet traffic and carriers increasingly adopt such technologies. From the consumer perspective, it is critical that consumers stay informed about the relevant offerings because this places them in a position to demand particular levels of performance.

As Justice Brandeis famously put it, "sunlight is said to be the best of disinfectants."⁵⁶ Whether the issue is federal regulatory policy or ingredients used in fast food, disclosure can often keep participants honest and enable parties to protect themselves.⁵⁷ In the Internet environment, the potential role of consumers as safeguards is quite powerful. Indeed, as FTC Chairman Majoras identified in the "Protecting Consumers in the Next Tech-Ade" hearing,⁵⁸ consumers have played a valuable checking function on a number of occasions, including pressuring Facebook to give users the option of turning off a feature that some believed invaded their

56. LOUIS D. BRANDEIS, *OTHER PEOPLE'S MONEY AND HOW THE BANKERS USE IT* 62 (1933).

57. As a former FTC Bureau of Competition put it: "Agencies enhance understanding of the process and foster better antitrust risk assessment by companies when they explain why they decided to act or not to act. Transparency matters. Critical review of agency performance and of outcomes is not possible without access to information." *U.S. Merger Enforcement Policy, Hearing Before the Antitrust Modernization Comm'n* 12-13 (2005), available at http://www.amc.gov/commission_hearings/pdf/Baer_Statement.pdf (testimony of William J. Baer, Partner and Chair of the Antitrust Practice, Arnold & Porter, LLP).

58. Transcripts from "Protecting Consumers in the Next Tech-Ade," are available at <http://www.ftc.gov/techade>.

privacy.⁵⁹ Whereas that scenario involved a feature that was open and notorious, the challenge in the broadband Internet access context is that the potentially objectionable network features may well be subtle and not readily apparent. To address the challenge, the FTC needs to oversee the implementation and enforcement of both effective disclosure requirements and enforcement processes. This Part discusses each issue in turn.

A. The Role of the FTC in Requiring Disclosure of Broadband Service Offerings

The nature of broadband Internet access is not always clear to consumers, and as noted above, firms operate in a largely unregulated climate. As an initial regulatory safeguard, the FTC should develop a consumer education and consumer protection enforcement initiative in this area. As explained below, I recommend a three part strategy.

First, the FTC should develop some basic guidance as to what information is important for consumers to understand vis-à-vis their broadband Internet access connections. Generally, most consumers focus on the “speed” or bandwidth that a provider can offer to the exclusion of other factors. Thus, as an initial matter, companies should inform consumers of the effective level of bandwidth (as opposed to a hypothetically possible level of bandwidth) provided by their broadband connection. Indeed, some providers are less than forthcoming on this score, as some evaluations have determined that the “actual speeds of large providers [were] somewhere between 150 Kbit/s and 200 Kbit/s. . . . [A] far cry from the two, three or even four megabit download speeds frequently hyped in ISP marketing literature.”⁶⁰

In disclosing the relevant speeds provided by broadband services, one controversial practice is the use of often misleading “up to” claims. During the hearings held by the FTC, former Chairman Tim Muris defended the use of such claims, positing that “the reason that such claims are effective [and not misleading] is that consumers understand that ‘up to’ claims are

59. Anne Broache, *FTC Chief Warns Against ‘Unnecessary’ Net Rules*, CNET NEWS.COM, Jan. 2, 2007, http://news.com.com/FTC+chief+warns+against+unnecessary+Net+rules/2100-1028_3-6132772.html.

60. Art Reisman, *Analysis: The White Lies ISPs Tell About Broadband Speeds*, PCMAG.COM, July 5, 2007, <http://www.pcmag.com/article2/0,1895,2155140,00.asp>. To the same end, an AT&T Group President reported, based on that company’s test of 150 cable modems in one market, that “[e]ven though peak speeds averaged around 3 Mbps during periods of low congestion, still far below the 6 to 8 Mbps speeds, average speeds hovered around 300 kbps to 400 kbps.” Cynthia Brumfield, *AT&T: Sample Cable Modem Speeds Average 400 Kbps*, IP DEMOCRACY, Feb. 27, 2008, available at http://www.ipdemocracy.com/archives/002891att_sample_cable_modem_speeds_average_400_kbps.php.

not the same as ‘average’ claims and, thus, will discount the claims accordingly.”⁶¹ Although plausible, this suggestion rests on an unproven empirical foundation and a belief that most consumers are relatively sophisticated about technology. Even if some consumers are sophisticated enough to appreciate the difference between “average” and “up to” speeds, others may well conflate these two concepts. Reflecting its concern in this regard, the Australian Competition & Consumer Commission (ACCC) cautioned broadband providers against making “up to” claims of bandwidth availability where the basis of such claims was theoretical possibility and not practical availability on a regular basis. Moreover, to avoid engaging in misleading or deceptive claims, the ACCC mandated that ISPs substantiate stated maximums that users can achieve and, moreover, recommended the advertising of a “typical range of speeds.”⁶² Similarly, Ofcom, the U.K. independent regulator and competition authority for the communications industries, “ruled that broadband providers could use the words ‘up to’ 8[megabits per second] when describing services as long as customers were likely to get close to those speeds.”⁶³ In particular, Ofcom found that even for providers advertising speeds of “up to 8Mbps,” the average speed “was 2.7Mbps, with the lowest coming in at under 0.09Mbps, barely at dial-up rates, and the maximum only reaching 6.7Mbps.”⁶⁴

For consumers, the “speed” of broadband connections may be a paramount consideration, but it is often not—and should not be—the only relevant concern. Notably, consumers are often interested in and should be informed about whether guaranteed QoS assurances are available either to them or to providers delivering content or services over the network.⁶⁵ In particular, in addition to disclosing the availability of any such arrangements, broadband providers should explain whether particular offerings are suitable for real-time applications (such as voice communications or video conferencing) and whether they are selling applications providers QoS assurances such that those services can be

61. BROADBAND CONNECTIVITY, *supra* note 3, at 132.

62. Australian Competition & Consumer Commission, *Broadband Internet Speed Claims and Trade Practices Act 1974* 5 (2007), available at <http://www.iaa.net.au/docs/BroadbandSpeedClaims.pdf>.

63. Britain ‘Failing’ Net Speed Tests, BBC NEWS, Aug. 2, 2007, available at <http://news.bbc.co.uk/2/hi/technology/6924866.stm>.

64. *Id.*

65. Such assurances, significantly, are likely to address issues related to latency and jitter as well as available bandwidth.

delivered effectively.⁶⁶ In providing this information, it is critical that broadband providers do so in a manner that ordinary consumers understand.⁶⁷

Second, it is important that consumers understand the network management policies used by their broadband provider. It is a given that broadband providers must manage their networks, and it is quite likely (and healthy) for them to use different strategies to do so. For example, peer-to-peer video traffic may well consume as much as 50% to 60% of available bandwidth while serving only a limited number of consumers.⁶⁸ Whether or not this figure is accurate, the potential for some applications to be “bandwidth hogs” underscores that there are legitimate reasons that broadband providers will need to give priority to certain applications over others and vendors are indeed developing routers to do just that.⁶⁹ My point is not only that regulators should welcome such practices, but should also ensure that, to the extent firms embrace them, these firms should disclose the nature of such practices to their customers.⁷⁰ Similarly, the

66. To the extent that a broadband Internet access service is likely to be limited in any regard such that it cannot support commonly used applications effectively, it is important that such limitations be conspicuously disclosed. See NETWORK RELIABILITY AND INTEROPERABILITY COUNCIL VII, BROADBAND ARCHITECTURES, BEST PRACTICES & SERVICE FEATURES FOR THE INCREASED DEPLOYMENT OF HIGH-SPEED RESIDENTIAL INTERNET ACCESS SERVICE 15 (2005), available at http://www.nric.org/meetings/docs/meeting_20051019/NRICVII_FG4_FinalReport_September_2005.pdf (noting the expectation that broadband connections feature levels of latency low enough to be compatible with commonly used applications).

67. This concern is also true in related contexts, such as online privacy policies. See, e.g., Louise Story, *F.T.C. Takes a Look at Web Marketing*, N.Y. TIMES, Nov. 2, 2007, at C8, available at http://www.nytimes.com/2007/11/02/technology/02adco.html?_r=1&oref=slogin (reporting FTC Commissioner Leibowitz’s call for standard privacy rules, noting that in a survey, only 1% of high school educated consumers can understand privacy policies of large companies).

68. See PHILIP J. WEISER, REPORT FROM THE CENTER FOR NEW WEST PUTTING NETWORK NEUTRALITY IN PERSPECTIVE 5 (2007), <http://www.centerfornewwest.org/pdf/TelecomSummary.pdf>; Lucas van Grinsven, *Google and Cable Firms Warn of Risks from Web TV*, USATODAY.COM, Feb. 7, 2007, http://www.usatoday.com/tech/news/2007-02-07-google-web-tv_x.htm (citing the Gartner report that 60% of Internet traffic is peer-to-peer video).

69. See, e.g., CISCO SYSTEMS, INC., CISCO SERVICE CONTROL APPLICATION FOR BROADBAND: USER GUIDE VERSION 3.0.5 (2006), http://www.cisco.com/application/pdf/en/us/guest/products/ps6135/c1626/ccmigration_09186a008078a9f1.pdf (outlining the Cisco SCE 2000 product, which recognizes 600 different protocols and allows for controlling traffic by treating different applications differently). Similarly, Packeteer has developed a system for identifying and managing traffic. See PACKETEER, APPLICATION LIST (2007), <http://www.packeteer.com/resources/prod-sol/ApplicationDiscovery.pdf>.

70. A Network Reliability and Interoperability Council working paper elaborated on recommended disclosure practices, explaining that:

Service providers should make information available to customers that include[s] content filtering

. . . .

Service [p]roviders should make available meaningful information about expected performance with respect to upstream and downstream throughput and

FTC should also encourage broadband providers to disclose to consumers any monitoring of their communications, including those required by law, such as the Communications Assistance in Law Enforcement Act.

In the case of Comcast's treatment of BitTorrent, the lack of any transparent policy as to its network management practices created considerable alarm among network neutrality advocates. Notably, Comcast did not mention that it subjected peer-to-peer applications to any Internet management techniques, but simply warned consumers against "excess" uses of bandwidth.⁷¹ However, an Electronic Freedom Foundation (EFF) report—following an earlier Associated Press story that reported difficulties in using BitTorrent to download a copy of the King James Bible via a Comcast cable modem—concluded that Comcast was using a technique that it called "packet forgery" as a means of causing peer-to-peer connections to shut down.⁷² In response, Comcast defended its actions as "reasonable network management" and maintained that the company does not block packets.⁷³ A *New York Times* reporter, however, stated that a

any limitations of the service; best effort services "up to" or unspecified bit rates services should be specified as such in a clearly identifiable manner.

Service providers should make available meaningful information about expected performance with respect to upstream and downstream throughput and any limitations of the service. Specified rate services (such as those covered by QoS or similar systems) should be handled by an SLA between the parties.

Doug Davis, NETWORK RELIABILITY AND INTEROPERABILITY COUNCIL VI: FOCUS GROUP 4 – BROADBAND 10 app.a (2003), http://www.nric.org/fg/charter_vi/fg4/NRIC6FG4-Completed.pdf.

71. See Drew Clark, *Comcast and Freedom to Obtain Service Plan Information*, DREWCLARK.COM, Nov. 6, 2007, <http://www.drewclark.com/comcast-and-freedom-to-obtain-service-plan-information/> (stating that Comcast warns consumers that they may not "inhibit, interfere with, or degrade any other user's use of the Service, nor represent (in the sole judgment of Comcast) an overly large burden on the network"); see also Drew Clark, *Highlights from the Terms of Service of the Largest Broadband Providers*, DREWCLARK.COM, <http://www.drewclark.com/tosmatrix.php> (last visited Feb. 28, 2008) (providing a comparison of several major broadband providers' terms of service).

72. PETER ECKERSLEY ET AL., PACKET FORGERY BY ISPS: A REPORT ON THE COMCAST AFFAIR, ELECTRONIC FRONTIER FOUNDATION 2007, available at http://www.eff.org/files/eff_comcast_report2.pdf.

73. See Grant Gross, *EFF: Comcast Continues to Block P-to-P*, WASH. POST, Nov. 30, 2007, <http://www.washingtonpost.com/wp-dyn/content/article/2007/11/30/AR2007113001543.html> (reporting on Comcast's response). Taking issue with Comcast's claim, the EFF report suggested that Comcast's position that its network management techniques did not block packets is "only true under special conditions, and is certainly not true in general." ECKERSLEY ET AL., *supra* note 72, at 5. In support of Comcast, another commentator explained that Comcast was using a reasonable network management technique:

We can think of [Comcast's restrictions on peer-to-peer traffic] as a freeway onramp that has lights on it to rate limit the number of cars that may enter a freeway. Those lights aren't there to say people of a certain race can pass through or people of a certain race must wait longer in line; everyone must wait their turn. If you didn't have the lights and everyone tries to pile on to the freeway at the same time, everyone ends up with worse traffic. Comcast doesn't block you from using BitTorrent, it simply limits the number of simultaneous uploads you can perform at once.

Comcast official acknowledged that “the company occasionally—but not always—delays some peer-to-peer file transfers that eat into Internet speeds for other users on the network.”⁷⁴

There are two related consumer protection lessons that emerge from the Comcast/BitTorrent controversy. First, it is critical that broadband providers make clear what restrictions they place on Internet use so that consumers can make informed choices. At present, this is rarely the case. As one report explained, “the bottom line is all providers require residential customers to agree not to use too much bandwidth, but very few actually specify how much is too much.”⁷⁵ Second, to the extent that firms engage in network management, it is essential that they disclose the nature of such techniques or, at a minimum, allow a trusted party to judge the reasonableness of such techniques.

In the Comcast/BitTorrent dispute, Comcast has suggested that its lack of disclosure reflects a concern that it must keep its network management practices a secret so as to prevent gaming. Assuming that this is indeed the case,⁷⁶ the absence of any forum—the FTC, the FCC, or a trusted third party—to evaluate the reasonableness of such techniques becomes a real problem for consumers who have no basis to evaluate whether their provider is acting reasonably. It is possible, for example, that Comcast’s network management techniques are unreasonable on the grounds that they are overbroad and that the company failed to “exhaust the reasonable, user-friendly, and standards-compliant responses”⁷⁷ before taking more

George Ou, *A Rational Debate on Comcast Traffic Management*, ZDNET, Nov. 6, 2007, <http://blogs.zdnet.com/Ou/?p=852&page=2> [hereinafter Ou, *Comcast Traffic Management*].

74. Brad Stone, *Comcast: We’re Delaying, Not Blocking, BitTorrent Traffic*, N.Y. TIMES BITS BLOG, Oct. 22, 2007, <http://bits.blogs.nytimes.com/2007/10/22/comcast-were-delaying-not-blocking-bittorrent-traffic>.

75. Randy Barrett, *Putting the Squeeze on Bandwidth Hogs: How Operators Deal with Their Greediest Users*, MULTICHANNEL NEWS, May 7, 2007, available at <http://www.multichannel.com/article/CA6439454.html> (“Of nine service providers surveyed by *Multichannel News*, only three—Cox Communications, Shaw Communications and Qwest Communications International—explicitly state limits.”).

76. See ECKERSLEY ET AL., *supra* note 72, at 8–9 (acknowledging that this claim is subject to question, as purportedly secret network management techniques can be discerned and reported in Internet-based chat groups, leading to an arms race of sorts between network owners and hackers).

77. *Id.* at 7–8. Ed Felten, a respected technologist, similarly criticizes Comcast’s choice of network management techniques, concluding that:

There are well-established mechanisms for dealing with traffic congestion on the Internet. Networks are supposed to respond to congestion by dropping packets; endpoint computers notice that their packets are being dropped and respond by slowing their transmissions, thus relieving the congestion. . . .

What Comcast is doing instead is to cut off connections by sending forged TCP Reset packets to the endpoints. . . . Doing this is a violation of the TCP protocol, which has at least two ill effects: it bypasses TCP’s well-engineered mechanisms for handling congestion, and it erodes the usefulness of Reset packets as true indicators of error.

aggressive measures. Such a judgment, however, is impossible to make in the absence of either disclosure as to the technique being used or the availability of a trusted body to determine that the measure is reasonable.⁷⁸ In short, given the current state of affairs—an undisclosed network management technique and no body to evaluate the reasonableness of such a technique—Comcast consumers are left in the dark and frustrated when their broadband provider does not live up to its promised terms of service.⁷⁹ Consequently, as one reporter put it, “[i]n the absence of a transparent explanation about what the company does to disadvantage certain applications in the name of managing traffic on its network, anecdotal reports and conspiracy theories are filling the vacuum.”⁸⁰

As policymakers develop a regulatory regime to fill the vacuum highlighted in the Comcast episode, it is essential that they develop a mechanism to ensure that consumers can rely on accurate representations

Edward W. Felten, *Comcast Blocks Some Traffic, Won't Explain Itself*, FREEDOM TO TINKER, Oct. 23, 2007, available at <http://www.freedom-to-tinker.com/?p=1217>.

78. A provider of video programming using peer-to-peer technology, Vuze, has petitioned the FCC to evaluate setting rules governing reasonable network management, suggesting that any forms of blocking, degradation, or unreasonable discrimination are illegitimate. See Petition to Establish Rules Governing Network Management Practices by Broadband Network Operators, WC Docket 07-52 (Nov. 14, 2007), available at <http://www.publicknowledge.org/pdf/vuze-petition-20071114.pdf>. On the merits of this issue, some commentators suggest that there is reason to believe that Comcast's choice of network management techniques was appropriate. As George Ou reported (based on a conversation with Richard Bennett):

Simply put, there is no queue for you to prioritize in the first place on a cable broadband network. [Resorting to forged packets] isn't the prettiest solution in the world but there is nothing pretty about a shared collision domain network topology and there aren't any other solutions other than active network management. Conventional QoS (Quality of Service) priority queuing works on a router which comprises most of the Internet, but it has no effect on a shared last-mile collision domain network where packets are simply discarded if they collide. Simply put, there is no queue for you to prioritize in the first place. Actively managing the number of simultaneous uploads cable broadband BitTorrent users improves performance for everyone and every application including BitTorrent.

Ou, *Comcast Traffic Management*, *supra* note 73. For Bennett's own defense of Comcast, see Edward Felten, *Ed Felton's Alternate Internet*, THE GREAT AMERICAN BLOG, Oct. 23, 2007, <http://bennett.com/blog/index.php/archives/2007/10/23/ed-felten-alternate-internet>, saying:

Nothing in the conventional arsenal of TCP effectively limits BitTorrent's appetite for bandwidth, it's all up to the user. And if he's a hog, it's out of control.

.....
Fundamentally, the problem that Comcast addresses with its TCP RSTs isn't an Internet problem, it's an Intranet problem, as in the DOCSIS network inside Comcast doesn't handle high loads of upstream traffic without going unstable. See also Larry Seltzer, *Network Policies Should Be Open, Not Neutral*, EWEEK.COM, Nov. 6, 2007, <http://www.eweek.com/article2/0,1895,2213092,00.asp> (“In fact, rate-limiting is a common-sense practice with a service like BitTorrent, which can create a constant baseline of traffic across a network.”).

79. See Seltzer, *supra* note 78 (“The problem here isn't limiting bandwidth, its [sic] dishonesty and a failure to disclose procedures.”).

80. Stone, *supra* note 74.

by broadband providers. In the case of wireless services, for example, Verizon initially suggested that they supported “full” Bluetooth capabilities. After a series of customer complaints and a class action lawsuit alleging that Bluetooth functionality was restricted, however, Verizon dropped its claim and acknowledged that it greatly limits the potential uses of Bluetooth.⁸¹ In the wake of a complaint filed at the FCC, a barrage of criticism in the press, and a few lawsuits, Comcast ultimately announced a change in its terms of service, acknowledging in very broad terms the type of network management techniques that it uses.⁸²

The third element of my recommended consumer protection strategy is that broadband providers should be expected to offer some level of traditional best efforts Internet access when they sell “broadband” Internet access. As noted earlier in this section, I believe that paid access for QoS guarantees through de facto “fast lanes” of Internet access is a pro-consumer development and one that should not be banned. I also believe, however, that the continued offering of best efforts broadband is critical to (1) providing consumers what they expect from broadband Internet access, and (2) enabling application developers to build new products without first having to enter into arrangements to ensure a reliable level of QoS.⁸³

To ensure that the preservation of best efforts Internet access continues, providers should not be able to use the term “broadband” without offering a sufficient level of best efforts connectivity, as that is what consumers have come to expect. Over time, the relevant level of best efforts connectivity will need to evolve, as evinced by the fact that the FCC’s early definition of broadband—at least 200 kilobits per second—is increasingly archaic in a world where few broadband consumers subscribe to such connections. If the FTC chooses not to insist on a level of continuing best efforts delivery, it should pay close attention to a broadband provider’s disclosures as to what methods of prioritization are used and ensure, perhaps through a conspicuous disclaimer, that consumers appreciate that the traditional best efforts Internet delivery is not offered by that provider.⁸⁴

81. See Wu, *supra* note 46, at 11.

82. Comcast’s terms of service can be found at <http://www.comcast.net/terms/> (last visited Apr. 26, 2008). For a discussion of Comcast’s revised terms of service, see Eric Bangeman, *Comcast Tweaks Terms of Service in Wake of Throttling Uproar*, ARS TECHNICA, Feb. 7, 2008, <http://arstechnica.com/news.ars/post/20080207-comcast-tweaks-terms-of-service-in-wake-of-throttling-uproar.html>.

83. The USC Annenberg Center’s Network Neutrality principles called this “Basic Access Broadband,” defining it as “a meaningful, neutral Internet connectivity service.” <http://www.boingboing.net/2006/03/24/principles-for-netwo.html> (last visited Apr. 25, 2008).

84. For a discussion of different systems of prioritization, see Edward W. Felten, *Nuts and Bolts of Network Neutrality*, in 24TH ANNUAL INSTITUTE ON TELECOMMUNICATIONS POLICY & REGULATION 317–34 (2006), available at <http://itpolicy.princeton.edu/pub/neutrality.pdf>.

In addition to “best efforts” broadband, firms are likely to use two other delivery paths. First, firms will also be in a position to sell prioritized Internet access—the sale of such access on a discriminatory basis might well raise competitive concerns (as discussed in Part III). Second, broadband providers will almost certainly use their own “private network” and Internet technology to deliver their own services, such as IP television or VoIP. As to such services, it is prudent to leave them outside of any regulatory oversight—provided that independent providers are still able to compete. By contrast, if broadband providers seek to avoid the oversight of discriminatory access to QoS assurances by calling the relevant service a private network-based one, the prudence of a forbearance strategy as to the regulatory oversight of private network-based services will need to be revisited.

*B. The Role of Effective Disclosure, Self-Regulation, and
FTC Enforcement*

In essence, I believe that the FTC can contribute greatly to broadband policy by promoting a truth-in-advertising model and encouraging industry self-regulation along the lines of its efforts with respect to Internet privacy.⁸⁵ The premise of this model would be the development of clear broadband usage policies that would be posted on the Web sites of broadband providers. To facilitate this development, the FTC should produce a set of guidelines, either formal or informal, for what critical information providers should post as part of broadband usage policies.⁸⁶ In providing a framework or set of principles for broadband terms of service, the FTC could follow the approach it has used in other contexts, such as when it issued online behavioral advertising privacy principles to facilitate both more effective consumer vigilance as well as a program of self-regulation.⁸⁷ Based on this framework, the FTC could educate consumers as to what the usage policies mean, including how they might test to see whether their provider is providing the type of service that it promises to

85. See Steven Hetcher, *The FTC as Internet Privacy Norm Entrepreneur*, 53 VAND. L. REV. 2041, 2047 (2000) (recapping the FTC's actions, which led to an increase in the number of Web sites offering privacy policies).

86. BROADBAND CONNECTIVITY, *supra* note 3, at 137 (“FTC guidance may be useful should consumers encounter widespread difficulty obtaining or understanding material information about broadband offerings and service.”). Consequently, the FTC concluded that “we intend to continue to monitor industry practices, and, if appropriate, engage the industry in discussions of best practices.” *Id.*

87. See FTC, *Online Behavioral Advertising: Moving the Discussion Forward to Possible Self-Regulatory Principles*, available at <http://www.ftc.gov/os/2007/12/P859900stmt.pdf>.

deliver. Consequently, for cases where a provider is promising one set of policies and acting differently, the FTC would be positioned to use its authority to sanction such behavior.

In the broadband arena, the FTC has an important opportunity to spur the development of an effective disclosure regime.⁸⁸ Notably, several regulatory initiatives have spurred more readily understandable and effectively enforced disclosure requirements that, in turn, have facilitated competition and benefited consumers. Consider, for example, the development of competition between snack food providers to offer healthy snacks. Today, consumers enjoy a variety of products that offer consumers lower calorie, lower sodium, or lower fat products. But competition for such products did not emerge until a readily understandable disclosure regime for nutritional information was developed and implemented.⁸⁹

From an industry perspective, the ability to make credible commitments about product quality is a significant factor in encouraging additional consumption. In the case of restaurants, for example, a program instituted by the Los Angeles County Health Department requiring the posting of understandable grade cards evaluating restaurant hygiene led to increased consumption of restaurant food. The authors of the study documenting this development explained that such cards led restaurants to improve their hygiene and enabled consumers to compare between different options more effectively. As they explained, “the grade cards make consumers more confident about trying restaurants they have not experienced before and make them less captive to the restaurants they have had good experiences at.”⁹⁰ Similarly, as

88. See generally Pamela Samuelson & Jason Schultz, *Should Copyright Owners Have to Give Notice of Their Use of Technical Protection Measures?*, 6 J. ON TELECOMM. & HIGH TECH. L. 41 (2007) (highlighting the need for transparency in the context of technical protection measures that can restrict uses of digital goods).

89. As Ellen Goodman related,

[I]t seems natural that food manufacturers with a relatively good nutritional story to tell would disclose nutritional information. Kraft and Nabisco could then compete on nutritional value or Kraft could use nutritional information to distinguish its premium brands like Progresso. So one might think, and yet the market did not produce widespread disclosure of nutritional information until federal regulation required it. It was the regulation that created a market for nutritional information that now appears to be strong.

Ellen P. Goodman, *Stealth Marketing and Editorial Integrity*, 85 TEX. L. REV. 83, 139 (2006) (internal citations omitted); see also Archon Fung et al., *The Political Economy of Transparency: What Makes Disclosure Policies Effective?* 16–17 (Ash Inst. For Democratic Governance and Innovation, Harvard Univ., OP-03-04, 2004), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=766287 (noting competition based on nutritional information after government regulation set forth the framework for disclosure).

90. Ginger Zhe Jin & Phillip Leslie, *The Case in Support of Restaurant Hygiene Grade Cards*, 20 CHOICES 97, 100–01 (2005), available at <http://www.stanford.edu/~pleslie/Jin%20and%20Leslie%20Choices%202005.pdf> (“By increasing the provision of information to consumers, powerful economic incentives are created for restaurants to improve hygiene, leading to a significant improvement in public health outcomes.”).

consumers become more appreciative of the different broadband options available, they will be better able to make informed choices about their broadband connections and available applications.

Ideally, the FTC will not need to develop a comprehensive regulatory program, but rather, forums for self-regulation will develop, particularly with the FTC's encouragement. Given the incentive of applications developers to measure network performance and monitor whether it matches the promises of broadband providers, such forums (as well as the vigilant oversight of many Internet users) can play a constructive role in determining whether and where performance deviates in practice from what a particular provider promised. At least initially, the FTC may well need to take on the responsibility of managing such cases itself. Over time, however, I believe that there is a role for a self-regulatory dispute resolution mechanism along the lines of Better Business Bureau's National Advertising Division (whose decisions are reviewed by the National Advertising Review Board),⁹¹ which acts as a self-policing mechanism and refers the truly egregious cases to the FTC for resolution.⁹² Moreover, users themselves may engage in the sort of Net activism that Chairman

91. See BROADBAND CONNECTIVITY, *supra* note 3, at 136 (recognizing the potential for such an approach, noting that "the Commission applauds industry self-regulation" and suggesting that "any program of self-regulation is more effective when complemented by strong enforcement mechanisms"). Similarly, Chairwoman Majoras echoed the point, suggesting that "self-regulation by broadband providers could be an effective complement to FTC enforcement of the consumer protection laws. I have commended self-regulation efforts in many other industries and contexts and would encourage broadband providers to also consider such a model." Deborah Platt Majoras, Chairwoman, FTC, Keynote Address at the Federal Communications Bar Association Annual Meeting: The FTC: Working for Consumers in the On-Line World 13 (June 27, 2007) (transcript available at <http://www.ftc.gov/speeches/majoras/070627fcba.pdf>).

92. See Jeffrey S. Edelman, *Self-Regulation of Advertising: An Alternative to Litigation and Government Action*, 43 IDEA 509, 527 (2003) (explaining the regime and noting that only 5% of cases are referred to the FTC and other government agencies); see also Andrew Strenio et al., *Self-Regulatory Techniques for Threading the Antitrust Needle*, ANTITRUST Summer 2004, 57, 57 (calling the National Advertising Division "a notable example of successful self-regulation"). This regime calls for ultimate FTC oversight, which is significant because self-regulatory regimes can be ineffective to the extent that there is no credible threat of enforcement and that gaming will be punished to prevent firms from misleading consumers to gain an advantage. See Posting of Bill Henderson to Empirical Legal Studies Blog, *USNWR Gaming and the Failure of Self-Regulation*, EMPIRICAL LEGAL STUDIES BLOG, http://www.elsblog.org/the_empirical_legal_studi/2007/01/usnwr_gaming_an.html (Jan. 25, 2007, 00:29 EST); see also Neil Weinstock Netanel, *Cyberspace 2.0*, 79 TEX. L. REV. 447 (2000) (reviewing LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* (1999) and ANDREW L. SHAPIRO, *THE CONTROL REVOLUTION: HOW THE INTERNET IS PUTTING PEOPLE IN CHARGE AND CHANGING THE WORLD WE KNOW* (1999) and arguing, based on an Internet privacy case, that self-regulatory programs only work when government oversight mechanisms are in place).

Majoras highlighted with respect to Facebook's change of privacy policies, listing complaints on web sites and calling attention to policies that are either misleading or objectionable.⁹³

Finally, to aid the FTC's effort in managing dispute resolution in this context, I recommend that the Agency hire Internet technologists to support its investigations and judgments in this area. After all, network performance issues may well challenge the abilities of even the best technology-minded lawyers. Moreover, bringing outside experts up-to-speed on the relevant issues is often time consuming and expensive. As Judge Posner put it, "cases in the new economy present unusually difficult questions of fact because of the technical complexity of the products and services produced by new-economy industries[.]" particularly because "[c]omputer science and communications technology are much more difficult areas than the average body of scientific or engineering knowledge that lay judges and jurors are asked to absorb en route to rendering a decision."⁹⁴

III. TOWARD A NEW COMPETITION POLICY STRATEGY

From a competition policy perspective, a core challenge of designing a regulatory regime for addressing network neutrality concerns is to discern what, if any, categorical rules should be developed and what legal standards should regulate conduct based on particular factual contexts. The effectiveness of a categorical rule—namely, one that requires all QoS assurances to be offered on a nondiscriminatory basis—depends on (1) the business environment in which the rule operates (i.e., how likely are normal business arrangements to be procompetitive), (2) the ability to craft a less restrictive and reasonably effective legal standard, and (3) the effectiveness of the available institutional apparatus in terms of its ability to superintend either a legal standard or a categorical rule. In the network neutrality context, these three issues are often blurred together, making it more difficult to tease out the appropriate resolution of this policy challenge. This Part begins by discussing the business context for network neutrality, then explains how it relates to the "bilateral monopoly" problem, and concludes by discussing the case for using a legal standard (as opposed to a categorical rule) as well as the effectiveness of the relevant governmental institutions in managing such a regime.

93. A popular BitTorrent client (used for peer-to-peer file sharing), Azureus, has a wiki that allows users to categorize their ISPs in terms of their policies on shaping peer-to-peer traffic. See *Bad ISPs*, AZUREUSWIKI.COM, http://www.azureuswiki.com/index.php/Bad_ISPs (last visited Apr. 20, 2008).

94. Richard A. Posner, *Antitrust in the New Economy*, 68 ANTITRUST L.J. 925, 936–37 (2001).

A. The Past As Prologue?

In an important sense, the network neutrality debate merely replicates a debate now over one hundred years old in the telecommunications industry and in public utility regulation more generally. In particular, a provider of basic infrastructure—a railroad or a telecommunications network—will often seek some share of the available rents from the goods or services carried on their platform. Without regulatory oversight, or countervailing monopoly power on the part of the goods manufacturer (as Standard Oil enjoyed as to oil), the railroad companies were renowned (and detested) for charging supra-competitive prices that limited the potential profits available to the farmers whose goods were shipped via their platform.⁹⁵ Similarly, AT&T sought to entirely monopolize the provision of goods that worked in conjunction with its network, famously opposing “foreign attachments” and claiming for itself the sole right to charge (supra-competitive rents) for applications like telephones that connected to the network.⁹⁶ In response to both the abuses of monopoly power by the railroads and the Bell System, calls for transparency and competition policy oversight prevailed on the ground that society could not tolerate a state of affairs where “a monopoly infrastructure business, in pursuit of its own ends, could take steps that would ruin one business and make another succeed.”⁹⁷

Over the history of telecommunications regulation, a basic equal access (or nondiscriminatory interconnection) rule emerged as an essential procompetitive safeguard enforced by regulators.⁹⁸ Initially, the courts did not view interconnection between competitors (or complementors)⁹⁹ as a

95. See Joseph D. Kearney & Thomas W. Merrill, *The Great Transformation of Regulated Industries Law*, 98 COLUM. L. REV. 1323, 1330–40 (1998) (examining the changes over the last two decades in the structure of relationships between service providers and consumers railroad regulation); see also JAMES C. BONBRIGHT, *PRINCIPLES OF PUBLIC UTILITY RATES* 83 (1961) (discussing the existence of rate standards in the railway industry).

96. See *Hush-A-Phone Corp. v. United States*, 238 F.2d 266 (D.C. Cir. 1956) (rejecting an attempt by AT&T to invoke a tariff banning foreign attachments).

97. See Andrew Odlyzko, *Network Neutrality, Search Neutrality, and the Never-Ending Conflict Between Efficiency and Fairness in Markets* 9 (Jan. 27, 2008) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1095350.

98. See Tim Wu, *Why Have a Telecommunications Law? Anti-Discrimination Norms in Communications*, 5 J. ON TELECOMM. & HIGH TECH. L. 15, 17 (2006) (arguing that “decades of telecommunications experience” support the “one rule” proposal for a single anti-discrimination rule). See generally Kevin Werbach, *Only Connect*, 22 BERKELEY TECH. L.J. 1233 (2007) (emphasizing that an understanding of the distinction between interconnection and nondiscrimination is critical for understanding the challenges of telecommunications regulation).

99. The term “complementor” refers to the developer of an application that rides on a platform. More generally, a complementor is a firm that develops a product where sales of that product increases demand for (i.e., serves as a complement for) the primary product (sometimes referred to as the “platform”).

concern of the traditional common carriage rule.¹⁰⁰ Upon more reflection, policymakers revised this rule and embraced a common carriage regime that called for the regulation of interconnection arrangements.¹⁰¹ Moreover, in the antitrust context, the U.S. Department of Justice's 1974 lawsuit recommended, and the federal courts acquiesced, that antitrust courts (at least with the aid of the FCC) could develop and enforce an interconnection requirement.¹⁰² Reflecting the hallowed status of the Telecommunications Act of 1996, all parties involved in the crafting and administration of the Act conceded that interconnection between rival networks was a principal goal of telecommunications policy.¹⁰³ This consensus masked, however, that the enforcement of an interconnection requirement raises challenging administrative questions, including what fee a network required to terminate traffic that originates on a different network can charge.¹⁰⁴ Nonetheless, on the level of principle, the right to interconnect was viewed as absolute and parties were (and still are) forbidden to use "refusals to exchange traffic" as a "bargaining tool," lest callers not be "assured that their calls would go through."¹⁰⁵

100. See, e.g., *Pac. Tel. & Tel. Co. v. Anderson*, 196 F. 699, 703 (E.D. Wash. 1912) (ruling that, under original common carriage rules, a co-carrier was not entitled to interconnection); see also James B. Speta, *A Common Carrier Approach to Internet Interconnection*, 54 FED. COMM. L.J. 225, 258 (2002) (noting that the distinction between a customer's access (which was governed by a common carriage requirement) and a co-carrier's access reflected (1) where interconnection takes place, (2) whether it is comparable to what the carrier gives itself, and (3) what price the carrier may charge); *Cellular Commc'ns Sys., Inquiry into the Use of the Bands 825-845 MHz, Report and Order*, 86 F.C.C.2d 469, ¶ 56 (1981) (noting that "[a] cellular system operator is a common carrier and not merely a customer" and thus interconnection arrangements should be designed "to minimize unnecessary duplication of switching facilities").

101. In particular, Congress instituted such a rule in the Communications Act of 1934. See 47 U.S.C. § 201(b) (2000).

102. See, e.g., *MCI Commc'ns Corp. v. AT&T*, 708 F.2d 1081, 1101-03 (7th Cir. 1983) (assigning liability based on AT&T's denial of interconnection to long distance competitors); *Litton Sys., Inc. v. AT&T*, 700 F.2d 785, 814-15 (2d Cir. 1983) (noting that AT&T's predatory practices in relation to rivals in the equipment manufacturing market gave rise to antitrust liability); *United States v. AT&T*, 552 F. Supp. 131, 224 (D.D.C. 1982) (approving the break-up of AT&T and the imposition of equal access mandates to address AT&T's discriminatory practices against long distance competitors and rival equipment manufacturers), *aff'd*, 460 U.S. 1001 (1983).

103. See, e.g., Richard A. Epstein, *A Clear View of The Cathedral: The Dominance of Property Rules*, 106 YALE L.J. 2091, 2119-20 (1997) (calling for an interconnection requirement on the ground that "the blockade position of the local monopolists is such that they would have every incentive to guard access to their networks against their would-be competitors").

104. The rates for compensation paid by the network originating the traffic to the network that terminates the traffic are at the heart of the nettlesome policy issues that are collectively termed "intercarrier compensation." These issues are discussed in NUECHTERLEIN & WEISER, *supra* note 8, at 291-331.

105. Access Charge Reform, Reform of Access Charges Imposed by Competitive Local Exchange Carriers, Seventh Report and Order and Further Notice of Rulemaking, 16 F.C.C.R. 9923, 9932-33 (2001), available at http://www.fcc.gov/BureausCommon_Carrier/Orders/2001/fcc01146.pdf.

The rise of the Internet initially promised an environment where regulation (including the imposition of interconnection mandates) would be both unnecessary and ineffective along the lines that were largely welcomed (and demanded) in telecommunications.¹⁰⁶ In particular, given the presence of a multiplicity of ISPs in terms of basic access and a competitive environment in the Internet backbone, the case for interconnection regulation was initially rejected as unwise.¹⁰⁷ By the turn of the twenty-first century, however, it became increasingly clear that the Internet would not escape regulatory oversight.

The initial skepticism that regulation of the Internet would be warranted has given way to a number of Internet interconnection-related complaints. First, the Department of Justice took an active stance in terms of merger review to ensure that no Internet backbone provider built up a dominant market share and could use its position to raise the costs of its rivals' services.¹⁰⁸ Second, the FTC concluded, in reviewing a merger between AOL and Time Warner, that the latter's control over cable broadband services could be used to undermine competition in the traditional ISP market and mandated that Time Warner provide a level of "open access" to its broadband platform.¹⁰⁹ Finally, in that same merger, the FCC concluded that AOL/Time Warner would possess a dominant position in the instant messaging market and that, without an interoperability requirement, the market would tip to a dominant firm (i.e., AOL/Time Warner).¹¹⁰

106. See generally Jason Oxman, *The FCC and the Unregulation of the Internet* (FCC, Office of Plans & Policy, Working Paper No. 31, 1999), available at http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp31.pdf (detailing the concerns about the proper role of the FCC in the Internet age and the lessons the FCC has learned in the last three decades).

107. See generally Michael Kende, *The Digital Handshake: Connecting Internet Backbones* (FCC, Office of Plans & Policy, Working Paper No. 32, 2000), available at http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp32.pdf (maintaining that the current unregulated Internet backbone did not give rise to competition policy concerns and that regulation was unnecessary).

108. In particular, the Justice Department mandated the divestiture of InternetMCI when MCI merged with Worldcom (which owned UUNet). It also prevented MCIWorldcom from merging with Sprint at least in part because the merger would bring together two leading Internet backbone firms. For a discussion of the Department's rationale in these cases, see Constance K. Robinson, Dir. of Operations and Merger Enforcement, Antitrust Div., U.S. Dep't of Justice, Address Before the Practising Law Institute: Network Effects in Telecommunications Mergers (Aug. 23, 1999), available at <http://www.usdoj.gov/atrl/public/speeches/3889.pdf>.

109. See Am. Online, Inc., *Decision and Order*, FTC Docket No. C-3989 (Apr. 17, 2001), available at <http://www.ftc.gov/os/2001/04/aoltwdo.pdf>. For a critical evaluation and discussion of the "open access" issue, see NUECHTERLEIN & WEISER, *supra* note 8, at 159-68.

110. The FCC initially imposed an interoperability mandate, but lifted it two years later. See Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations, Memorandum Opinion and Order, 16 F.C.C.R. 6547, 6604 (2001), available at <http://www.fcc.gov/Bureaus/Cable/Orders/2001/fcc01012.pdf>; Petition of AOL Time Warner Inc. for Relief from the Condition Restricting Streaming Video AIHS,

Critics of Internet regulation have hailed the Internet as different from traditional telecommunications markets for technological, legal, and economic reasons. On the technological front, some suggest that the architecture of the Internet itself—which relies on an open set of protocols (the TCP/IP protocol suite)—does not allow firms to engage in successful anticompetitive discrimination. After all, because broadband Internet access can support applications of all kinds, developers of new technologies—ranging from the creators of instant messaging (e.g., ICQ) to electronic commerce applications (e.g., eBay) to search (e.g., Google)—have been able to develop valuable applications without the need to ask permission of network owners. In this sense, the Internet's technical architecture is, as some have put it, "the telephone network turned inside out." Consider, for example, that the management of Internet applications, such as VoIP, is maintained at the edges of the network whereas the telephone network's applications, like caller ID, are managed by central office switches. The difference in this architecture is very significant. For example, the development and deployment of the system to enable 1-800 calls required considerable coordination with the incumbent telephone companies; by contrast, the development and deployment of Skype's VoIP technology required no cooperation from the network providers, relying instead upon the decisions of millions of end-users to download and install a software program.

The Internet's traditionally open architecture has enabled applications developers to create new applications—including those that compete with the broadband platform providers—without asking permission first. On account of that architecture, the broadband providers have not enjoyed, at least as compared to other platform providers, the same level of influence over applications developers.¹¹¹ This architectural safeguard, however, will not necessarily remain in place, and indeed, there are good reasons (i.e., efficiencies and consumer benefits) for upgrading the Internet's

Memorandum Opinion and Order, 18 F.C.C.R. 16,835, 16,835 (2003), available at <http://www.fcc.gov/transaction/aol-tw.html> (follow "MO&O, Filed on Behalf of Cable Service Bureau" hyperlink). For a critique of the FCC's decision, see Philip J. Weiser, *Internet Governance, Standard Setting, and Self-Regulation*, 28 N. KY. L. REV. 822 (2001).

111. See Annabelle Gawer & Rebecca Henderson, *Platform Owner Entry and Innovation in Complementary Markets: Evidence from Intel*, 16 J. ECON. & MGMT. STRATEGY 1, 1 (2007), available at <http://www.Platformleadership.com/Gawer%20Henderson%20JEMS%202007.pdf> (noting that, in platform markets, platform providers "may have considerable influence over the livelihood of developers of complementary products, and the behavior of platform owners toward the other firms in the ecosystem has been subject to much scrutiny"); see also Annabelle Gawer & Michael A. Cusumano, *Strategies for Being a Platform Leader*, WALL ST. J., Oct. 27, 2007, at R6 (emphasizing that a platform sponsor "must create economic incentives that encourage other firms to develop complementary applications for the platform, and at the same time protect its own ability to profit from its innovations").

architecture. Some of these improvements, moreover, will create the possibility of discrimination by broadband providers,¹¹² meaning that regulators cannot rely on the Internet's historic architecture as a continuing safeguard against possible anticompetitive conduct.

For legal reasons, the Internet is different from traditional telecommunications networks. To begin with, Internet-related services did not emerge from a regulated monopoly environment and Congress pronounced in the 1996 Act that it was the policy of the United States "to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation"¹¹³ Invoking this objective, the FCC has classified broadband Internet access as an "information service," rejecting the possibility that the transmission of Internet traffic could qualify as a "telecommunications service."¹¹⁴ By so doing, as I discussed above, the FCC suggested—but did not require—a rule of forbearance from traditional regulation.

Finally, the Internet differs from traditional telecommunications on economic grounds. During the modern history of telecommunications regulation, the conduct of AT&T's Bell System attracted regulatory scrutiny and gave rise to the modern consensus that interconnection regulation constitutes an essential regulatory safeguard. In particular, AT&T abused its monopoly platform to extract rents from applications providers as well as its competitors. Because such applications providers (and competitors) offered socially valuable services, policymakers were unwilling to allow the whim and caprice of AT&T to limit or prevent their availability. In the case of the Internet, however, the gatekeepers—i.e., broadband Internet providers—face far more competition than the Bell System ever did and are not subject to price regulation (which gave rise to the Bell System's powerful incentive to discriminate against applications providers). The critical question for policymakers thus becomes whether these differences require a new regulatory strategy and, if so, what should that strategy look like.

112. The perspective that the Internet's architecture is both important and subject to change owes a great debt to Lawrence Lessig. See LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* 25 (1999).

113. 47 U.S.C. § 230(b)(2) (2000).

114. See *Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 986 (2005) (upholding classification of cable modem service as an "information service").

B. The Terminating Access Monopoly and the Bilateral Monopoly Problem

In its report on the state of broadband competition, the FTC staff focused on a particular aspect of the business relationships in the telecommunications industry. In particular, the report focused on the economic phenomenon known as the “terminating access monopoly” problem.¹¹⁵ This problem emerges when a single firm controls termination fees and those fees are not necessarily transparent to a customer. In telephony, even in a competitive market, firms are tempted to raise termination fees, expecting that the firm which charges the customer directly will be the one blamed for the higher price.¹¹⁶ Such higher prices, to the extent that regulation allows them, harm society insofar as they distort the demand for the product.¹¹⁷ For the firm with the terminating access monopoly, however, the imposition of those charges is often a rational business strategy aimed at maximizing its short term economic rents. After all, when *A* calls *B* on her cell phone, the firm providing service to *B* enjoys a de facto monopoly over service to *B* and thus can—and often will—charge supra-competitive prices for terminating the call (unless regulations restrict the allowable price for termination).

As suggested by the FTC, a critical competition policy issue at the heart of the network neutrality debate is the concern that broadband operators will act opportunistically and seek to levy supra-competitive charges to applications providers after they establish the demand for their product. Notably, with respect to the provision of guaranteed QoS assurances, such assurances could be used to impose a de facto terminating access fee that will have deleterious effects in terms of distorting demand for broadband-intensive products and services as well as undermining the incentive to develop such products in the first place. In his concurrent statement to the FTC Staff Report, Commissioner Jonathan Leibowitz expressed this very concern, noting that the dangers (albeit “uncertain” ones) from the terminating access monopoly problem include:

increased prices being charged by Internet content and applications providers to consumers (to cover those providers’ new costs of paying for access to those same customers) and a reduction in the long run

115. See BROADBAND CONNECTIVITY, *supra* note 3, at 77–79 (detailing the terminating access monopoly issue and the ensuing harms).

116. See NÜECHTERLEIN & WEISER, *supra* note 8, at 291–331 (proposing alternate policy approaches to the terminating access monopoly issue).

117. See BROADBAND CONNECTIVITY, *supra* note 3, at 77–78 (noting how large access payments for cell phone calls in Europe give rise to significantly lower usage rates than in the United States).

incentives for those application and content providers to develop new products, as the broadband firms would be able to expropriate the value of those new products.¹¹⁸

Viewed in context, the terminating access monopoly problem is related to the “bilateral monopoly” phenomenon. In short, the challenge of bilateral monopoly relationships is that two firms are forced to cooperate with one another and must confront the temptations to undermine the success of the other for its own proprietary advantage.¹¹⁹ On one hand, both firms may appreciate that an overly aggressive posture toward the other—the imposition of significant access fees, for example—will be harmful to society overall and may well leave them worse off in the long run. On the other hand, firms are notoriously uncomfortable participating in a bilateral monopoly relationship where their partner (which depends on their cooperation to remain in business) succeeds economically while they do not. In the network neutrality context, this latter concern has even developed a name and a face: “Google envy,” reflecting the frustration of broadband providers that Google receives the adulation of users and Wall Street, while they are viewed as providing a commodity service of limited value.¹²⁰

The ideal management solution to the bilateral monopoly problem (and, for that matter, the terminating access monopoly issue) may well be for the affected firms to agree to a program of self-regulation that ensures some level of transparency and stability. In other sectors of the economy, platform providers sometimes develop mechanisms for doing so, recognizing the need to invite entry and innovation by outside applications developers.¹²¹ Consider, for example, that Intel has developed “three

118. Jon Leibowitz, Comm’r, FCC, Concurring Statement Regarding the Staff Report: “Broadband Connectivity Competition Policy” (2007), *available at* <http://www.ftc.gov/speeches/leibowitz/V070000statement.pdf>.

119. Thus, in theory, it is not merely the broadband provider but also the applications developer which can engage in strategic behavior. Consider, for example, that Google could decide to boycott a particular broadband provider in order to hold up that provider for either a payment or, as the case might be, an absence of a payment that is otherwise warranted to offset infrastructure development costs. After all, consumer demand for applications and content are critical drivers of demand for broadband in the first place, and most broadband users would be deeply disturbed if Google were unavailable to them.

120. As technology commentator Om Malik explains, “Google envy is a generic term I use when referring to companies that are jealous of profits made by online advertising players such as Yahoo and Google.” Posting of Om Malik to GigaOM, *Comcast Wants to Be Yahoo*, GIGAOM, *available at* <http://gigaom.com/2006/08/15/comcast-wants-to-be-yahoo> (Aug. 15, 2006, 23:09 EST).

121. In particular, platform firms often develop contractual or structural arrangements to assure complementors (i.e., applications developers) that they will not engage in strategic behavior to maximize their profits by charging later-imposed fees or other “hold-up” tactics taken after the complementor develops a new product. For such, this sort of behavior is called “ex post opportunism.” There is a significant literature discussing the phenomenon and noting measures that can prevent it from taking place. *See, e.g.*, Oliver E. Williamson,

primary [structural] mechanisms to signal that it will not engage in any ex post ‘squeezing’ of [applications] entrants.”¹²² Microsoft, by contrast, not only failed to institute such protections, but was found, in the Justice Department’s antitrust suit against it, to have engaged in after-the-fact strategic behavior designed to undermine certain applications developers.¹²³ Consequently, the antitrust court imposed a consent decree that provided a level of oversight of Microsoft’s management of its platform in an attempt to assure developers’ freedom from opportunistic behavior.¹²⁴ In theory, this consent decree—like Intel’s structural strategies—provides a credible commitment against strategic behavior going forward and, in a suggestion that Microsoft appreciates the virtue of such a commitment, the company has committed to follow the terms of the decree even after the district court no longer enforces it.¹²⁵

If the past is prologue, broadband providers will be unable or unwilling to institute safeguards that will assure applications developers freedom to innovate and protection from ex post opportunism. Moreover, telecommunications regulators are likely to be sensitive to this possibility and on the lookout for strategic behavior whereby broadband providers engage in hold-up strategies—e.g., refusals to provide a level of quality assurance without a supra-competitive fee. Notably, not only have such regimes developed in the telephony context (as discussed above), but such regulations have emerged in the television context as well, where cable television providers must follow specific procedures before removing programming originating from TV broadcasters. In particular, such regulations guard against the possibility that a cable company might pull the plug on a broadcast network (say, ABC) when its customers are awaiting its “must see” programming (as “Who Wants to Be A Millionaire?” once was).¹²⁶

Credible Commitments: Using Hostages to Support Exchange, 83 AM. ECON. REV. 519, 519–20 (1983).

122. Gawer & Henderson, *supra* note 111, at 3.

123. See *United States v. Microsoft Corp.*, 231 F. Supp. 2d 144 (D.D.C. 2002) (detailing the factual basis for the case).

124. The effectiveness of that decree is open to question, highlighted by the fact that the district court extended it on the grounds that Microsoft had moved “too slowly in delivering technical documentation to rivals licensing its Windows communication protocols.” See Anne Broache, *Judge Adds Two Years to Microsoft Antitrust Deal*, CNET NEWS.COM, May 17, 2006, http://news.com.com/2102-1012_3-6073250.html.

125. Benjamin J. Romano, *DOJ Says Microsoft Antitrust Settlement a Success; California, Other States Disagree*, SEATTLE TIMES, Aug. 30, 2007, available at http://blog.seattletimes.nwsources.com/techtracks/archives/2007/08/doj_says_microsoft_antitrust_settlement_a_success.html (describing some of the controversy surrounding the Microsoft settlements and its fallout).

126. The posited scenario is, of course, not a hypothetical scenario as it reflects the facts of a case decided by the FCC in 2000 when it ruled that Time Warner could not terminate its carriage of ABC on its cable systems during the local station audience rating period

Leading industry players have an opportunity—before the development of a public regulatory regime—to work together and with impacted stakeholders to develop private institutions to ensure that Internet interconnection-type issues are managed in a predictable and fair manner. As noted above, some businesses like Intel have developed mechanisms to prevent ex post opportunistic behavior (also called “strategic behavior”) from undermining cooperative relationships. Given that the Internet’s traditional architecture prevented such behavior, its evolution may well tempt broadband providers to test hold-up strategies and the like, making them reluctant to voluntarily commit to mechanisms designed to punish such behavior. From a policy standpoint, however, the prospect of deterred innovation in Internet-related markets on account of ex post strategic behavior presents a serious concern.¹²⁷ Consequently, as with the telephony and railroad examples noted above, it is quite likely that public regulation (including antitrust) will emerge as the principal check on such conduct.¹²⁸ The next Section moves on to the question of what an optimal oversight regime would look like.

C. Categorical Rules Versus Legal Standards

As noted above, there is a real possibility that broadband providers and applications developers will be unable to agree on a framework for business relationships that both will deem satisfactory. Given that possibility, policymakers will need to develop a strategy for preventing anticompetitive behavior. At a broad level, policymakers can select one of two options: the institution of a categorical rule that imposes a set of prophylactic requirements that restrict the terms of dealing on the front end, or an after-the-fact evaluatory mechanism that scrutinizes the terms of dealing entered into by the parties, leading to possible remedial steps on the back end. This Section will discuss each in turn.

(“sweeps period”) even though ABC’s contract had expired. Time Warner Cable, Emergency Petition of ABC, Inc., Memorandum Opinion and Order, 15 F.C.C.R. 7882, 7886 (2000).

127. More generally, as Gawer and Henderson note, “if the entrant monopolist’s incentive to engage in ex post price ‘squeezes’ is sufficiently strong, complementors may have no ex ante incentive to engage in innovation at all.” Gawer & Henderson, *supra* note 111, at 5 (emphasis omitted).

128. Andrew Odlyzko arrives at a similar conclusion, suggesting that:

[S]ome form of government intervention, to set the rules, is inevitable. (And at some point it may be welcomed by the players, just as government intervention was welcomed in the end by the railroads.) Society needs basic rules to operate by, and modern technology creates potential scenarios that old rules did not cover. But we need to remember that it is not easy to regulate markets, especially ones in cyberspace, and especially when policy makers labor under the burden of many false myths.

Odlyzko, *supra* note 97, at 12.

1. *The Call of the Categorical Rule*

For most of the FCC's history, the agency has relied on categorical rules to bar vertical integration. With regard to the entry of telecommunications firms into the data processing sector, for example, the FCC's Computer Inquiry rules initially barred such vertical integration on the ground that transport providers could not be trusted to provide information services (then called "enhanced services") without discriminating against their rivals in that market.¹²⁹ This policy rested on what Joe Farrell and I call "Baxter's Law."¹³⁰ In particular, as then-Assistant Attorney General William Baxter highlighted during the AT&T antitrust litigation, a platform monopoly subject to price regulation has a powerful incentive to control the applications market in an effort to recoup monopoly rents denied to it by price regulation of the platform. Later, however, the FCC reevaluated the merits of this quarantine solution, concluding this strong medicine had the unfortunate side effect of preventing certain services (notably, voicemail) from reaching the market. Stated more broadly, the FCC revised its policy (from the so-called *Computer I* decision) to be more tolerant of vertical integration on the ground that it not only gives rise to competitive risks, but also creates consumer benefits (including enabling voicemail to be provided economically). In light of this conclusion, the *Computer II* decision loosened the restrictions imposed on the telecommunications providers, requiring only that they provide "equal access" to their telecommunications service.¹³¹

The network neutrality debate essentially asks what version, if any, of the Computer Inquiry rules are warranted for a broadband era. As a formal matter, the FCC coupled its decisions classifying broadband as information services (as opposed to telecommunications services) with the judgment that the *Computer II* equal access rules should not be applied to broadband services.¹³² The FCC kept its options open, however, noting that it could reverse this decision and is considering this possibility in the now-pending Notice of Inquiry.¹³³ If the FCC were to reverse that decision, it could

129. Farrell & Weiser, *supra* note 8, at 129 (describing concerns that include cross-subsidization, improper pricing of common carrier services, as well as related anticompetitive practices and activities).

130. *Id.* at 94 n.40, 105–07.

131. See Policy and Rules Concerning the Interstate, Interexchange Marketplace, Report and Order, 16 F.C.C.R. 7418, 7442 (2001) (mandating that providers must apply the same prices, terms, and conditions).

132. See Inquiry Concerning High-Speed Access to the Internet, Declaratory Ruling and Notice of Proposed Rulemaking, 17 F.C.C.R. 4798, 4825 (2002), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-02-77A1.pdf (detailing the underlying reasons behind the decision).

133. See Broadband Industry Practices, Notice of Inquiry, 22 F.C.C.R. 7894, 7894 (2007), available at http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-07-31A1.pdf (seeking examples of "beneficial or harmful behavior").

impose a categorical rule requiring—as the *Computer II* decision did—that broadband platform providers make available any enhanced transport services, such as QoS assurances, to all comers at nondiscriminatory terms and conditions. Conceivably, the FCC could also categorically ban all enhanced transport services, but such a ban seems unlikely, because it rests more on a vision of an egalitarian Internet than on advancing competition policy goals.¹³⁴

At a basic level, the argument for using categorical and prophylactic rules to address network neutrality concerns is that the Internet's openness to innovation without permission must be maintained at all costs. Over the last several years, parties have coalesced around the recognition that a categorical rule against the blocking or degrading of Internet content or services is warranted. In 2005, FCC Chairman Michael Powell addressed this issue in delineating his concept of "Internet Freedom," which called on all providers to allow access to applications and devices that did not harm the network.¹³⁵ Subsequently, the FCC adopted a slightly revised version of these freedoms in an Internet Policy Statement.¹³⁶ Moreover, in the one instance that clearly raised this issue, the FCC acted quickly to ban the blocking of Vonage's VoIP service by Madison River Communications,¹³⁷ underscoring the certainty that can come from a categorical rule.¹³⁸

134. To offer a rough analogy, banning the offering of QoS guarantees for a fee would be akin to a ban on the post office's delivery of priority basis mail. Under such a ban, customers would be worse off insofar as all mail would only be delivered on a first class basis—or possibly on an improved basis that would cost more than today's first class mail. Indeed, some commentators analogize best efforts service to first class mail and QoS assurances (e.g., guaranteed delivery, no traffic loss, and delivery confirmation) to priority delivery. SeungJae Shin et al., *A Progressive Analysis of Internet Market: From Best Effort to Quality of Service*, 28 TELECOMM. POL'Y 363, 364 (2004). As for the argument that such a ban is consistent with an egalitarian vision of the Internet, that perspective fails to account for the economic inefficiency that such a ban would entail, as well as the reality that the Internet is already not an egalitarian medium (thanks to the availability of SLAs and caching services for those firms that can afford them).

135. See Michael K. Powell, *Preserving Internet Freedom: Guiding Principles for the Industry*, 3 J. ON TELECOMM. & HIGH TECH. L. 5, 11–12 (2004) (describing "Internet Freedom" as freedom to access content, use applications, attach personal devices, and obtain service plain information).

136. See Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, Policy Statement, 20 F.C.C.R. 14,986, 14,988 (2005), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-151A1.pdf [hereinafter Internet Policy Statement] (listing the newly adopted principles to ensure accessibility of broadband networks).

137. See Madison River Communications, LLC, Consent Decree, 20 F.C.C.R. 4295, 4297 (2005), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-543A2.pdf (providing that Madison River must neither block ports nor otherwise hinder customers from using VoIP).

138. More recently, the FCC again enforced the no blocking rule in the context of allegations that certain carriers were blocking telephone calls to a rural carrier believed to be participating in a "traffic dumping scheme." See Establishing Just and Reasonable Rates for Local Exchange Carriers, Declaratory Ruling and Order, 22 F.C.C.R. 11,629 (2007), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-2863A1.pdf.

2. *The Possible Precision of a Legal Standard*

Whereas the virtue of a categorical rule against selective “access tiering” would provide a level of transparency and certainty, a legal standard promises to allow a greater degree of experimentation and the opportunity to evaluate evidence of competitive impact before condemning a restricted enhanced services offering. To be sure, a legal standard can and should be designed to expedite the resolution of complaints of anticompetitive conduct, and as I have argued elsewhere, it is reasonable to view discriminatory offerings of QoS assurances as suspect and presumptively unlawful.¹³⁹ But suspicion (and even skepticism) of restrictive offerings does not preclude analysis of plausible efficiency justifications.

Under an after-the-fact evaluation of discriminatory enhanced services offerings, the burden would be on the platform provider to justify the restricted offering as procompetitive. Such a burden would require the provider to explain, for example, how the restriction facilitated pro-consumer price discrimination (i.e., to facilitate network investment and innovation) as opposed to, for example, protecting legacy revenues from competition. On balance, I favor this regime over a front-end rule because I believe that (1) there are likely to be legitimate reasons for offering preferential treatment in some cases (meaning that a rule banning such treatment would undermine procompetitive efficiencies); (2) there are effective enforcement strategies for policing the duty to provide reasonable access to QoS assurances; and (3) the continuing provision of best efforts broadband access will provide a safeguard by ensuring some opportunity for outside innovators to deploy new applications. I discuss each point in turn.

a. *The Possible Legitimate Justifications for Exclusive Arrangements*

The competitive impact of the array of possible business relationships between broadband operators and applications providers is just beginning to become clear, and policymakers have a considerable amount to learn on this score. The ambiguous nature of the competitive effects that emerge from the business relationships at issue cautions against a categorical rule (as opposed to an after-the-fact evaluation based on a legal standard).¹⁴⁰

139. In particular, I outlined this model in Weiser, *Toward a Next Generation*, *supra* note 8, at 75–85.

140. Chairwoman Majoras made the point this way:

All of these types of conduct—integration, prioritization, refusals to deal, and so forth—can be anticompetitive and harmful to consumers under certain conditions. What is often missed in the debate, however, is that they also can be procompetitive—capable of improving efficiency and consumer welfare, which involves, among other things, the prices that consumers pay, the quality of goods and services offered, and the choices that are available in the marketplace. An

Moreover, as a historical matter, public policy efforts—such as the financial interest and syndication rules—that restricted the ability of firms to integrate into the applications market have not fared well in terms of protecting consumers,¹⁴¹ both because of unintended consequences that emerged from a prescriptive legal regime¹⁴² as well as the foreclosed entry by the platform provider.¹⁴³ Finally, as Gawer and Henderson observe, not only are the competitive effects of the relationship between platforms and applications uncertain, but economic analysis and empirical investigations into the behavior of platform providers are still in fairly primitive condition; thus, categorical pronouncements are difficult to make.¹⁴⁴

If there were no legitimate reasons for discrimination between applications providers, it would be foolhardy to set up a regime that would call for an inquiry into whether any such discrimination were justifiable. There are, however, reasons to believe that firms may only be able to choose one preferred provider in a particular context either for legitimate marketing or technical reasons. For example, TiVo struck a deal with DirecTV under which DirecTV marketed solely the TiVo service to its customers. In that deal, DirecTV paid TiVo a lower price per subscriber than Tivo charged its retail customers, but DirecTV also encouraged its customers to use TiVo, thereby ensuring a higher quantity of sales and

antitrust inquiry permits a determination of the net effects on consumer welfare before conduct is summarily condemned.

Majoras, *supra* note 91, at 12.

141. See Farrell & Weiser, *supra* note 8, at 112 (discussing nature of “finsyn” rules and their reform).

142. See Majoras, *supra* note 91, at 14 (“Despite the good intentions of their proponents, industry-wide regulatory schemes—particularly those imposing general, one-size-fits-all restraints on business conduct—may well have adverse effects on consumer welfare, as certain unintended consequences may not be known until far into the future.”).

143. See Gawer & Henderson, *supra* note 111, at 26 (explaining, based on their study of Intel’s behavior, that “foreclosing entry by third parties to the system almost certainly reduces consumer welfare,” but, at same time, it is important not to preclude entry by platform providers as allowing “some entry by [platform] monopolists is almost certainly beneficial”). As Shane Greenstein put it, “[n]o market participant knows the best option for creating and delivering economic value, so it is in society’s interest to have *both* broadband carriers and others conduct directed economic experiments” in terms of what applications should be developed. Shane Greenstein, *Economic Experiments and Neutrality in Internet Access* 42 (Nat’l Bureau of Econ. Research, Working Paper No. 13,158, 2007), available at <http://www.nber.org/papers/w13158>. In short, the emphasis on allowing platform provider entry into applications markets follows from the ICE principle that explains how platform providers have a vested interest in the development of valuable applications and why, absent any exceptions to the principle, the decision by a platform provider to integrate into the applications market is likely to reflect the desire of a platform provider to encourage the development of new applications. See Farrell & Weiser, *supra* note 8, at 100–05.

144. See Gawer & Henderson, *supra* note 111, at 2 (noting the “very scant empirical work in the area” and even a relatively minimal theoretical investigation of the complex set of incentives that bear upon the conduct of platform providers).

ultimately facilitating two-thirds of TiVo's consumer adoptions.¹⁴⁵ One could easily imagine that a similar deal between TiVo and a cable operator might well involve the commitment of a level of QoS for a TiVo offering, a discount for that offering to cable customers, and cable company promotion of that product. Were such an offering not made available to one of TiVo's competitors, however, this type of arrangement would be banned under a categorical rule against access tiering.

The most difficult cases for evaluating the legitimacy of discriminatory arrangements are where the platform provider claims that the arrangement is necessary to facilitate price discrimination. Many forms of price discrimination—those practiced by the airlines and movie theatres, for example—provide efficient forms of recovering front-end investments. Indeed, such practices may well become the norm in competitive industries searching for the most efficient means of recovering sunk investments—contrary to earlier conclusions that price discrimination reflected the presence of monopoly power.¹⁴⁶ Other forms of price discrimination, however, can be used to exercise market power or may be inefficient insofar as they create “collateral damage.”¹⁴⁷ Notably, the collateral damage concern does not rest on whether the actual price discrimination arrangement increases overall output, but rather whether the arrangement is plainly inefficient. Thus, for example, the reasonableness of the European carriers' decision to limit the functionality of phones sold to customers to prevent them from using VoIP would need to be analyzed through the lens of whether the price discrimination benefits justified the associated collateral damage necessary to make the strategy effective.¹⁴⁸

Regulators face a formidable challenge in assessing what price discrimination arrangements are justifiable.¹⁴⁹ As a starting point, it is

145. Marco Iansiti & Greg Richards, *Creative Construction: Assimilation, Specialization, and the Technology Life Cycle* (forthcoming 2008) (manuscript at 21, available at <http://www.law.gmu.edu/events/innovationforum/papers/iansiti.pdf>).

146. See WILLIAM J. BAUMOL, REGULATION MISLED BY MISREAD THEORY 6 (2006), available at <http://aei-brookings.org/admin/authorpdfs/redirect-safely.php?fname=../pdffiles/php3x.pdf> (noting that highly competitive markets can result in discriminatory pricing as a superior strategy for recovering costs, but that such discrimination does not signify market power sufficient to trigger antitrust issues).

147. Farrell, *supra* note 45, at 199–200.

148. As a newspaper account noted, this decision can be viewed both as a “desperate move” to “defend their voice revenue” as well as an attempt to protect their ability to subsidize the handsets through a predictable stream of voice revenue. Bill Ray, *Orange and Vodafone Cripple Nokia's Flagship*, THE REGISTER, Apr. 18, 2007, available at http://www.theregister.co.uk/2007/04/18/n95_crippled/print.html.

149. A considerable reason for this difficulty is that the state of economic learning on price discrimination arrangements in practice is still evolving. As former FTC Chairman Tim Muris put it, “more research is needed concerning how to identify price discrimination that raises competitive concerns.” Timothy J. Muris, Chairman, FTC, Remarks at the George Mason University Law Review's Winter Antitrust Symposium: Improving the

critical that regulators not condemn all forms of price discrimination, but endeavor to identify and leave intact ones that present relatively minimal collateral damage—such as a Saturday night stay requirement in airline pricing.¹⁵⁰ To that end, Howard Shelanski has developed a taxonomy of different forms of price discrimination, noting that ones without any targeted application, such as a QoS assurance available to all, are presumptively legitimate whereas targeted price discrimination levied in the absence of any capacity constraint is presumptively illegitimate.¹⁵¹ To ensure that such decisions can be made quickly and effectively, regulators will almost certainly need to adopt some such framework, and by so doing will provide valuable guidance to the industry. Admittedly, any such framework will be prone to some errors, but by necessity, any legal system cannot and should not seek to replicate exactly the judgments of economic analysis.¹⁵²

In cases where a platform provider cannot justify an exclusionary agreement through its facilitation of a new product, its protection of the provider's customers, its giving rise to procompetitive price discrimination, or some other legitimate business reason, it is critical that regulation protect the ability of potentially excluded applications providers to develop new products. Notably, disruptive technologies (i.e., services that threaten to undermine legacy revenue opportunities for the platform providers) face a real risk that platform providers will seek to prevent the emergence of such products.¹⁵³ Consider, for example, that the major U.S. firms resisted allowing Virgin Mobile's Mobile Virtual Network Operator to develop its service. Even when Virgin Mobile did develop an agreement to launch its service from Sprint's network, it had to concede that it would only "market

Foundations of Competition Policy (Jan. 15, 2003), available at <http://www.ftc.gov/speeches/muris/improveconfoundatio.htm>.

150. As Andrew Odlyzko points out, even the old common carrier rules did not bar all forms of price discrimination, allowing, for example, "reasonable discrimination," such as student or senior citizen discounts. Odlyzko, *supra* note 97, at 8.

151. Howard A. Shelanski, *Network Neutrality: Regulating with More Questions than Answers*, 6 J. ON TELECOMM. & HIGH TECH. L. 23, 34 (2007).

152. As Justice Breyer recently explained:

[L]aw, unlike economics, is an administrative system the effects of which depend upon the content of rules and precedents only as they are applied by judges and juries in courts and by lawyers advising their clients. And that fact means that courts will often bring their own administrative judgment to bear, sometimes applying rules of *per se* unlawfulness to business practices even when those practices sometimes produce benefits.

Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 127 S. Ct. 2705, 2729 (2007) (Breyer, J., dissenting).

153. As Shane Greenstein explained, "Particularly worrisome are situations where carriers take actions that are privately beneficial—either to protect existing markets or related commercial investments and relationships—and have the consequence of reducing the incentives of other firms to conduct economic experiments that could create value." Greenstein, *supra* note 143, at 40.

a prepaid product that would not directly compete with Sprint's products nor compete for Sprint's mainstream customers."¹⁵⁴ Similarly, only T-Mobile was willing to support the Handspring Treo when it first came on the market and T-Mobile remains the only firm supporting a dual-mode cellular/wi-fi phone.¹⁵⁵

The stories of the Virgin Mobile, Handspring, and cellular/wi-fi phones underscore two related points. The first lesson is that established incumbents are likely to protect legacy revenues first and worry about innovation later when faced with the advent of disruptive technologies.¹⁵⁶ The second lesson is that if there are sufficient rival platforms—and the presence of four alternative ones in the wireless context provides markedly more competition than is present in broadband markets—the opportunity to play carriers against one another makes it more likely that application developers can overcome this hurdle.¹⁵⁷ Indeed, in the face of competition in the wireless market—including the threat of Google's entry into that market—Verizon took the notable step of promising to open its platform to applications by third party developers.¹⁵⁸ Consequently, network neutrality

154. *The 700 Mhz Auction: Public Safety and Competition: Hearing Before the S. Comm. on Commerce, Sci., and Transp.*, 110th Cong. 9 (2007) (written statement of Amol R. Sarva, Wireless Founders Coalition for Innovation), available at http://commerce.senate.gov/public/_files/Testimony_AmolSarva_SarvaWrittenStatement0.pdf.

155. Teresa von Fuchs, *T-Mobile Launches Wi-Fi Phone Service*, WIRELESSWEEK, June 27, 2007, <http://www.wirelessweek.com/article.aspx?id=149816>.

156. The focus on legacy revenues, as Clayton Christensen has explained, underscores why outside upstarts and not incumbent providers develop many significant innovations—such as modems, answering machines and speakerphones in telecommunications. CLAYTON M. CHRISTENSEN, *THE INNOVATOR'S DILEMMA* 61 (1997).

157. In the wireless context, the introduction of the iPhone underscored both (1) the potential for outside innovators to find a platform and thereby disrupt traditional business models, as well as (2) the resistance, even in a relatively competitive market, of incumbent providers to allowing truly disruptive applications. As one technology commentator noted:

How much and [how] quickly incumbent networks operators will be willing to give up the assurance of revenues derived from captive control of cellphone services versus how much they can capitalize on the popularity of new services is galvanized by [the] conclusion that a shift to open IP environment is inevitable. If incumbent operators strongly resist the shift [to open development using Internet technology], independent operators will have a more open field to exploit the pent-up interest of consumers as demonstrated by the iPhone.

....

What is most compelling about [the] iPhone is that this is simply an opening volley which signals ability for outside players to bring compelling products to market that take advantage of PC and Internet developments.

Robert Syputa, *Clash of the Titans: What Is Really Different About the Apple iPhone*, MARAVEDIS, <http://www.maravedis-bwa.com/article-6.html> (last visited Mar. 27, 2008).

158. See Sascha Segan, *Verizon's Open Network Has Eyes on the Future*, PC MAGAZINE.COM, Nov. 27, 2007, <http://www.pcmag.com/article2/0,2704,2222863,00.asp> (concluding that Verizon's announcement reflects the reality in the wireless arena that the industry is moving "inexorably towards a world where 'cell phone' is a feature, not a product, and cellular networks are ISPs, not all-controlling masters of your wireless destiny").

in the wired broadband arena could fade as a competition policy issue if sufficient rivalry in broadband platforms were to emerge. Unless it does, regulatory oversight may well be necessary to protect innovators against actions by network owners to prevent disruptive technologies from reaching the market.

b. The Presence of Effective Enforcement Mechanisms

After all is said and done regarding network neutrality, the most nettlesome policy challenge is to develop and implement an effective institutional framework to enforce any system of managing the competition policy issues associated with overseeing the terms of dealing between applications providers and network owners. Indeed, even some network neutrality proponents may agree that when viewed in isolation, the choice between a categorical rule and a legal standard may well militate in favor of a legal standard. But once the institutional actor charged with enforcing that standard is introduced, that actor's institutional capabilities become a relevant consideration and can tip the balance.

As commentators increasingly emphasize, the future of telecommunications regulation is for the FCC to reorient its mission to evaluating conduct after the fact using antitrust-like standards.¹⁵⁹ There will always be a need for clear rules where the competitive impact of particular conduct is clear, but for a wide array of cases, the ability to evaluate and sanction conduct after the fact will provide an effective regulatory strategy. Unfortunately, the FCC has yet to develop this capability. Rather, the FCC continues to operate based on a culture that addresses issues more on a legislative-like basis, with a limited track record in handling adjudications and expedited proceedings under a rule-of-law model. Thus, for the FCC to be authorized to adjudicate network neutrality-type disputes, it must develop new enforcement capabilities.

One possible means of lowering the stakes of the FCC's effectiveness in managing after-the-fact oversight is to use antitrust law as a source of parallel enforcement if the FCC's enforcement agenda is ineffectual or nonexistent. After all, antitrust courts, and not the FCC, policed AT&T's conduct and sanctioned the company for using "inappropriate or inefficient equipment or procedures" to interconnect with MCI.¹⁶⁰ More generally, antitrust courts have used an inquiry not unlike that specified above to

159. See NUECHTERLEIN & WEISER, *supra* note 8, at 428–29 (suggesting that the FCC's role be limited to remedying anticompetitive conduct rather than taking proactive initiatives); see also Shelanski, *supra* note 32, at 101–02 (recommending an "ex post enforcement regime" because some conduct may have a beneficial effect on consumers).

160. MCI Commc'ns Corp. v. AT&T, 708 F.2d 1081, 1150 (7th Cir. 1983).

condemn conduct designed to raise rivals' costs.¹⁶¹ The jurisdiction of antitrust courts to evaluate such complaints, however, is open to question in light of *Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko, LLP*; in that case, the Supreme Court suggested that the "additional benefit to competition provided by antitrust enforcement will tend to be small" where a regulatory structure is "designed to deter and remedy anticompetitive harm."¹⁶² This raises the question of whether the FCC's oversight of broadband markets will be deemed sufficient to preclude antitrust oversight.

In evaluating the role of antitrust law in addressing network neutrality concerns, the FTC's Staff Report took a fairly optimistic stance on this score, reading the *Trinko* decision—and the institutional competence concerns that animated it—as imposing few relevant limits on the role of antitrust law.¹⁶³ In so doing, the Report followed the precedent of the Antitrust Modernization Commission's report, which declined to read *Trinko* as imposing a separation of powers-like limitation on antitrust courts (i.e., deferring to regulatory agencies where they possess jurisdiction to oversee competition policy concerns).¹⁶⁴ As a substantive matter, I agree that the mere presence of regulatory jurisdiction—without active and effective oversight—should not suffice to displace antitrust oversight.¹⁶⁵ Whether the Supreme Court will adopt this reading of *Trinko* or a broader one that precludes antitrust enforcement when a regulatory body possesses jurisdiction remains to be seen.¹⁶⁶

161. See, e.g., *Multistate Legal Studies, Inc. v. Harcourt Brace Jovanovich Legal & Prof'l Publ'ns, Inc.*, 63 F.3d 1540, 1553 n.12 (10th Cir. 1995) (condemning conduct that raises rivals' costs without the demonstration of "a legitimate business justification" for the conduct in question as anticompetitive).

162. 540 U.S. 398, 412 (2004).

163. FTC Chairwoman Majoras made the case for the effectiveness of antitrust law as "well-equipped to deal with the competitive issues raised in the net neutrality debate." Majoras, *supra* note 91, at 11. In particular, she suggested that "[t]hese competitive issues are not new to antitrust law, which is general, flexible, and able to analyze potential conduct and business arrangements involving broadband Internet access, just as it has been able to deal with such conduct and arrangements across many diverse markets." *Id.* Commissioner Jon Leibowitz, by contrast, suggested that "while antitrust may be a good way of *thinking* about [consumers' 'Internet Freedoms'], it is not necessarily well-suited to *protecting* them." Leibowitz, *supra* note 118, at 1. In particular, he noted that "there is little agreement over whether antitrust, with its requirements for *ex post* case by case analysis, is capable of fully and in a timely fashion *resolving* many of the concerns that have animated the net neutrality debate." *Id.* at 3.

164. See ANTITRUST MODERNIZATION COMM'N, REPORT AND RECOMMENDATIONS 22, 340, 360 (2007), available at http://govinfo.library.unt.edu/amc/report_recommendation/toc.htm (deeming *Trinko* merely a refusal-to-deal case that "does not displace the role of antitrust laws in regulated industries").

165. See Philip J. Weiser, *The Relationship of Antitrust and Regulation in a Deregulatory Era*, 50 ANTITRUST BULL. 549, 587 (2005) (concluding that regulatory regimes have limitations that necessitate judicial oversight under antitrust law).

166. See Christopher S. Yoo, *What Can Antitrust Contribute to the Network Neutrality Debate?*, 1 INT'L J. COMM. 493, 528 (2007), available at <http://lsr.nellco.org/upenn/wps/>

In short, the most important issue related to network neutrality may well be the one discussed least: what institutional strategy can best enforce whatever rules are put in place? Notably, even a prophylactic rule will undoubtedly raise some definitional issues or allow for exceptions, meaning that the institutional capabilities of the body charged with enforcing it will influence greatly its success or failure. To date, the FCC has resolved policy questions largely through the political processes of lobbying and negotiation, rarely relying on the adjudication of contested proceedings. Consequently, one high stakes policy question is whether the FCC's institutional culture is amenable to change or whether the management of network neutrality issues should be entrusted to a different agency, such as the FTC. This issue is particularly important because *Trinko* might preclude antitrust law from playing a supportive role to regulation, thereby removing a possible safety net if that regulation is unable to function effectively.

c. The Value of Continuing Best Efforts Internet Access

Even in the midst of enhanced offerings (such as ones that assure a level of service quality), new innovators can still deploy applications using the best efforts network—provided such a network continues to exist at evolving levels. Consequently, one important insurance policy is the strategy outlined above—that the marketing of broadband Internet access must provide a reasonable level of best efforts access, along with the additional bandwidth devoted to QoS assurances. As Blair Levin has stated, “Without some basic guarantee of an improving, not degrading, open lane, investors in Internet applications would be less willing to invest in new applications.”¹⁶⁷ In short, the availability of such best efforts Internet connectivity can ensure both that innovators can deploy new applications and that, once successful, those applications are not subject to

papers/163/ (“It is too early to determine which of these various readings of *Trinko* will ultimately prevail and whether the level of oversight undertaken by the FCC is sufficient to forestall antitrust enforcement.”). In its recent decision in *Credit Suisse Securities (USA) LLC v. Billing*, however, the Court suggested that the narrow reading of *Trinko* may well be correct, concluding that antitrust oversight was inappropriate in the securities law context because the Securities and Exchange Commission (SEC) possessed authority to police the relevant conduct, and there was “evidence that the responsible regulatory entities exercise[d] that authority.” 127 S. Ct. 2383, 2392–93 (2007) (noting the SEC’s “active and ongoing exercise of that authority”). To be sure, it is still plausible that a nominal “exercise of regulatory authority”—such as considering whether there is a problem—could displace antitrust oversight. But the mere possession of authority does not appear to be sufficient to do so.

167. *Reconsidering Our Communications Laws: Ensuring Competition and Innovation: Hearing Before the S. Comm. on the Judiciary*, 109th Cong. (2006) (written statement of Blair Levin, Managing Director, Stifel, Nicolaus & Co., Inc.), available at http://judiciary.senate.gov/print_testimony.cfm?id=1937&wit_id=5421.

hold-up tactics from the broadband providers which may be tempted to engage in ex post opportunistic behavior.¹⁶⁸

The preservation of a best efforts Internet option means that carriers will be prevented from “playing favorites” on that network. Consequently, such a network would not include any degradation of traffic when there is available bandwidth, or as Edward Felton describes it, a ban on “non-minimal discrimination.”¹⁶⁹ To be sure, even for best efforts connections, nontargeted policies could still be used to manage network traffic, but such management rules would not be able to restrict traffic in the absence of restrained capacity. By so doing, this requirement would constitute a minimal safeguard of available Internet access without any opportunity for network providers to discriminate in favor of particular technologies or applications developers. Notably, this safeguard would protect the upstart innovator or grassroots form of peer production that, as Scott Hemphill explains, is the type of producer that would most likely be adversely affected by exclusionary strategies involving selective QoS offerings.¹⁷⁰

168. On the importance of enabling entry in the first place, see *id.* As to the innovation costs of ex post opportunism, see Greenstein, *supra* note 143, at 41 (noting the concern that “the bargaining costs of making deals with carriers after demonstrated success will interfere with the incentive to innovate in the first place”). On the more broad issue of discouraging innovation, Shane Greenstein summed up the concern as follows:

Seen through the lens of economic experiments, there are two concerns. First, a carrier can use pre-innovation contracting to generate market conditions that limit entry of innovative content providers. Second, carriers can use post-innovation bargaining to strategically aid their competitive position. There are a variety of reasons why both of these are a general concern, because the carriers may intend to imitate content providers, may intend to compete through provision of their own service, or may intend to compete with alliance with another content provider. And there are a variety of ways for a carrier to take such action.

Id.

169. Edward W. Felton, *Nuts and Bolts of Network Neutrality*, 6 J. ON TELECOMM. & HIGH TECH. L. (forthcoming 2008) (manuscript at 3, available at <http://itpolicy.princeton.edu/pub/neutrality.pdf>).

170. See C. Scott Hemphill, *The New Common Carriage: Foreclosure, Extraction, and Zero-Price Regulation*, 26 YALE J. ON REG. (forthcoming 2008) (manuscript at 41–44, on file with author) (addressing value of network neutrality regulation to peer production). The Center for Democracy & Technology elaborated on this concern:

The history of the Internet has been marked by numerous examples of new technologies—such as instant messaging or web-based video—that emerge from humble beginnings but then become extremely popular. The “next big thing” might never have a chance to develop and become popular if the approval and cooperation of several top broadband access providers were to become a prerequisite to widespread use. The pace of innovation that has been the hallmark of the Internet could slow substantially.

Broadband Industry Practices, Reply Comments of the Center for Democracy & Technology, WC Docket No. 07-52 (July 16, 2007), available at http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519558029.

CONCLUSION

The market for broadband Internet access is still evolving and considerable innovation both in applications and in the network itself will continue over the coming years. Thus, a thoughtful competition policy and consumer protection strategy must embrace and facilitate the remarkable pace of innovation in the Internet sector. As discussed above, the optimal consumer protection strategy, which should be superintended by the FTC, seems both reasonably uncontroversial and attainable. The appropriate competition policy, by contrast, presents a more challenging judgment call.

As explained above, I favor a model that emphasizes after-the-fact judgments based on a legal standard rather than one that prescribes particular conduct before the fact. To be sure, I recognize the appeal of a rule that would prohibit selective access tiering opportunities and require that all quality assurances be afforded on a reasonable and nondiscriminatory basis. Such a rule, however, is far from costless because it would undoubtedly bar some procompetitive arrangements and may well give rise to some unfortunate unintended consequences.

The essential virtue of an antitrust-like model of regulation is that it would provide an institutional strategy for scrutinizing the behavior of broadband providers while allowing them to enter applications markets and experiment with different business arrangements. In principle, it would provide an effective mechanism for sanctioning anticompetitive conduct designed to protect legacy revenues, use inefficient and anti-consumer price discrimination strategies, or extract “rents” from profitable applications through strategic behavior. At this point, however, it remains to be seen whether policymakers will be able to identify and develop a trusted and effective dispute resolution system—whether through self-regulation, the FCC, or the FTC. If such a system fails to emerge because the FCC cannot manage such a model or because antitrust oversight is unavailable, the case for a categorical rule becomes far more difficult to oppose.