

Creating Effective Broadband Network Regulation

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I. INTRODUCTION

Internet regulation, like the Internet itself, captures the cross currents of the government’s decisive intervention and studied indifference. The Internet’s early growth was financed with Department of Defense dollars. But before its explosive growth in the late 1990s, Washington cut its purse strings and apron strings from its innovative creation. Congress paid Delphic attention to the Internet in its 1996 rewrite of the nation’s communications laws. Most of the Internet focus in that protracted legislation was keeping regulation from harming the growth of broadband, not authorizing regulators to fix what ailed it.

FCC Internet regulation really began in 2005 with the *Madison River* case.¹ If hard cases make bad law, easy cases provide scant law. Such was the case when the FCC pounced on a decision by Madison River Communications, a yet-to-be-deregulated telephone broadband provider, which blocked a competing Voice over Internet Protocol (VoIP) provider because of the competitor's impact on its legacy wireline phone business.² But, for the most part, the FCC stayed away from substantive Internet regulation until its recent efforts to define unacceptable network management by a cable broadband provider, Comcast, and its network neutrality rulemaking.³ The Federal Trade Commission (FTC) has been cautious on broad rules as well.⁴

The Internet is only going to become more central to the business and pastimes of Americans, and the call for different types of regulation is ongoing, inevitable, and often justified, given the range of Internet protocol (IP), consumer protection, child safety, and anti-deception interests the Web involves. But behind these calls—to expand broadband availability and adoption, and to regulate broadband network providers, in particular—is the assumption that regulation will work well enough to outweigh its costs. Calls for “network neutrality” or “nondiscrimination” assume with little hesitation federal agency competence to give predictable and accurate meaning to these terms and create regulations to implement them. Advocates presuppose that, without the threat and reality of regulation to assure network neutrality, Internet consumer welfare will be substantially reduced. With sufficient expertise, careful fact gathering, and the

1. Madison River Comm., LLC, *Order*, 20 F.C.C.R. 4295 (2005).

2. *Id.* Verizon's short-lived decision to deny NARAL Pro-Choice America use of its text-messaging service because of the controversy over abortion is cited as another example of how a network can interfere with Internet communications. See Adam Lepta, *Verizon Blocks Messages of Abortion Rights Group*, N.Y. TIMES, Sept. 27, 2007, available at <http://www.nytimes.com/2007/09/27/us/27verizon.html>. Verizon Wireless's decision on whom to sell noncommon carrier service like its short-code service differs from the decision to block use of its network transmission service, as was the case in *Madison River*. Still, Verizon's explicit discrimination based on content, although quickly reversed, highlighted the power of the network provider in the content arena. See Susan Crawford Blog, <http://scrawford.blogware.com> (Sept. 28, 2007, 12:47 EDT).

3. Formal Complaint of Free Press and Pub. Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications, *supra* note 3. The FCC launched a network neutrality rulemaking in 2009. Preserving The Open Internet, Notice of Proposed Rulemaking, 2009 WL 3413028, (F.C.C.), October 22, 2009 available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-93A1.pdf. This Article was written prior to any decision in that proceeding.

4. FTC STAFF REPORT, BROADBAND COMPETITION CONNECTIVITY POLICY 9 (2007), <http://www.ftc.gov/reports/broadband/v070000report.pdf> (“In evaluating whether new proscriptions are necessary, we advise proceeding with caution before enacting broad, *ex ante* restrictions in an unsettled, dynamic environment.”).

protections of appellate review for arbitrary or unsupported outcomes, the system of regulation can and should be expected to work. Can it?

Add to this assumption the natural regulatory appetite of those who get selected to serve on a regulatory agency like the FCC. FCC commissioners are called in to settle disputes among competitors and competing industries in furtherance of the public interest; to desire the job is to seek an opportunity to regulate, often actively. At the same time, deregulation in the face of sufficient competition is as much of an FCC mantra as regulating in the “public interest, convenience, or necessity.”⁵ But until a market is adequately competitive, a regulator regulates. As to the Internet, should she?

This Article’s chief contribution to the Internet policy debate is to focus attention on the likelihood of successful FCC Internet regulation—a key assumption of some advocates⁶—and to measure the odds of success based on the agency’s past performance over managing networks. Based on the analysis here, that likelihood is that the FCC will be unsuccessful in trying to manage networks directly.

Those who advocate FCC involvement should recognize that resolution by administrative agency, as a first resort to solving often-legitimate questions about network behavior, is likely to produce worse public policies than nongovernmental forums. Ex ante network neutrality regulation of Internet network providers—like cable, wireline telephone, and wireless companies—poses risks for the continued development of the Internet that some network neutrality advocates minimize unrealistically. Indeed, the ever-increasing literature on enforcing network neutrality—starting with the end-to-end advocates of a “dumb pipe” in the middle⁷ and

5. 47 U.S.C. § 303 (2006).

6. See Letter from Lawrence Lessig, Dir., Ctr. For Internet and Soc’y, to Marlene H. Dortch, Sec’y FCC, (undated), available at <http://lessig.org/blog/2FCC.pdf> (referring to the FCC’s 3-2 decision to regulate network management actively in light of a complaint against Comcast for throttling traffic using BitTorrent: “In all of my experience reviewing government decisions affecting the Internet, I have read none that are more subtle and sophisticated in their understanding of the Internet, and few that are as important for setting the conditions under which innovation and competition on the Internet will flourish.”). The Comcast case is discussed in Sec. IV. *infra*.

7. See, e.g., YOCHAI BENKLER, THE WEALTH OF NETWORKS (2006); LAWRENCE LESSIG, THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD 34-35 (2001); Yochai Benkler, *From Consumers to Users: Shifting the Deeper Structures of Regulation Toward Sustainable Commons and User Access*, 52 FED. COMM. L.J. 561 (2000); Susan P. Crawford, *The Internet and the Project of Communications Law*, 55 UCLA L. REV. 359, 392 (2007) (“[O]nline diversity stems from allowing the end-to-end, content-neutral, layer-independent functions of the Internet to flourish”); Mark Lemley & Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L. REV. 925, 970 (2001); Richard S. Whitt, *A Horizontal Leap Forward: Formulating a New Communications Public Policy Framework Based on the Network*

continuing with critics of network management policies—assume regulators can get “nondiscrimination” rules just right.⁸

Importantly, this Article does not abjure regulation because there is likely to be a sufficiently competitive market for broadband network services nationwide in the near term. It therefore departs from anti-regulation advocates who base their case against government network management on the existence of sufficient consumer choice among facilities-based wireline and wireless networks.⁹ Were that the case, the competitive model, and its consequences, would apply: if a provider’s network management rules are unsatisfactory, vote with your feet and switch providers.

The conclusion rests, instead, on an analysis of three characteristics that hobble the FCC, the likeliest federal agency to provide prescriptive rules. First, the record for the agency, on a host of industry decisions where technology plays a pivotal role, tilts decidedly *against* counting on successful execution of regulation. Second, the technology here is unlike anything the FCC has successfully regulated before. The technical competence of the agency on some matters is that of a specialist and well worth the deference paid by appellate courts in affirming countless technical judgments. Judging networks, which are constructed and operated for maximum private gain and are not based on a government-approved rate of return model, isn’t among them.

Finally, the agency itself has yet to demonstrate that it is the best locus of power for deciding the fate of the Internet. The political economy

Layers Model, 56 FED. COMM. L.J. 587 (2004); Tim Wu, *The Broadband Debate, A User’s Guide*, 3 J. ON TELECOMM. & HIGH TECH. L. 69 (2004).

8. This “Do something!” rhetoric recalls the joke about the three academics who find themselves in a twelve-foot hole and have to figure a way out. The engineer and the philosopher each contribute their answer. When it comes to the economist, the answer is clear: “Assume a ladder.” For critics of broadband network providers the ladder is surefooted federal regulation. However, if the agency’s past is an indication, its incantation will not produce successful rules for broadband network providers.

9. See, e.g., Written Testimony of Christopher S. Yoo, Professor of Law and Communications, Co-Dir., Ctr. for Tech., Innovation, and Competition, before the FCC, Cambridge Mass., 34-35 (Feb. 25, 2008), http://www.fcc.gov/broadband_network_management/022508/yoo.pdf:

At times, some new development may arise to which the market may need some time to adjust. For example, when they first arose, network owners prohibited the use of [Virtual Private Networks] and home networking devices. This would ultimately prove short lived. Consumer pressure induced the network owners to change course. Although some have pointed to this development as demonstrating the need to impose network neutrality regulation, I think it demonstrates the opposite. It shows how consumers [sic] preferences exercised through the competitive process can force openness in the ways that render regulation unnecessary.

Id. See also Christopher Yoo, *Beyond Network Neutrality*, 19 HARV. J.L. & TECH. 1, 27-28 (2005).

of the FCC makes it less successful as an expert agency. There are other, better ways to resolve disputes besides the FCC's processes and the inevitable appellate review.

What would work better? This Article agrees with those who argue that the nation's traditional antitrust statutes, network self-regulation, and the use of long-standing Internet working groups are better ways to resolve network-management disputes than relying on FCC enforcement. These three approaches are briefly reviewed here. This Article adds two interrelated approaches to the set of non-FCC solutions: (1) reliance on the shame/wiki/blog culture of the Internet and (2) disclosure of management practices by network providers, enforceable under contract. These approaches are congenial with the most basic Internet values of information transparency and sharing.

Network neutrality is an evolving area with few verities. Broadband network conduct may be so offensive (think *Madison River*) and Congress' directive may become so clear¹⁰ that regulatory rules of the road may become inevitable. But, given what we know of the FCC's successes and failures, that should be a last resort. Participants in the network neutrality debate ignore this history at their peril.

II. IS BROADBAND SUFFICIENTLY COMPETITIVE TO LEAVE NETWORK MANAGEMENT TO MARKET FORCES?

A. *The FCC and Communications Markets*

The FCC has changed its regulatory attention many times over its seventy-five years. The agency's activism from the 1930s through the 1960s mostly involved broadcasters, not communications networks, though. At its inception, the FCC played only a minor role in actually regulating networks like telephone and telegraph. These were monopoly services in most areas by 1934 and remained so, substantially, until the 1970s.¹¹ The FCC's objective was to hold the Bell Telephone Company and Western Union to their promise to provide affordable, widely available services.¹² Until competition came along from competitive long-distance providers and then others in the late 1960s, network infrastructure review was something of a backwater, eclipsed by the more colorful, better

10. See, e.g., Internet Freedom Preservation Act, H.R. 3458, 111th Cong. (2009) (providing broad FCC authority and direction).

11. DANIEL L. BRENNER, LAW AND REGULATION OF COMMON CARRIERS IN THE COMMUNICATIONS INDUSTRY, Ch. 10 (1996).

12. See generally, JOHN BROOKS, TELEPHONE (1975).

understood, often litigious radio and television-station businesses.¹³ Competition finally spread to telephone service by the 1970s. Promoting competition seemed to consume the FCC's attention in trying to implement the 1996 Telecommunications Act for the ten years after enactment.¹⁴

At the time the FCC was created (as a "modern" version of the Federal Radio Commission) in 1934, radio stations had been subject to licensing for less than a decade.¹⁵ Prior to the 1927 Radio Act, radio stations had no protection against interference.¹⁶ And, while it might have been possible to develop a market approach to insure interference protection, the choice was made to license stations in the "public interest, convenience, or necessity."¹⁷ The government must, by statute if not in practice, find affirmatively that renewal of a broadcast station's license is in the public interest. And, as for the other major communications sector, telephony, the model was a regulated monopoly service, largely provided by AT&T and smaller independent phone companies, which were also monopolies.

Drafters of the 1934 Act thus observed a communications landscape of limited competition: protected frequency exclusivity for radio licensees (with little appreciation for Coase-like considerations about resource allocation) and protected exclusivity for monopoly phone providers. Given these facts on the ground, framers spent no time on the possibility that regulation might be unnecessary under competitive conditions.¹⁸ With the experience of competition, today we see that regulation is appropriate only insofar as competition fails to provide alternatives to an incumbent's offering. As with most goods and services in society, price or entry regulation is not necessary when sufficient market competition exists. Customers can choose a competitive provider if dissatisfied with the current one.

13. Because there were nearly all monopoly telecommunications providers, questions of entry policy did not arise. And the appetite for rate-of-return review by politically appointed FCC commissioners was understandably limited.

14. See Sec. IV.B.2 *infra*.

15. Congress first licensed radio in the 1927 Radio Act. The Act did not include provisions for common carriers. They were added with the 1934 Communications Act. Telephone (and telegraph) providers were deemed to be common carriers in the 1910 Mann-Elkins Act, Pub. L. No. 61-218, Sec. 7, 36 Stat. 539, 544 (1910). The definition and duties of telephone common carriers relied on unmodified definitions taken from the 1887 Interstate Commerce Act, which had codified duties of railroad common carriers. Interstate Commerce Act, ch. 104, 24 Stat. 379 (1887), codified and amended 49 U.S.C. *passim*.

16. See 35 Op. Att'y Gen. 126 (1926), reprinted in FRANK J. KAHN, DOCUMENTS OF AMERICAN BROADCASTING 27 (1972).

17. 47 U.S.C. § 303 (2006).

18. Thomas W. Hazlett, Physical Scarcity, Rent-Seeking and the First Amendment, 97 COLUM. L. REV. 905 (1997).

Modern communications theory—developed through the 1970s and 1980s by the FCC through the application of economic thinking from Coase,¹⁹ Kahn,²⁰ and others,²¹ and embedded limitedly in Section 10 of the 1996 Act—says this: market, not government, regulation of communications services should be the default.²² Government regulation of the prices, terms, or conditions of an offering is unnecessary when consumers have meaningful choices of service providers. Only where the market fails to produce those choices (i.e., “market failure”) should we invoke regulation.

As a coda to this formulation, it should be added that the government regulation also should produce no worse result than the conditions of market failure. Put another way, regulation should still be avoided if the regulator cannot meaningfully improve the customer’s experience, even in a market where competition is insufficiently present. Regulation in the absence of competition is inadvisable if the regulation does more harm than a noncompetitive market, left alone, produces.

But this way of thinking, to a New Deal regulator in 1934 (let alone to some regulatory advocates today), would seem to be crazy talk. With a Depression underway, and the screech of fascism broadcast on German radio frequencies, it is little wonder that the 1934 Act did not focus on the benefits of a competitive marketplace or the need for regulatory humility in supervising the airwaves.²³ As for competition in phone or telegraph service? It was all the FCC could do to prevent AT&T from dominating the radio business as it was doing as a “natural monopoly” for telephone customers.²⁴

19. See Ronald Coase, *The Federal Communications Commission*, 2 J.L. & ECON. 1 (1959).

20. See Alfred E. Kahn, *The Economics of Regulation: Principles and Institutions* (1988); Alfred Kahn, *The Road to More Intelligent Telephone Pricing*, 1 YALE J. ON REG. 139 (1984).

21. Among the FCC’s most persistent critics and market enthusiasts is Thomas Hazlett. See, e.g., Thomas Hazlett, *The Wireless Craze, the Unlimited Bandwidth Myth, the Spectrum Auction Faux Pas, and the Punchline to Ronald Coase’s “Big Joke”*: An Essay on *Airwave Allocation Policy*, 14 HARV. J.L. & TECH. 335 (2001). For my own early contribution, see Mark Fowler & Daniel Brenner, *A Marketplace Approach to Broadcast Regulation*, 60 TEX. L. REV. 207 (1982).

22. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (codified at 47 U.S.C. § 160 (2006)). The FCC had already been granted authority to forbear from regulating cellular telephone providers as common carriers. *Id.* at § 332(c)(1).

23. See *NBC v. United States*, 319 U.S. 190, 216 (1943) (finding that the public-interest standard for regulating broadcasting “is as concrete as the complicated factors for judgment in such a field of delegated authority permit”) (quoting *FCC v. Pottsville Broad. Co.*, 309 U.S. 134, 138 (1940)).

24. In 1925, AT&T decided WEAf and its embryonic network were incompatible with AT&T’s primary goal of providing a telephone service. AT&T offered to sell the station to

Thus, the preamble-like Section 151 of the Act declares that the FCC was created “[f]or the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States . . . a rapid, efficient, nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges.”²⁵ This provision is a mandate to regulate. It is not a mandate to forbear from regulating in the presence of sufficient competition. And it is this general authority (and the definitions that follow), this so-called Title I authority, which forms the basis for the FCC’s authority over new services like broadband Internet providers.²⁶

B. The Broadband Network Market Is Less Than Fully Competitive Nationwide

As noted, by 1996, Congress in Section 10 of the Act recognized what the FCC earlier determined: at least insofar as telecommunications services were concerned, the agency could forbear from regulating in the presence of sufficient competition. Internet Service Providers (ISPs) offering cable modem service,²⁷ DSL,²⁸ or wireless²⁹ are not telecommunications services but information services. So, while it does not appear that Section 10’s forbearance literally applies to such services, as a matter of competitive policy, its philosophy should—provided of course that competition is sufficiently present.

Were that the case, the debate over federal regulation of the network layer would be reduced to a question of whether there was sufficient competition among broadband networks. With sufficient competition, a customer would choose a provider whose network management practices best fit the customer’s needs.³⁰

RCA in a deal that included the right to lease AT&T’s telephone lines for network transmission. <http://en.wikipedia.org/wiki/NBC>.

25. Telecommunications Act of 1996. Pub. L. No. 104-104, 110 Stat. 56 (codified at 47 U.S.C. § 151 (2006)).

26. See Comcast Complaint, *supra* note 3, at para. 15. (“Yet as muddy as the legal waters may seem to Comcast, we think our ancillary authority [under Title I] to enforce federal policy is quite clear.”).

27. Inquiry Concerning High-Speed Access to Internet Over Cable and Other Facilities, *Declaratory Ruling and Notice of Proposed Rulemaking*, 17 F.C.C.R. 4798 (2002), *aff’d*, Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Servs., 545 U.S. 967, 974 (2005).

28. 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), *aff’d sub nom.* Time Warner Telecomm., Inc. v. FCC 507 F.3d 205 (3d Cir. 2007).

29. Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks, *Declaratory Ruling*, 22 F.C.C.R. 5901 (2002).

30. As then-presidential candidate Barack Obama put it, “[i]f there were four or more competitive providers of broadband service to every home, then cable and telephone

This level of competition is not present nationwide. First, one would need a sufficiently wide array of network practices and offerings to meet every consumer's need.³¹ That degree of network-management differentiation is unlikely, even in the most fiercely competitive markets. Second, network-management practices would need to be a sufficiently important factor in selecting a network provider. It is likely that price and speed would outweigh network-management practices as a meaningful difference for most customers.³²

In telecommunications, the long-distance and customer-premises equipment market of the 1980s, with hundreds of competitors, demonstrated that entry and price regulation were better handled by the market.³³ Even then, regulation persists. Prohibitions on slamming of customers (i.e., misrepresenting that a customer had left one provider for another), public safety mandates like E911 availability, and equipment approval by FCC labs remain necessary.³⁴

For broadband, it is unlikely that a market of sufficient facilities-based competition soon will develop nationwide so that the level of competition will justify forbearing from regulation.³⁵ While it can be seriously argued that *some* consumers have a sufficient multiplicity of

companies would not be able to create a bidding war for access to the high-speed lanes.” Babette E.L. Boliek, *Net Neutrality Regulation in the Mobile Telecommunications Market: A Cautionary Tale from the Era of Price Regulation* 3 (October 10, 2008) available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1129517 [hereinafter *Net Neutrality Regulation*], (quoting Barack Obama, Network Neutrality Podcast (June 8, 2006) (transcript available at http://obama.senate.gov/podcast/060608-network_neutrality/print.php)).

31. It could be argued that an unbundling requirement, where the network provider sells transport to ISPs, would lead to more network-management offerings. But there is no evidence that that occurred when DSL was subject to an unbundling requirement or that network-management practices in countries subject to unbundling are key differentiators among competitors. See *Next Generation Connectivity: A Review of Broadband Internet Transitions and Policy from Around the World*, The Berkman Center, available at http://www.fcc.gov/stage/pdf/Berkman_Center_Broadband_Study_13Oct09.pdf.

32. By way of comparison, consider the category of safety features in the competitive automobile industry. While important, other criteria—price, fuel economy, style—as key differences among products.

33. By 1980, the FCC unbundled customer premises equipment from services in order to promote a competitive market for equipment, even if basic service was provided on a monopoly basis. Second Computer Inquiry, *Final Decision*, 77 F.C.C.2d 384 (1980).

34. See, e.g., 47 U.S.C. § 225 (disability access to common carriers); 47 C.F.R. § 9.5 (VoIP E911 services); *id.*, § 2.1031 (requirements for equipment certification).

35. Babette E.L. Boliek argues that viewed separately the competitive wireless broadband market is itself competitive. Babette E.L. Boliek, *Net Neutrality Regulation*, *supra* note 30, at 5 (“Regulators and analysts alike have consistently found the present-day mobile communications market to be competitive. If indeed this is the case, it calls into question the underlying rationale for network neutrality regulation with respect to mobile communications.”) (footnotes omitted).

broadband choices,³⁶ it is yet to be demonstrated that *most* consumers do. In larger markets, most consumers can choose between cable modem service and either DSL or enhanced fiber service from the incumbent telephone company. In several markets, there may be a second cable operator offering a competitive modem service.³⁷ Wireline alternatives coming from broadband over power lines have proven to be illusory.

There are typically multiple wireless providers as well.³⁸ In this category there may be private or publicly provided Wi-Fi, which has a radius of service of 300 feet for sending and receiving, or larger, mesh fourth generation (4G) WiMAX networks that encompass up to a thirty-mile radius.³⁹ 4G Long Term Evolution (LTE) is developing for mobile and fixed broadband.⁴⁰

But, it is yet to be shown that most customers have more than two facilities-based broadband providers (even if we can agree on a definition of “broadband”)—i.e., the local cable and telephone companies. The national broadband mapping effort will help pinpoint where the competition is, but, until that work is completed, national policy cannot assume a competitive market.⁴¹ Indeed, some areas have only one wireline

36. Inquiry Concerning the Deployment of Advanced Telecomms. Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecomms. Act of 1996, *Fifth Report*, 23 F.C.C.R. 9615, 9632 para. 35 (2008). This FCC annual report on broadband availability identifies that a zip code is served by a broadband provider so long as one customer in the zip code obtains service. The (misleading) result is that some zip codes can report a multiplicity of wireless competitors, even though the competitors do not serve the entire zip code.

37. “As of June 2005, a [second wireline video provider] served approximately 1.4 million subscribers, representing 1.5 percent of all MVPD households.” Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, *Twelfth Annual Report*, 21 F.C.C.R. 2503, para.14 (2006).

38. Clearwire is poised to provide a competitive wireless broadband offering in many markets, using a consortium of cable operators, Sprint, and Google to assist in the buildout and marketing. See Clearwire, <http://www.clearwire.com> (last visited Dec. 9, 2009).

39. 2 Daniel L. Brenner, Monroe E. Price & Michael I. Meyerson, CABLE TELEVISION & OTHER NON-BROADCAST VIDEO § 18.6 (2009).

40. See W. David Gardner, Information Week, *Verizon Wireless Establishes LTE Development Center* (Apr. 1, 2009) available at <http://www.informationweek.com/news/mobility/business/showArticle.jhtml?articleID=216402321>.

41. The Commerce Department’s National Telecommunications and Information Administration administers the State Broadband Data and Development Grant Program is a matching grant program that implements the joint purposes of the American Recovery and Reinvestment Act and the Broadband Data Improvement Act (BDIA). The program provides grants to assist states or their designees in gathering and verifying state-specific data on the availability, speed, location, and technology type of broadband services. The data they collect and compile will also be used to develop publicly available statewide broadband maps and to inform the comprehensive, interactive, and searchable national broadband map that NTIA is required by the Recovery Act to create and make publicly available by February 17, 2011. Press Release, *Commerce Department’s NTIA Awards*

provider (or none), and very rural customers have broadband only from satellite-based services using a satellite downstream and a telephone upstream (or return) path.⁴² Funding through the American Recovery and Reinvestment Act of 2009 hopes to provide access to broadband to 100 percent of Americans. But funding is not directed to ensuring multiple providers to each location.⁴³

So it is unlikely that the FCC or broadband networks can argue that facilities-based competition makes questions of network regulation moot. Moreover, when the FCC has forborne from regulation because of sufficient competition, it has done so around issues like price, entry, and exit regulation or issues of access to elements of a competitor's network.⁴⁴ It is not clear that competition among providers will produce management or pricing practices that will meet the standard of sufficient competition. Furthermore, network neutrality involves policies that do not necessarily translate to traditional measures of consumer surplus. For example, it may be more efficient to price by the amount of bits traveling upstream and downstream, but that is not how the "all you can eat" ISP works. Allowing ISPS to charge content providers for quality of service (QoS) might lower the costs of subscribing. Similarly, management practices that foster greater diversity may be preferred to those that maximize efficiency.

Consider this example: Suppose a significant population really does have three wireline ISPs and five wireless ISPs—pretty competitive in terms of how to connect to the Internet. But suppose that all of these providers adopt a business model that allows Web sites to pay for faster access to their Web sites (QoS) rather than the "best efforts" otherwise provided by each network provider. Web sites that cannot or will not pay for faster access will complain that this is not a competitive market for Web

Grants For Broadband Mapping and Planning in Alabama, Idaho, Maryland, Massachusetts, Washington, Wisconsin, and Wyoming: Recovery Act Funding to Lay Groundwork for Enhanced Internet Services, (Nov. 6, 2009) available at http://www.ntia.doc.gov/press/2009/BBMappinggrants_091106.html.

42. Still, there is increased competition, at least as reflected in the FCC's Broadband Inquiry record. "Over 90% of U.S. households can choose from either a wireline or a cable broadband service and approximately four-fifths of U.S. households have access to both. In addition, mobile wireless broadband, from at least one of several providers, is available to more than 95% of U.S. households." *A National Broadband Plan for our Future*, Comments of the United States Telecom Ass'n, GN Docket No. 09-51 (filed June 8, 2009) at 3-4, available at http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520220030.

43. Congress charged the Department of Agriculture's Rural Utilities Service and the Department of Commerce's National Telecommunications and Information Administration with making grants and loans to expand broadband deployment and for other important broadband projects. Congress provided \$7.2 billion for this effort. American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009).

44. 47 U.S.C. § 160 requires that the FCC forbear from Title II common carrier regulation where competition is sufficient.

sites, even if it is quite competitive for subscribers (or at least subscribers who do not care about whether ISPs charge for QoS.)

Or let us assume that the standard business model for all eight providers requires a customer to opt in to ISP tracking of Web visits as a condition of service so the ISP can develop an advertising profile of the customer for third parties. If no consumer could access the Internet without giving up this information, the generally anonymous Web surfing that has characterized the Internet for many would be lost. Competition theory would suggest that this condition would not last forever; if there was a significant market differentiation in offering customers a way to opt out of such tracking, it would emerge. But, until and unless it did, it would be hard to pin hopes on competition.

In any case, there are not markets with this many broadband ISP choices. If anything, policymakers aspire to insure that all Americans have access to at least one or perhaps two ISPs. And, apart from having access to broadband through market or government-subsidized deployment, there is still the task of getting greater adoption, which is the focus of the FCC's National Broadband Plan efforts.⁴⁵ Congress has not concluded that the market is sufficiently competitive. Indeed, in the 1996 Act, Congress instructed the FCC to reduce regulation in order to spur more broadband deployment.⁴⁶

So, while it would be desirable to leave broadband network practices to market forces (as we do with many other aspects of communications service choice), that conclusion is hard to reach here. There simply is insufficient intra and intermodal competition among broadband ISPs. But does an inadequate degree of competition leave the field open for the FCC to engage in broad regulation of network practices? Or does the "do no harm" admonition apply here?

45. The American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009), charged the FCC to create a national broadband plan by February 2010 "to ensure that every American has access to broadband capability and establishes clear benchmarks for meeting that goal." A National Broadband Plan for Our Future, Gen. Docket No. 09-51, FCC 09-31 (Apr. 8, 2009), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-31A1.pdf. The FCC convened dozens of workshops to consider various issues raised by its broad inquiry notice, including management questions raised in this Article.

46. Section 706 of the 1996 Act, while sometimes used by the FCC as a jurisdictional hook to regulate cable, is really designed to urge deregulation if that is what it takes to increase broadband service. *See generally* 47 U.S.C. § 157 (2006).

III. THE FCC'S EXPERIENCE WITH PRESCRIPTIVE RULES BODES POORLY FOR REGULATORY INTERVENTION

A. *The Origins of Prescriptive Rules—Radio Regulation*

When Congress established the FCC in the 1930s, it was amidst a Depression brought on partly by government's failure to regulate financial markets.⁴⁷ It was to be expected that the agency would develop rules to enforce exclusivity for radio frequencies, for example, so that a grant to one licensee would not interfere with another licensee. Over time, prescriptive, or *ex ante*, rules were adopted to flesh out the meaning of public-interest programming, especially where contests for radio and, later, television licenses required the development of comparative-licensing criteria to distinguish among applicants. Program content was one of the early criteria, but the FCC sought less subjective criteria over time.⁴⁸

The idea that matters of this type—how to settle interference disputes or to grant a radio license—could be turned over to market forces was not part of any recorded thinking by the agency. Instead, nonmarket criteria—like integration of ownership with management or local presence in the community (along with somewhat more defensible criteria, such as degree of media concentration)—determined who would be awarded a license if contested by two or more applicants.⁴⁹ It did not matter that the license could be transferred thirty-six months later or that the FCC never did check up on whether the licensees actually remained in the community.

Over time, the regulatory impulse was tempered and a more marketplace-oriented approach arrived, forced by Congress' 1997 decision to require that new stations be awarded based on competitive bidding,⁵⁰ eliminating the need for comparative criteria.⁵¹ Although broadcasting

47. See generally 1 ERIK BARNOUW, *A TOWER IN BABEL* (1966).

48. The FCC's authority to consider programming was established in *Great Lakes Broadcasting Co.*, 3 F.R.C. Ann. Rep. 32 (1929), *aff'd in part and rev'd in part*, *Great Lakes Broad. Co. v. Fed. Radio Comm'n*, 37 F.2d 993 (D.C. Cir. 1930), *cert. dismissed*, 281 U.S. 706 (1930) (establishing programming service as one of the public interest criteria to be used in radio station renewals).

49. See Policy Statement on Comparative Broadcast Hearings, *Memorandum Opinion and Order*, 1 F.C.C.2d 918 (1965); Policy Statement on Comparative Broadcast Hearings, *Public Notice*, 1 F.C.C.2d 393, 395 (1965) ("Diversification of control is a public good in a free society, and is additionally desirable where a government licensing system limits access by the public to the use of radio and television facilities.").

50. Balanced Budget Act of 1997, § 3002(a), Pub. L. No. 105-33, 111 Stat. 251, 258 (1997), 47 U.S.C. § 309(j) (2006). See also 47 C.F.R. §§ 73.5000-5009 (2008).

51. The Supreme Court had required that all similarly situated, mutually exclusive applications be accorded a comparative hearing. *Ashbacker Radio Corp. v. FCC*, 326 U.S. 327 (1945). Comparative criteria were spelled out in Policy Statement on Comparative Broadcast Hearings, *Public Notice*, 1 F.C.C.2d 393 (1965).

remains content-regulated, perhaps best illustrated by cases concerning indecent content,⁵² the use of content criteria is all but gone from broadcast license grants.

The point to be remembered is this: the agency's most visible activity, broadcast regulation, began as a highly prescriptive one in terms of licensing and content. Eventually, that impulse in licensing was throttled back. As academics recognized decades earlier,⁵³ and as Congress did by 1997, a highly regulatory approach to licensing was neither inevitable nor necessarily the best method of issuing licenses to use spectrum.

B. The FCC's Success with Laissez Faire Regulation in Creating New Services

Unlike other areas of federal regulation recently, the record of laissez faire FCC licensing regulation is a bright one if we accept as the criterion for success rapid development of an incipient technology. There have been different licensing approaches based on market demand. The FCC's auction authority permits spectrum demand to be met with market mechanisms.⁵⁴ But, even outside of auctions, the FCC succeeded in launching new services by *not* adopting a highly regulatory licensing scheme. Consider these four categories: domestic satellites, direct broadcast satellites, local/long-distance telephone entry, and broadband policy prior to the network neutrality debate.

1. Open Skies

A leading example of a successful network creation is the Open Skies policy⁵⁵ toward communications satellite launch and operation during the 1970s. These first domestic satellites (domsats) provided voice and video circuits to compete with AT&T long-haul trunk services and eventually led

52. See, e.g., *Fox Television Stations, Inc. v. FCC*, 489 F.3d 444 (2d Cir. 2007), *cert. granted*, 128 S.Ct. 1647 (2008), *rev'd*, 129 S.Ct. 1800 (2009).

53. Coase, *supra* note 19, at 14; Leo Herzl, "Public Interest" and the Market in Color Television Regulation, 18 U. CHI. L. REV. 802 (1951).

54. When the auction comes with nonmarket requirements, that mechanism can fail. The FCC conditioned auction of the so-called D block of frequencies in the 700 MHz range, on the winner building a network that interconnects with emergency communication equipment across the nation. Service Rules for the 698-746, 747-762, & 777-792 MHz Bands, *Second Report and Order*, 22 F.C.C.R. 15289 (2007). See Alejandro Valencia, *The FCC's Regulatory Mulligan: Exploring the Options in the Wake of a Failed D Block Auction*, 10 N.C. J.L. & TECH. 313 (2009).

55. Establishment of Domestic Communications-Satellite Facilities by Nongovernmental Entities, *First Report and Order*, 22 F.C.C.2d 86 (1970); *Second Report and Order*, 35 F.C.C.2d 844 (1972), *aff'd sub nom.* Network Project v. FCC, 511 F.2d 786 (D.C. Cir. 1975).

to the widespread delivery of satellite-delivered, television-program networks.

The policy predates auction authority. The rule simply was “the first to file is first to be granted” so long as milestones were met and orbital arc space was available for the satellites. The FCC could have launched a proceeding to determine comparative criteria by which to award the satellite licenses, which was the system in place for selecting television and radio licensees.⁵⁶ Satellites, after all, use *radio* communications to and from earth and the satellite’s transponders. But the FCC declined to adopt comparative criteria. Satellite companies avoided the regulatory uncertainty and delay that characterized the comparative licensing process used to assign broadcast licenses. When the FCC faced the opportunity to use comparative hearings to assess the merits of applicants in excess of what the marketplace and the satellite orbital arc could accommodate, it declined, ordering creation of a consortium instead.⁵⁷

2. Direct Broadcast Satellites

The FCC followed up this laissez faire approach in the next decade by adopting first-come, first-served rules for direct broadcast satellite (DBS) providers, who provide service directly to consumers rather than the variety of retail, wholesale, and commercial customers receiving domsat transmissions. And the FCC allowed DBS providers to choose their regulatory identity.⁵⁸ They could operate more like broadcasters, subject to the requirements of broadcast law, or they could hold themselves out as common carriers, offering their service on a tariffed basis. As with communications satellites, the available slots filled up quickly, although DBS took time to develop because of a lack of funding, a relatively tight grip on the subscription market by cable, and existing large-dish (so-called C-Band) satellite providers already prevalent in rural areas. And the FCC eventually replaced its first-come, first-served approach with an equally deregulatory auction regime in 1995.⁵⁹

56. See *supra* notes, 48-49.

57. Amendment of Parts 2, 22, and 25 of the Comm’n’s Rules to Allocate Spectrum for & to Establish Other Rules & Policies Pertaining to the Use of Radio Frequencies in a Land Mobile Satellite Serv. for the Provision of Various Common Carrier Servs., *Memorandum Opinion, Order, and Authorization*, 4 F.C.C.R. 6041 (1989), *rev’d*, *Aeronautical Radio, Inc. v. FCC*, 928 F.2d 428 (D.C. Cir. 1991), *on remand*, 7 F.C.C.R. 266 (1992).

58. Inquiry into the Dev. of Reg. Policy in Regard to D.B.S. for the Period Following the 1983 Regional Admin. Radio Conf., *Report and Order*, 90 F.C.C.2d 676 para. 86 (1982), *vacated in part on other grounds sub nom. Nat’l Ass’n of Broad. v. FCC*, 740 F.2d 1190 (D.C. Cir. 1984).

59. Revision of Rules & Policies for the D.B.S. Serv., *Report and Order*, 11 F.C.C.R. 9712 para. 7 (1995). The FCC took its action pursuant to auction authority created in 47 U.S.C. § 309(j).

While the economic model took time to develop, by the mid-1990s, DBS provided the first formidable challenge to the terrestrial cable providers. Today, its success as an alternative video network regime to cable is manifest: one in three customers of pay television (multichannel video programming distributors, in statutory parlance) take DBS, not cable.⁶⁰

3. Competitive Long-Distance and Local-Phone Competition

Another happy chapter where the FCC avoided excessive regulatory, network-licensing rules concerns competitive phone providers. As with satellites, the FCC's approach came amidst a technological development that spawned the new service—here, the use of low-cost microwave transmitters and receivers (and, eventually, satellite circuits) that provided a facilities-based alternative to AT&T's Long Line trunks. In what became known as the Competitive Carrier proceedings, the FCC, starting in 1980, and ending with a halt called by the courts five years later, deregulated emerging telecommunications carriers that possessed no market power.⁶¹

In hindsight, this approach seems obvious. Why regulate a new provider when a customer dissatisfied with its price or quality can revert to the regulated carrier? The FCC had to decide that either these new companies, like MCI and Sprint, were not carriers and, therefore, not subject to the unambiguous requirements to file tariffs, or forbear from regulating them as nondominant carriers. It chose forbearance, an agency prerogative that would not be codified until Section 10 was added in the 1996 Act.⁶² The result was the development of a robust competitive long-distance market by entrants who might otherwise have been slowed through attacks on their tariffs by entrenched incumbents.⁶³

60. Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, 24 F.C.C.R. 542, 546, para. 8 (2009).

61. Policy & Rules Concerning Rates for Competitive Common Carrier Servs. & Facils. Authorizations, *First Report and Order*, 85 F.C.C.2d 1 para. 2 (1981); *Second Report and Order*, 91 F.C.C.2d 59 para. 1 (1982), *recon.*; 93 F.C.C.2d 54 para. 11; *Third Report and Order*, 48 Fed. Reg. 46791 para. 4 (Oct. 6); *Fourth Report and Order*, 95 F.C.C.2d 554 para. 6 (1983); *Fifth Report and Order*, 98 F.C.C.2d 1191 para. 5 (1984); *Sixth Report and Order*, 99 F.C.C.2d 1020 para. 11, *rev'd sub nom.* MCI Telecomms. Corp. v. FCC, 765 F.2d 1186 (D.C. Cir. 1985). The *Sixth Report and Order* went too far in the court's view; Section 203 requires carriers to file service charges in the form of tariffs and the FCC forbade nondominant carriers from filing. MCI's interest in appealing this apparent burden lifting may have been based on its desire to prevent AT&T from eventually getting the same relief. Were the FCC to do so, MCI would not have the benefit of devising favorable customer rates based on an examination of AT&T's tariffs weeks before it could become effective. 765 F.2d 1186.

62. 47 U.S.C. § 160.

63. See FCC Industry Analysis & Technology Division, Wireline Competition Bureau, Statistics Of The Long Distance Telecommunications Industry (2003); FCC News, May 14,

4. Broadband

The development of broadband itself has been an exercise in lessening the regulatory strictures on providers by the FCC and others, including Congress. As to the latter, the Internet Tax Freedom Act, first passed in 1998 for three years and extended since,⁶⁴ has produced one of the longest tax holidays in U.S. history and made online retail a significant and sustained competitor to the catalog and bricks-and-mortar retailers.⁶⁵ While it did not preempt state or local sales taxes, it did restrict Internet-specific taxes, including taxes on broadband. Because it was not clear to whom a sales tax was owed, however, it often has not been collected.⁶⁶

The FCC's approach to broadband had been deregulatory through much of the service's first decade. Three episodes of regulatory restraint have contributed to the development of residential broadband service. First, the FCC declined to require cable operators to provide access to unaffiliated ISPs, thereby avoiding a wholesale grafting of the dial-up Internet service model onto a platform that was entirely different.⁶⁷ Dial-up access requires a telephone line to connect to a modem that converts keystrokes transmitted over the phone line into impulses that are transmitted to an Internet point of presence, onto the Internet cloud, and finally to the sender's destination.⁶⁸ The phone company could not require the dial-up user to direct her Internet traffic to its modem bank anymore

2003, available at http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/ldrpt103.pdf ("In 1984, AT&T's market share was about 90% of the toll revenues reported by carriers that identify themselves as primarily long distance carriers. By 2001, AT&T's market share had declined to slightly less than 38%, MCI's share was almost 24%, Sprint's was 9%, the regional Bell operating company (RBOC) long distance affiliates had over 6%, and more than 1,000 other long distance carriers had almost 24% of the remaining market.").

64. Internet Tax Freedom Act Amendments Act of 2007, Pub. L. No. 110-108, 121 Stat. 1024 (2007) (codified as amended at 47 U.S.C. § 151).

65. See Center on Budget and Policy Priorities, "A Five-Year Extension of The Internet Tax Moratorium Would Further Erode The Tax Base of States And Localities" (2001), available at <http://www.cbpp.org/cms/?fa=view&id=351> ("An extension of the moratorium in its current form for a period longer than two years is likely to affect adversely the ability of state and local governments to reach and implement a solution that would allow Internet sellers and Main Street sellers to be treated fairly with respect to sales tax collections.").

66. See *Quill Corp. v. North Dakota*, 504 U.S. 298 (1992), which held that a state cannot require an out-of-state merchant to charge sales tax to the state's residents unless the seller has a physical presence, such as a warehouse or call center, within the state's borders. Even if the merchant is not required to charge the tax, the purchaser is legally obligated to self-remit the tax to the state revenue department. Of course, many purchasers are unaware of this requirement or choose to ignore it.

67. CABLE SERVICES BUREAU, FCC, BROADBAND TODAY 8 (1999) available at <http://www.fcc.gov/Bureaus/Cable/Reports/broadbandtoday.pdf>.

68. How the Internet Works: A Dialup Example, <http://telecom.tbi.net/how-dial.htm> (last visited Dec. 9, 2009).

than it could require every fax transmission to one of its own fax machines. This ability to dial up any modem bank triggered the creation of thousands of ISPs, often local, because the customer could call a local number under a flat-rate residential phone plan and stay online for hours.

National dial-up ISPs, led by AOL and its thousands of local, phone-number modem banks, led the charge for a physical accommodation on the cable-modem plant. Cable's vastly larger upstream and downstream capacity makes dial-up unacceptable for many bit-rich applications. While some accommodations were done to placate competition regulators in the context of merger approvals,⁶⁹ the FCC, correctly, refused to force cable operators to recreate the dial-up architecture. This refusal made sense because the architecture was so different.⁷⁰ There was no telephone call to make comparable to the one that occurs in dial up. There was no need to make the pass off to the Internet through a cheaper, local telephone connection (the cable modem connection is always on). And there was no unaffiliated modem bank that could compete with a telephone company's modem bank. But many of the most vociferous network neutrality advocates were certain that a failure to recreate the dial-up model for broadband would be destructive of Internet freedom.⁷¹

Just the opposite occurred. Applications that could not have developed by dial up arose due to an increasing residential broadband market. Download services, like YouTube, would have developed more slowly without broadband development because, as consumer services, they rely on widespread, residential broadband.

The FCC dubbed its approach "vigilant restraint," and even went so far as to avoid deciding the regulatory classification of the service until

69. In 2000, the FTC imposed ISP access as a condition for approving the Time Warner-AOL merger. *America Online, Inc. and Time Warner, Inc., Agreement Containing Consent Orders; Decision and Order*, FTC Dkt No. C-3989, 2000 WL 1843019 at para. II.A.2 (Dec. 14, 2000).

70. See JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, *DIGITAL CROSSROADS* 161 (2005):

"Opening" a cable network to independent ISPs becomes somewhat more complicated if access means more than merely allowing them to serve as a user's default home page. The basic challenge lies in the fact that—unlike telephone networks, with their dedicated loops to each end user—cable networks employ an Ethernet-type (or "bus") configuration similar to that used in office LANs.

71. The research director of the Consumer Federation of America, Mark Cooper, said the absence of mandated access is "bad policy because it will destroy the Internet." Jerri Stroud, *FCC Ruling Will Produce Lower Bills for Users of Cable Modems*, *ST. LOUIS POST-DISPATCH*, Mar. 15, 2002, at C8. See also *BROADBAND TODAY*, *supra* note 67, at 11 ("Among the supporters of 'open access' are coalitions of ISPs, led by America Online (AOL), MindSpring Enterprises (MindSpring) and other ISP companies. ISP advocates are concerned that the owners of a closed networks will be able to exercise control over the content and navigational services that the Internet offers.").

court cases placed the question directly to the agency.⁷² The FCC formalized the lightly regulated status of cable-modem service by declaring it an interstate information service as opposed to a more highly regulated category of either a telecommunications service or a cable service. This latter classification might have placed it under the control of local franchising authorities, who sought the classification at the time.

The FCC proceeded to reclassify the telephone companies' digital subscriber line (DSL) and wireless services as "information services," which removed any obligation (but not the voluntary ability) to offer wholesale transmission to unaffiliated ISPs.⁷³ But the dial-up model ill fit these technologies as well, and build-out and adoption of broadband soared as cable and telephone companies competed (and continue to compete today) on service, speed, and price.

C. On the Other Hand: The Failure of Prescriptive Ex Ante Network Design

In the cases of satellites, competitive phone services, and broadband cable, the FCC took a regulatory *laissez faire* approach to authorization and operation, with success stories in terms of launching new services and promoting intermodal competition. It is difficult to prove conclusively that the light-touch regulatory approach caused the success of these new-technology services. The correlation is strong, though. In the examples that follow, one finds failure, not success, when the agency tried to establish a comprehensive regulatory scheme to dictate network-services development.

1. Video Dialtone

Perhaps the FCC's most blatant attempt to define network rules is in its creation of a video dialtone service, which led to absolutely no sustainable competition to cable.⁷⁴ This all-but-forgotten service was

72. *AT&T Corp. v. City of Portland*, 216 F.3d 871, 877-78 (9th Cir. 2000) (holding that the ISP service offered by cable operators under the "@Home" brand was a telecommunications service). This led to the FCC decision that the service was a Title I "information service," a conclusion affirmed in *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 974 (2005).

73. *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, Report and Order and Notice of Proposed Rulemaking*, 20 F.C.C.R. 14853 para. 2-3 (2005), *aff'd sub nom. Time Warner Telecom, Inc. v. FCC*, 507 F.3d 205, 208 (3d Cir. 2007).

74. *See Tel. Co.-Cable TV Cross-Ownership Rules, Sec. 63.54-63.58, Further Notice of Proposed Rulemaking, First Report and Order, and Second Further Notice of Inquiry*, 7 F.C.C.R. 300, para. 1 (1991), *recon.*, 7 F.C.C.R. 5069, para. 1 (1992), *aff'd*, *Nat'l Cable & Telecomms. Ass'n v. FCC*, 33 F.3d 66, 68 (D.C. Cir. 1994); *Second Report and Order, Recommendation to Congress, and Second Further Notice of Proposed Rulemaking*, 7 F.C.C.R. 5781, para. 1 (1992). The rules are discussed in *Tel. Co.-Cable TV Cross-Ownership Rules, Sec. 63.54-63.58, Memorandum Opinion and Order on Reconsideration*

designed so telephone companies (who were forbidden by cross-ownership prohibitions from operating cable systems at the time) could offer competitive video. Under video dialtone rules, a telephone company was permitted to offer, on a nondiscriminatory basis, a common carrier video delivery platform that would accommodate multiple video programmers and expand as demand increased. It could also enter into non-ownership relationships with video programmers to provide unregulated “gateways” to help customers select and receive video from those programmers. Telephone companies could also acquire up to a five percent financial interest in a programmer.

What would have made the most sense (and which Congress eventually authorized) was direct entry into video by telephone companies, which, in fairness, the FCC also recommended at the time it promulgated its video dialtone order. Nevertheless, instead of leaving it at that legislative recommendation, the FCC believed it could define and architect a service to facilitate new entry on plant that existing telephone networks would build. Service never materialized in part because of challenges to whether the telco had lawfully separated the video and telephone plant. Without proper separation, the rules allowed for the possibility of cross-subsidies from phone customers to pay for construction of the video network, which engendered a separate set of regulatory battles that slowed down whatever momentum telcos had to introduce the new service.⁷⁵

2. Open Video Systems

A subsequent attempt to design a successor service to video dialtone arose with Congress’ creation of the “open video system” (OVS) architecture in the 1996 Act. Congress did not subject companies applying to operate OVS to the sweep of telephone-company regulation under Title II. Indeed, the goal of the service was to subject providers to “reduced regulatory burdens.”⁷⁶ Nevertheless, it created a structure for OVS that failed in the market. Like video dialtone, the OVS operator has to provide capacity for unaffiliated program packagers to offer a package of channels. Unlike video dialtone, and hoping to make OVS more successful than its

and Third Further Notice of Proposed Rulemaking, 10 F.C.C.R. 244 (1994). By 1996, Congress had ordered the FCC to shut video dialtone down. Telecommunications Act of 1996 § 302(b), Pub. L. No. 104-104, 110 Stat. 124 (1996) (“The Commission’s regulations and policies with respect to video dialtone requirements . . . shall cease to be effective on the date of enactment of this Act.”).

75. See Amendment of the Comm’n’s Rules to Establish Competitive Serv. Safeguards for LEC Provision of Commercial Mobile Radio Servs., *Notice of Proposed Rulemaking, Order on Remand, and Waiver Order*, 11 F.C.C.R. 16639, 16707, n.21 (1996).

76. 47 U.S.C. § 573(c) (2006). Congress ordered the FCC to terminate video dialtone, delete its regulations from its rulebook, see 47 C.F.R. §§ 63.54-.58 (1995), and replace the service with OVS.

predecessor service, the OVS operator may offer its own programming packages on the network.

The OVS operator does not have complete freedom to operate its network, even after it meets the requirement to provide capacity to others. For instance, the law prohibits an OVS operator from providing itself and its affiliates with a marketing advantage vis-à-vis other video programming providers on the system in the way it distributes material or information for purposes of program selection.⁷⁷ Rates charged to users are presumptively valid so long as the OVS provider follows a Rube Goldberg-like condition: at least one unaffiliated program provider must occupy capacity on the OVS system equal to the lesser of one-third of the system capacity of that occupied by the OVS operator and its affiliates *and* the rate must not be higher than the average of the rates paid by all unaffiliated providers. If these conditions are met, the burden shifts to the complainant to demonstrate that the rate is not just and reasonable.⁷⁸

And, when demand for capacity exceeds supply, the FCC was required by statute to bar the OVS network from “selecting” video programming services on more than one-third of channel capacity.⁷⁹ But, because the price of the service also has to be nondiscriminatory under Section 653(b),⁸⁰ it is quite possible that demand could exceed supply; whereas, a price-discriminatory treatment would allow demand to equal supply and avoid a false shortage. The OVS operator would be capped on its channel usage under these terms.

While many companies filed for OVS authorization—the FCC has a streamlined system for issuing certificates within ten working days of filing—by 2006, not one programmer had come forward to pay for carriage; the model of network sharing had failed.⁸¹ As a model for third-party access to the OVS platform, the scheme did not bring on competition in the form government had devised.

77. 47 U.S.C. § 573(b)(1)(E)(i) (2006). For restrictions applied to navigational devices, guides, and menus used by the subscriber in active program selection, *see* Implementation of Sec. 302 of the Telecomm. Act of 1996, *Order on Remand*, 14 F.C.C.R. 19700 (1999).

78. Implementation of Section 302 of the Telecomm. Act of 1996, *Order on Remand*, 11 F.C.C.R. 20227, para. 77 (1996), *rev'd in part and remanded*, *City of Dallas v. FCC*, 165 F.3d 341 (5th Cir. 1999).

79. 47 U.S.C. § 573(b)(1)(B) (2006).

80. Communications Act of 1934 § 653(b), 47 U.S.C. § 573(b) (2006).

81. Annual Assessment of the Status of Competition in the Mkt. for the Delivery of Video Programming, *Twelfth Annual Report*, 21 F.C.C.R. 2503, para. 88 n.334 (2006) (“We are not aware of any OVS operator carrying programming offered by an unaffiliated program packager.”); Ted Hearn, ‘Open Video Systems’ a Turn Off, MULTICHANNEL NEWS, Feb. 27, 2006, at 45, *available at* http://www.multichannel.com/article/122277-_Open_Video_Systems_A_Turn_Off.php.

3. Advanced Instant Messaging

A last example of the FCC's failure to anticipate a viable network architecture arose in the context of the (ill-fated) AOL-Time Warner merger in 2001.⁸² The FTC had imposed ISP open-access conditions in approving the merger. The FCC imposed access conditions on the merged company's "advanced Instant Messaging," even though the "advanced" technology did not even exist.⁸³ AOL's Instant Messaging dominance dissipated when the feature was duplicated by Microsoft and others, and the advanced technology dreamed up by the FCC actually emerged as an edge-provided service (i.e., Twitter and its competitors). The FCC quietly rescinded its advanced messaging requirement in 2003.⁸⁴

D. Summary

The foregoing examples show a pattern of regulatory success when the FCC left network technologies alone. They show a pattern of regulatory failure when the FCC tried to anticipate how network services would develop and defined a network framework. It suggests that the FCC is a poor draftsman in designing networks or contemplating add ons. In the next Section, this Article will explore why the FCC can be expected to do little better in developing access or management regimes for existing networks.

IV. DETERMINING "REASONABLE" NETWORK REGULATION IS HARD TO DO IF YOU DO NOT ACTUALLY CONTROL THE NETWORK

A. The Problem of Sufficient Information

Network neutrality advocates turn to the FCC because the agency enjoys a reputation for expertise. And, as an independent agency, it fills a less political role in self-government that differs from the processes of the executive or legislative branches.⁸⁵ To exercise expertise in the network context—for instance, to establish network rules *ex ante* to determine what constitutes reasonable behavior by the network operator—a knowledge

82. App'ns for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner Inc., Transferee, *Memorandum Opinion and Order*, 16 F.C.C.R. 6547 paras. 191-200 (2001).

83. *Id.*

84. App'ns for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors, to AOL Time Warner Inc., Transferee; Petition of AOL Time Warner Inc. for Relief From the Condition Restricting Streaming Video AIHS, *Memorandum Opinion and Order*, 18 F.C.C.R. 16835 (2003).

85. See JAMES M. LANDIS, *THE ADMINISTRATIVE PROCESS* (1938).

base must be assumed. It is critical to have a fairly precise view of the network, from how it was designed to how it operates to what tools the network operator has at its disposal for managing its business.

In the United States, it has been difficult for the FCC to match the knowledge about privately constructed communications networks that their operators possess. Networks are designed primarily to operate efficiently, not to provide transparency to regulators. In this respect, other governments' regulators may enjoy an advantage. That is because in most countries, telephone networks (and even some cable networks, such as Germany) were constructed by the state telecommunications authority. The architects and planners were the regulators to a significant degree. In the United States, phone and cable networks have been almost entirely constructed by private entities. The FCC built none of them.

So, the FCC is perpetually the outsider looking in whenever it tries to fully understand the constituent parts of communications networks or why networks evolved the way they have. This dim visibility applies especially for networks that were built entirely with private capital, as cable and wireless networks have been. The FCC may establish certain construction rules—for example, ensuring that any radio frequencies involved in systems do not interfere with other radio frequency users.⁸⁶ But there are many aspects, especially the choice of equipment used to provide and manage the service,⁸⁷ that are unregulated. Indeed, the construction of broadband Internet connectivity on cable networks occurred absent any regulatory mandates.⁸⁸

Even during the heyday of overseeing telephone rates, the FCC had difficulty determining whether the networks were built without excessive investment and, therefore, producing for AT&T an improper return on that investment. This was not for lack of trying, however.

86. Aeronautical frequencies share bandwidth with cable, and rules require plant shielding to avoid interference with stiff penalties for violations. *Amendment of Part 76 of the Commission's Rules to Add Frequency Channeling Requirements and Restrictions and to Require Monitoring for Signal Leakage from Cable Television Systems*, 99 F.C.C.2d 512 (1984), *modified*, 101 F.C.C.2d 117 (1985).

87. Formal Complaint of Free Press and Pub. Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications, *supra* note 3. One of the issues in the Comcast complaint was the choice of equipment used to throttle traffic. *Id.* Companies like Cisco and Sandvine offer services that may turn out to be unacceptable network management practices. But unless the FCC is going to start approving *ex ante* which suppliers may be contained in a network, it cannot know all the features that a network operator may be able to deploy.

88. For a history of how cable modem service began, see ROUZBEH YASSINI, PLANET BROADBAND 39-40 (2004) (describing how a cable engineer in 1993 demonstrated access to one of six known Web sites on the planet.).

The Communications Act requires that “charges” for certain telecommunications services be “just and reasonable.”⁸⁹ Rather than auditing charges directly, regulators look at the constituent parts of the provider’s rate base, particularly at how much is spent on capital investments and ongoing expenses.⁹⁰ During the era of the “continuing surveillance” of price regulation of the AT&T telephone monopoly, the FCC was thus required to determine whether capital expenditures and annual expenses were reasonable. The FCC expended considerable multi-year resources in the 1930s on the belief that a thorough examination would show that AT&T was “gold plating” its network to boost its returns and had excessive expenses. The FCC concluded that was not the case.⁹¹ While this may be true, its task was exceedingly difficult. The FCC had to master networks whose architecture, nomenclature, and functionality were and are designed for purposes that have nothing to do with providing regulatory transparency. And, in a rate-regulated context, obscuring the network architecture may have advantages to the regulated entity’s return.

In short, the FCC staff, and even more likely, its five politically appointed commissioners, cannot be expected to know the ins and outs of a communications network, even if under our administrative system the FCC is the likeliest branch of government to be tasked with knowing about such things. And, unless the FCC actually operates the network, it is often left in the position of second-guessing the judgments of the operator.

89. 47 U.S.C. § 201(b) (2006).

90. A carrier’s annual revenue requirement (RR) (from which the list of charges, or tariff, is created) is established by allowing a return (r) on capital investment (V), plus reasonable expenses (E), plus taxes (T) and interest payments for the cost of capital (I). Thus, $RR = rV + E + T + I$. See *Competitive Carrier, Further Notice of Proposed Rulemaking*, 84 F.C.C.2d 445 n.13 (1981).

91. Policy and Rules Concerning Rates for Dominant Carriers, *First Report and Order*, 4 F.C.C.R. 2873, para. 20 (1989):

During the period when the “continuing surveillance” policy was in effect, a voice occasionally was raised in complaint that the Bell System’s costs and rates might be too high, but only once during this period did this Commission initiate a comprehensive investigation of such matters. This inquiry in the late 1930s cost millions of dollars and occupied approximately 300 researchers for several years. The staff’s efforts culminated in the preparation of a voluminous report on Bell System costs and operations, but allegations of inflated costs and rates—and substantial cost shifting between unregulated Western Electric and regulated telephone company operations—were never documented to the Commission’s satisfaction. Ultimately, no action was taken on the report’s major recommendations, and the investigation produced no significant changes in Commission or Bell System procedures.

Id.

The FCC's current mantra to be data driven in decision making is a broad recognition that the FCC needs data from outside sources; it does not possess the data itself.⁹²

B. The Problem of Devising Solutions to Perceived Network Problems

As the "advanced Instant Messaging" condition of the AOL-Time Warner merger demonstrated, the FCC can be wildly off base in dictating network conditions based on an erroneous prediction about the market.⁹³ But let us assume the market conditions suggest that competition would be enhanced by creating a regulatory access scheme. It turns out that *implementing* successful regulations is an enormous undertaking. In the FCC's history, this challenge arose in different contexts.

Among the most significant examples of trying to establish network access were the *Computer Inquiries* and implementation of the 1996 Act's requirement to provide its own network elements to competitors. These are worth studying, at least briefly, to see how the FCC has dealt with regulating networks. In the first case, the incumbent wanted to expand into services beyond mere transmission and had to promise access to unaffiliated parties if allowed. In the second, an unaffiliated party needed access to the incumbent's facilities to launch its own competitive transmission service.

1. The *Computer Inquiry* Proceedings

The *Computer Inquiry* proceedings arose out of a desire on the part of AT&T to expand beyond providing transport of voice or data between point A and point B and offer some data processing capacity. Under the terms of a 1956 settlement to the Department of Justice's antitrust action against AT&T, AT&T agreed to steer clear of computing services of the type IBM then offered and stick to transmission.⁹⁴ As time progressed and

92. "This will be a deeply fact-based and data-driven process. We're bringing experts in-house and reaching out to external academic partners." Statement of Chairman Julius Genachowski, Federal Communications Commission, All-Hands Meeting on Broadband Workshops, August 5, 2009, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-292583A1.pdf.

93. To that, one could add another condition of the merger, requiring Time Warner Cable to provide third-party access to unaffiliated ISPs. In practice, the requirement was not a network-access condition, but really a requirement to allow ISPs like EarthLink (and AOL) to market and resell Time Warner Cable's broadband service under its own name. All of the ISP network functions continued to be furnished by Time Warner Cable. Am. Online Inc., & Time Warner Inc., *Decision and Order*, FTC Docket No. C-3989 (2000), available at <http://www2.ftc.gov/os/2000/12/aoldando.pdf>.

94. *United States v. Western Elec. Co.*, 1956 Trade Cases (CCH) ¶68,246 (D.N.J. 1956). The agreement settled the federal government's 1949 antitrust suit alleging attempted

computing merged with communications, AT&T had aspirations beyond being a “dumb pipe.” It sought a regulatory solution that, with sufficient safeguards, would permit it to provide enhanced services, such as voicemail and what came to be the most significant enhanced service, ISP access to the Internet.⁹⁵

In *Computer II*, the FCC authorized AT&T and other telephone companies to enter the enhanced-services market subject to two well-intentioned conditions.⁹⁶ First, the FCC imposed structural separation: the largest telephone companies (AT&T and GTE) could provide enhanced services only through a separate corporate subsidiary. Second, a telephone company wanting to offer enhanced service had to offer its transmission service to all unaffiliated ISPs requesting it on a tariffed basis. The enhanced-service side of the telco had to purchase transmission service itself as if it were an arms-length distance from the transmission company. The goal was to prevent AT&T’s ownership of its transmission capacity from giving it an unfair advantage—through cross-subsidy or discriminatory treatment—as it entered the enhanced services market.⁹⁷ *Computer II*’s concept of unbundling can be credited with one significant success: the creation of separate ISPs as a class of enhanced services that could count on the unbundled availability of the telcos’ transmission service. It also carried the concept of unbundling to customer-premises equipment, which led to the innovation and reduced cost for telephone handsets, answering machines, and other equipment.⁹⁸ And, conceptually, it helped regulators recognize how the transport layer differed from the applications riding upon it.

monopolization of telecommunications equipment and services through the manner in which the Bell System obtained and licensed its patents.

95. In addition to seeking relief through the *Computer Inquiries*, AT&T obtained modification of the 1956 decree, titled Modification of Final Judgment (MFJ), United States v. AT&T, 552 F. Supp. 131,226-234 (D.D.C. 1982), *cert. denied*, 460 U.S. 1001 (1983). The modification also settled a 1974 antitrust suit brought by the federal government alleging monopolization of both long-distance service and manufacture of telecommunications equipment.

96. Amendment of Section 64.702 of the Comm’n’s Rules and Regs., *Tentative Decision and Further Notice of Inquiry and Rulemaking*, 72 F.C.C.2d 358 (1979), *Final Decision*, 77 F.C.C.2d 384 (1980), *reconsidered in, Memorandum Opinion and Order* 84 FCC 2d 50 (1980), *further reconsidered in, Memorandum Opinion and Order on Further Reconsideration*, 88 F.C.C. 2d 512 (1981), *aff’d sub nom. Computer and Comm’n’s Indus. Ass’n v. FCC* 693 F.2d 198 (D.C.Cir. 1982).

97. See Robert Cannon, *The Legacy of the Federal Communications Commission’s Computer Inquiries*, 55 FED. COMM. L. J. 167, 195 (2003).

98. *Computer and Comm’n’s Indus. Ass’n*, 693 F.2d 198 (boosting the importance of the FCC’s Part 68 rules, established in 1975, 47 C.F.R. § 68, which created technical standards by which any manufacturer could sell equipment to the public and insist on AT&T’s cooperation in allowing customers to attach to the network).

But its implementation raised problems; structural separation was short lived.⁹⁹ AT&T convinced the FCC that the costs of structural separation exceeded their benefits, which led to *Computer III*. The FCC created “non-structural” safeguards that added enormous complexity to how the network was viewed by both regulators and parties seeking to access it. Networks had to define their “open network architecture” (ONA) so that competing, enhanced-service providers could know the following: the configuration of the telephone’s infrastructure, basic service elements (BSEs) that would define the network’s building blocks; and comparatively efficient interconnection (CEI) so that outsiders could attach to essential facilities as easily as the network owner did.¹⁰⁰

The FCC encountered considerable difficulty in sustaining its position both legally and practically.¹⁰¹ ONA plans were submitted and resubmitted.¹⁰² There is little evidence that the scheme actually led to the blueprint model for access that the FCC envisioned.

The 1996 Act’s interconnection and unbundled network element (UNE) requirements essentially put the telephone companies out of their ONA/CEI misery.¹⁰³ It is hard to find a single example where the *Computer III* non-structural safeguards process led to a transparent and successful enhanced market for unaffiliated parties. Instead, it led to a battle over the sufficiency of the network’s ONA showing, a process reminiscent of what may arise were regulators to try to develop ex ante rules of network behavior in broadband.

2. Unbundled Network Elements

While the 1996 Act did not repeal the *Computer Inquiry III* rules (as it did for video dialtone), the rules ceased to be competitively significant. Instead, the Act focused on providing elements of an incumbent’s network

99. NUCHESTERLEIN & WEISER, *supra* note 70, at 154. “The short life of the structural separation requirement reflected both the deregulatory climate of the mid-1980s and, more generally, an abiding ambivalence about how to balance the efficiencies of vertical integration against the potential dangers.” *Id.*

100. Amendment of Sections 64.702 of the Comm’ns Rules and Regs., *Report and Order*, 104 F.C.C.2d 958 (1986), *rev’d sub nom.* California v. FCC, 905 F.2d 1217, 1228-29 (9th Cir. 1990) (holding that the FCC had failed to explain satisfactorily how circumstances had changed to justify substituting nonstructural for structural separation requirements). The FCC reaffirmed its intention to impose ONA. *See* Filing and Review of Open Network Architecture Plans, *Memorandum Opinion and Order*, 5 F.C.C.R. 3103 (1990).

101. *See* California v. FCC, 39 F.3d 919 (9th Cir. 1994).

102. *See, e.g.,* BellSouth Open Network Architecture Plan Amendment, *Memorandum Opinion and Order*, 18 F.C.C.R. 5092 (2003).

103. *See* Valencia, *supra* note 54.

for use by competitive telephone providers.¹⁰⁴ With flourishing competitive, last-mile telephone connections, ONA blueprints allowed enhanced-service providers (rechristened “information service” providers by the Act)¹⁰⁵ to worry less about how open the incumbent’s platform was; competitive transport would, in theory, check the incumbent’s penchant to behave in a discriminatory manner. To achieve competitive entry, however, Congress directed the FCC to identify network elements that incumbent telephone companies would have to provide on an unbundled basis, so-called UNEs¹⁰⁶ or, as a group platform, UNE-P.

In 1996, the FCC established the list of UNEs¹⁰⁷ and an accompanying very low-cost price formula for leasing these UNEs (so-called TELRIC).¹⁰⁸ These decisions triggered nearly a decade of unparalleled contention at the FCC as to whether the statute required the pricing and availability that the FCC had granted competitors to incumbent networks.¹⁰⁹ Incumbents derided UNE-P as synthetic competition created by law, which would never lead to facilities-based competition and, instead, acted as a disincentive to build facilities by offering them at bargain-basement, government-enforced rates. Competitors who took advantage of UNE-P (such as MCI and the 1990s-era AT&T, when both were trying to create local service to complement their long-distance offerings) saw it as, at the worst, an interim step. As their businesses built, these and other competitors could switch from leasing the incumbent’s facilities to building their own. In the meantime, there would be some measure of retail competition where, otherwise, there was none.

Let us put aside the merits of each side. For our purposes, we should focus on the ability of the FCC to achieve a legally sustainable consensus

104. The emphasis is found in the requirements of 47 U.S.C. §§ 251-52, spelling out the duties of incumbent and competitive local exchange carriers.

105. 47 U.S.C. § 153(20) (2006).

106. 47 U.S.C. §§ 251(c)(3), 252(d)(1). *See also* 47 U.S.C. § 153(29) (defining “network element”).

107. Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, *First Report and Order*, 11 F.C.C.R. 15499 para. 366 (1996).

108. *See* 47 C.F.R. § 51.505(b) (2008). “Total element long-run incremental cost (TELRIC)” focuses relentlessly on forward looking, not historical costs. It instructs state agencies, which are to price the UNEs, to base the cost of the elements to the competitor on what it would cost a hypothetical “most efficient” carrier to build the network. *Id.* The standard was upheld in *Verizon Commun’ns Inc. v. FCC*, 535 U.S. 467 (2002). While there was considerable dispute over whether the FCC or the state regulators were in charge of establishing these rules, federal authority was ultimately established by the Supreme Court. *AT&T v. Iowa Utils. Bd.*, 525 U.S. 366 (1999). The debate is reminiscent of the question of federal authority over broadband network providers.

109. The legal fights between the incumbents and competitors began with the question of the FCC’s authority to set pricing terms, resolved in *AT&T v. Iowa Utilities Board*, 525 U.S. 366 (1999), *rev’g* 120 F.3d 753 (8th Cir. 1997), which found FCC authority, reversing an Eighth Circuit view coming out the opposite way.

on the issues of access to UNEs and pricing. It started the task in 1996 and ended it in 2005, when competitors generally lost the right to get UNE-P at TELRIC prices. The last attempt, in 2003, after numerous court reversals, was a 3-2 decision spanning 485 pages and 2,447 footnotes, with the Chairman in dissent to the majority's plan to preserve UNE-P.¹¹⁰ The appellate court reversed this last version,¹¹¹ and the government sought no further appeal. Even with individually approved authority to engage in the process of identifying elements and pricing them, the FCC failed to develop a sustainable regime.

Part of the fault may lie with Congress' failure to specify, in the 1996 Act, what elements should have been included and how they might be ordered to be combined.¹¹² But the multiple losses by the FCC on review by the courts¹¹³ evidence that the task posed by the statute—separating, recombining, and pricing of network elements—did not translate into viable regulation. Even if the policy made as much sense in 2004 as it did at the outset in 1996, the agency never achieved much beyond a “prolonged period of uncertainty.”¹¹⁴

C. *The Problem of Technology as an Independent Variable*

As the foregoing demonstrates, regulatory agencies seeking to place controls on networks face the challenge of not knowing enough about network architecture and not being able to draw sustainable lines within the network even when they think they do. Satisfying the former does not always solve the latter. The failure of *Computer III* may have been the result of the regulator's inability to draw ONA plans itself. The UNE-P regime failed, however, not over what constituted a network element, but whether the FCC could fashion a lasting regime to determine when (and for how long) they should be provided at wholesale prices to competitors who would package and resell them. In both cases, regulation failed.

110. See Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, *Report and Order and Order on Remand and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 16978 (2003); Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, *Errata*, 18 F.C.C.R. 19020 (2003).

111. See *United States Telecom Ass'n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004).

112. Nuechterlein and Weiser concluded that “the telecommunications world could remain in this regulatory limbo for so long” because of the “exceptionally lawyer-driven nature of this industry.” NUECHTERLEIN & WEISER, *supra* note 70, at 99. They add, “[W]hatever its substantive merit, the [2003] *Order* was not the FCC's finest moment as an institution.” *Id.* at 107.

113. The FCC's first 1996 attempt was rebuffed in *AT&T v. Iowa Utilities Board*, 525 U.S. 366, 387-88 (1999). The second effort was invalidated in *United States Telecom Ass'n v. FCC*, 290 F.3d 415 (D.C. Cir. 2002).

114. NUECHTERLEIN & WEISER, *supra* note 70, at 99.

Nevertheless, just as UNE-P was being dismantled, competitive *facilities-based* service developed—VoIP, both on telephone DSL lines and, significantly for intermodal competition, on cable broadband. Not only did unaffiliated companies like Vonage and Skype provided service, but also, eventually, the cable broadband providers themselves offered telephone service.¹¹⁵

In retrospect, it is clear that, while the gargantuan legal fights over UNE-P consumed the attention of the FCC, a technology solution was developing: an Internet-protocol-based telephone service. Voice over Internet protocol (VoIP) offered by cable companies (and over-the-top providers like Vonage via a broadband connection) constituted a facilities-based competitor, and a market-based answer to a situation that was tying regulators in knots. The FCC was at the mercy of the obligations imposed on it by the 1996 Act and could not easily bow out once the disputes started. But the policy goal of retail telephone competition was indisputably achieved through technological development occurring *independently* of the regulator, not through the agency's management of an incumbent's network.

Because technology is an independent vector, the regulation of networks can distort how technology develops. Such efforts may not only misdirect agency resources toward a futile end, but they can also impede technological progress; the regulated entity focuses on what will satisfy the federal agency, not on what works best. Such misdirection on the company's end frustrates innovation at the physical network layer and inviting regulation at other, previously unregulated layers.¹¹⁶

115. The first cable, Internet-protocol phone service was offered by Time Warner Cable; the industry's largest company, Comcast, did not begin to offer service until two years later. Vonage, an "over-the-top" provider, began service earlier than either cable company. See Vonage and VoIP: A Look At Their History, <http://ezinearticles.com/?Vonage-And-VoIP---A-Look-At-Their-History&id=286276> (last viewed Dec. 9, 2009); see also Press Release, Time Warner, Time Warner Cable Creates Unit To Handle Residential Telephone Business (Jan. 22, 2004) available at <http://www.timewarner.com/corp/newsroom/pr/0,20812,670217,00.html>.

116. The FCC added a question in its network neutrality rulemaking as to how its Internet Policy Statement might extend to content and application providers. Preserving The Open Internet, *Notice of Proposed Rulemaking*, 2009 WL 3413028, at para. 101 (F.C.C.), October 22, 2009; and see COMM. DAILY, Nov. 24, 2009 (2009 WLNR 24027034):

Google, unlike America's ISPs, is a company with market dominance in Internet search and a business model that involves content management. . . . To suggest that companies operating in a highly competitive market are more able to operate as 'gatekeepers' on the Internet, and thus more appropriate targets for government regulation, than accompany like Google, which has clear market dominance, is to turn logic on its head.

Id. (statement of (AT&T Sr. Exec. Vice President Jim Cicconi).

1. Loss of Innovation at the Physical Network Layer

The *Computer Inquiry* proceedings were an effort to unleash innovation at the network layer of the telephone network circa the 1980s. As it became clear that communications and computing would converge—indeed, it already had, inasmuch as network switches were themselves computers at that point—a consensus emerged that AT&T should be allowed to offer enhanced services.¹¹⁷

The Internet's development was mapped out in a layer approach not unlike the view presented in *Computer Inquiry*: the enhanced layer operated above and relied upon the transmission layer.¹¹⁸ In computers, a similar layer approach is familiar. A user may use one operating system (say, Microsoft's Windows) upon which both affiliated and unaffiliated applications run (say Microsoft's Word but also Corel's WordPerfect). In 1978, a seven-layer "open systems interconnection" model was established to describe hierarchies in digital environments.¹¹⁹ Variations of the layering architecture have been advanced, but, generally, there is a differentiation among these four: the (1) physical layer, where the wired network and modem reside; (2) the logical layer, where the protocol resides (e.g., TCP/IP); (3) the applications layer (e.g., World Wide Web); and (4) the content layer (e.g., Web sites, Google).

The layers approach is helpful as a description of the Internet. It is less helpful when it becomes a form of legal determinism, used to control where particular providers belong as a legal matter. Participants above the physical layer benefit if the physical layer remains a regulated input on which others can innovate. Strict nondiscrimination at the physical layer ensures reliability for what follows above it.

Yet, time and again, participants at one layer, free of strictures, can move up or down and innovate; for example, Google's move into operating-system space (Chrome) and Microsoft's assault on the search space (Bing). Innovation that occurs because of the use of market power at another layer is one thing; such was the complaint against Microsoft and its Internet Explorer browser in the 1990s.¹²⁰ But, by limiting a market participant by regulation to occupy one layer only, innovation is stymied.

117. Amendment of Section 64.702 of the Commission's Rules and Regulations (Second Computer Inquiry), *Final Decision*, 77 F.C.C.2d 384, 428 at para. 115 (May 2, 1980).

118. *Id.* at 417-418.

119. It was established by the International Standards Organization. See Kevin Werbach, *A Layered Model for Internet Policy*, 1 J. TELECOMM. & HIGH TECH. 37, 59 (2002).

120. The Department of Justice sued Microsoft in 1998 over Microsoft's decision to bundle its flagship Internet Explorer (IE) Web browser software with its Windows operating system. Bundling them was alleged to have been responsible for Microsoft's victory in displacing Netscape as the dominant browser. The case was eventually settled in 2001. Press

The debate over whether innovation occurs at the edge of the network or in the network is three decades old. Edge providers—content players like Google or Yahoo! in the Internet context—fear an unrestrained network will foreclose their opportunities because of anticompetitive conduct. They may also fear that the network will be configured or operate to favor network-owned applications. As this Article will discuss in Section V, competition laws can and should protect against anticompetitive behavior by networks.

But there is significant loss to innovation if the layer approach disallows those who provide the physical layer from providing services higher up the chain. Opportunity for innovation is lost if the physical layer can adopt only one form of operation as a nondiscriminatory common carrier. And a dumb-pipe mantra runs counter to the innovation-rich policy concerns of layer advocates, even while it is believed to protect innovation of the Internet's edge.

It is one of the continuing ironies of the network neutrality debate that some of the most vociferous advocates for government intervention are those who claim closest proximity to the mantle of Internet freedom. Ex ante Internet network regulation by a federal authority is really a statement of freedom for some, not all, Internet participants. Advocating that networks behave like rate-regulated common carriers—on which all innovation is built by other, value-adding players—is a nice assumption to build one kind of network. But it assumes away a lot of reality as to how broadband got built and how the Internet can and should develop. It holds constant a variable—the network providers—whose contributions to Internet innovation have been quite significant. And it assumes the case for denying further investment in certain types of innovation by this layer of the Internet.

Consider the FCC's view in its groundbreaking enforcement action against Comcast Corporation.¹²¹ There, the agency determined that a cable operator had engaged in unreasonable network management by its throttling of particular peer-to-peer applications (P2P) (e.g., BitTorrent) as a way, the company claimed, of dealing with congestion. Even though the FCC "found" that Comcast had engaged in unreasonable network-management practices, it ordered Comcast to explain what it had done and to propose another means of managing network congestion. It did not explain what "reasonable" management would entail. But it decided Comcast's behavior was wide of the mark. In doing so, the FCC opined

Release, Department of Justice (Nov. 2, 2001), *available at* http://www.justice.gov/opa/pr/2001/November/01_at_569.htm.

121. Formal Complaint of Free Press and Pub. Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications, *supra* note 3.

that certain network surveillance to prohibit child pornography and illegal downloads would be permitted, but it did not address whether other types of discrimination to rein in offensive behavior (say, defamatory or hate speech) was permitted.

The case raises many jurisdictional and factual issues and demonstrates what *ex ante* rules might look like. For the purposes of the argument here, it is worth exploring how agency regulation may limit network-technology development. Just as Lawrence Lessig identified a privately developed software Code as capable of limiting innovation,¹²² government regulation of networks can stifle other innovation.

2. Impeding Innovation at Other Layers

Advocates of dumb-pipe architecture for the network assume that, once that layer is commoditized, there will be the opportunity for innovation. This view accepts a static picture of the Internet. It ignores the reality that the Internet's "center of the universe" turns out to be quite a bit evolutionary, to the consternation of owners of shares in Prodigy, CompuServe, @Home, AOL, and Yahoo!. Each of these entities, at one time or another, held sway as the fulcrum of the Internet. Prodigy and CompuServe were the original "walled garden" providers.¹²³ @Home was a failed consortium of cable-modem service providers.¹²⁴ AOL dominated ISPs until dial up was replaced by broadband. And content aggregator Yahoo! was eclipsed by search engines like Google until it too renewed its focus on search.¹²⁵ Facebook and Twitter may challenge Google's dominance in search.¹²⁶

While none of these entities comprised only the "physical layer" occupied by broadband network providers, their preeminence, at one time or another, in the Internet's development was no less significant than the wireline networks of today. One could imagine the claims of discrimination

122. Lawrence Lessig, *CODE AND OTHER LAWS OF CYBERSPACE* 4-5 (1999).

123. See Prodigy (online services) [http://en.wikipedia.org/wiki/Prodigy_\(online_service\)](http://en.wikipedia.org/wiki/Prodigy_(online_service)) (last visited Dec. 9, 2009) ("Despite losing subscribers, Prodigy stuck with its graphical interface, its proprietary content, and its traditional policies while other services embraced open standards and grew faster.").

124. See @Home Network, http://en.wikipedia.org/wiki/@Home_Network (last visited Dec. 9, 2009).

125. Nor is Google the *ne plus ultra* necessarily. "It is a mistake to think of the Web browser as the apex of the PC's evolution, especially as new peer-to-peer applications show that PCs can be used to ease network traffic congestion and to allow people directly to interact in new ways." JONATHAN ZITTRAIN, *THE FUTURE OF THE INTERNET—AND HOW TO STOP IT* 125 (2008).

126. Associated Press, *Microsoft redesigns MSN, adds Twitter, Facebook*, AP PRESS, (Nov. 3, 2009), available at <http://www.google.com/hostednews/ap/article/ALeqM5hlgabZ8VLqXi57QWhGx-SXzKOziAD9BOGLPG1>.

against each leader, during its reign. Prodigy only had buttons for its providers. AOL charged huge fees to be a preferred subject-matter provider on its home page.¹²⁷ Google, the dominant search engine, does not disclose its search algorithm so that many businesses that depend on its fairness can verify how it operates as to them.¹²⁸

Government has wisely resisted examining discrimination by Edge providers.¹²⁹ This hands-off treatment is consistent with the established government policies favoring less regulation of the Internet. The physical network layer may receive more attention because parts of it—those parts of the incumbent telco networks built by revenues from rate of return regulation—were historically regulated as carrier networks. But that legacy does not apply to cable-modem networks, new-fiber replacements, telephone-company networks, or, for the most part, any wireless network.

These changes in the Internet's center of gravity occurred through technological innovation. Browsers overtook walled gardens; broadband overtook dial up; Google overtook slower, less dynamic or reliable search engines like AltaVista. In a fast-changing technological environment, it is difficult to maintain that the physical layer, and it alone, must be regulated so that actors in other parts of the Internet may have the freedom to innovate. This view not only ignores innovation at that level; it also assumes that participants at other layers will exert less control over the Internet's destiny. Thus, insisting on network regulation invites scrutiny of whatever may be the center of Internet gravity today, likely Google. But given the FCC's spotty record regulating changing technologies, ex ante initiatives are liable to rob the future of the "generative" benefits that providers at *all* levels bring to the Internet.¹³⁰

V. THE OLD AND NEW INSTITUTIONAL PROBLEMS OF THE FCC

Critics of the FCC, both within and without, have been around almost as long as the agency itself. One irate commissioner in the 1960s described

127. In one famous contract revealing the excesses of the Internet bubble, DrKoop.com paid \$89 million to be the preferred health provider for AOL customers. Todd Woody, *The Drkoop.com Deathwatch*, THE INDUSTRY STANDARD, May 5, 2000, available at <http://www.thestandard.com/article/0,1902,14615,00.html>.

128. The algorithm is patented. Google's Web site states: "We use more than 200 signals, including our patented PageRank™ algorithm, to examine the entire link structure of the web and determine which pages are most important." Corporate Information: Technology Overview, <http://www.google.com/corporate/tech.html> (last visited Dec. 9, 2009).

129. See Vishesh Kumar & Christopher Rhoads, *Google Wants Its Own Fast Track on the Web*, WALL ST. J., Dec. 15, 2008, at A1, available at <http://online.wsj.com/article/SB122929270127905065.html>. Google was reportedly seeking a "fast lane for its own content" from cable and telephone companies. *Id.*

130. See JONATHAN ZITTRAIN, *supra* note 125, at 179-80.

an FCC Bureau as worse than a pig pen.¹³¹ Another authored a treatise on how the public interest could be met only by citizens awakening the FCC to new action.¹³² Some members of the current FCC, apparently dissatisfied with the sufficiency of notice-and-comment filings common to administrative process, hit the road to conduct “field hearings” where citizens could speak directly for a few minutes on issues of broadcast diversity.¹³³ And Congress recently undertook oversight of the FCC’s management processes,¹³⁴ resulting in a majority House committee report highly critical of the agency’s management.¹³⁵

When it comes to possessing and maintaining the expertise to regulate networks, the FCC suffers from two main shortcomings: (1) an adequate knowledge base on the staff for making decisions and (2) an adequate level of expertise on the part of the voting members. The result is an environment that can result in the wildly off-the-mark results like the FCC’s video dialtone regime or a wrong call in regard to how a network should be regulated. To develop this theme, it is useful to examine the strengths and weaknesses of the agency.

A. *The Internal and External FCC Resources*

1. The Agency’s Ability to Understand Networks

The FCC, each year, processes applications to provide service, decides how rules should apply to particular circumstances, resolves disputes among parties, and commences and completes rulemakings and studies. These decisions easily reach annually into the thousands.¹³⁶ While

131. Edith Efron, *He Has Seen Pig Pens Better Run*, TV GUIDE, July 3, 1965, at 15, 16 (statement of FCC Commissioner Lee Loevinger, named by President Kennedy as replacement to Newton Minow) (“I’ve seen *pig pens* better run than the [FCC] Broadcast Bureau!”) (emphasis in original).

132. NICHOLAS JOHNSON, *HOW TO TALK BACK TO YOUR TELEVISION SET* (1970).

133. The FCC held six public hearings on media ownership in geographically diverse locations around the country in 2007-08. See Public Hearings on Media Ownership Issues, <http://www.fcc.gov/ownership/hearings.html> (last visited Dec. 9, 2009).

134. See John Eggerton, *House Launches FCC Investigation; Warns Against Destroying Documents*, BROADCASTING & CABLE, Jan. 8, 2008, <http://www.broadcastingcable.com/article/CA6518202.html> (last visited Dec. 9, 2009).

135. House Commerce Comm., Majority Staff, *Deception and Distrust: The FCC Under Chairman Kevin Martin* (Dec. 2008), available at <http://energycommerce.house.gov/images/stories/Documents/PDF/Newsroom/fcc%20majority%20staff%20report%20081209.pdf>.

136. One way to measure the FCC’s annual output is to follow the number of individual documents issued by each Bureau and the FCC as a whole. For 2007, there were a total of 8,223 released documents by the whole agency and 1,850 documents released by the Media Bureau alone. These tabulations are made by using the FCC’s EDOCS Search engine and populating the date fields with the entire year, EDOCS Advance Search,

more routine matters are handled on delegated authority, the FCC commissioners themselves review and vote on hundreds of decisions.

For many routine licensing matters involving radio frequencies, the FCC possesses sufficient engineering expertise. Through its own laboratories¹³⁷ and field studies, it can review claims of interference or conduct measurements of its own. Even with the objectivity of actual or predicted interference measurements, the policies that get made based on those measurements are not uniformly the stuff of white-coated expertise.¹³⁸ And, in 2008, the FCC abnegated its own satellite-radio licensing policies, which had mandated two separate companies, not one, when it allowed the Sirius-XM combination. This decision reflects the subjectivity that affects spectrum policy decision.

When analyzing networks, the FCC's expertise depends on both a starting-point knowledge of the network involved and an updated view accounting for changes. For broadband networks, these requirements make it difficult to defer to FCC expertise. For one, the initial knowledge of a network—whether the public-switched telephone network or a cable network—depends, to a significant degree, on the willingness and ability of the network to reveal itself in ways pertinent to the regulator's understanding. There is little reason for network operators to be too overt with the regulator. Robust openness with government regulators, at any level, is hardly the norm for most enterprises.

A regulated industry may have nothing to hide. But it may not be too anxious for the regulator to know its business architecture, unless that knowledge serves to further a business advantage or must be disclosed for safety or health reasons. In addition, network architecture and procedures are a form of trade secret that, once revealed to the regulator, run the risk of falling into the hands of competitors.

http://hraunfoss.fcc.gov/edocs_public/edocsLink.do?mode=advance&type=n (last visited Dec. 9, 2009).

137. The FCC maintains a testing laboratory in Columbia, Maryland. See Federal Communications Commission, Equipment Authorization, <http://www.fcc.gov/oet/ea/> (last visited Dec. 9, 2009) (describing laboratory activity).

138. For instance, in analyzing interference from unregulated devices in so-called white spaces (i.e., spaces unoccupied by broadcast signals), there was little dispute about the accuracy of the FCC's measurements, although there was considerable controversy over what policy conclusions to draw from the interference levels. See *Unlicensed Operation in the TV Broadcast Bands, Second Report and Order and Memorandum Opinion and Order*, 23 F.C.C.R. 16807 (2008). In addition, the FCC simply failed to consider the studies before declaring that interference from broadband-over-power lines would not interfere with ham radio operator transmissions. See *Am. Radio Relay League v. FCC*, 524 F.3d 227 (D.C. Cir. 2008). Even there, however, the court allowed the FCC's interference rules to continue while the case was remanded to the agency. *Id.*

Furthermore, the network can change, and frequently does, as in the case of emerging broadband networks, where upload and download speeds have dramatically increased in the space of a few years. Switching out and upgrading network gear is commonplace on modern networks.¹³⁹ Updating the FCC on every such equipment switch would be costly and might inhibit desirable network improvements.¹⁴⁰

The agency could also obtain needed expertise by hiring professionals from the regulated industries who could share their knowledge of network practices, subject to the limitations of past assurances of confidentiality to former employers. As a practical matter, the FCC's revolving door sees an exodus of experts from the government to industry (or elsewhere), generally not the reverse.¹⁴¹ And, even when industry professionals are recruited, their knowledge of network practices in a fast-moving area, like broadband, ages quickly. Left to gain an understanding of network developments from reports in the trade press or from carefully drafted industry submissions, the staff seldom possesses a level of expertise comparable to other areas, where its own laboratory can recreate field conditions and reproduce results of sufficient scientific reliability. The FCC's 2009 roundtables, used to develop a record for its national broadband policy statement, was an effort to bridge this inevitable gap.¹⁴²

And, when a process is so dependent on outside industry for an accurate picture, a form of industry capture can develop.¹⁴³ Capture can lead either to capitulating to the industry's formulation (as was often the case during the monopoly AT&T days) or ignoring what industry has presented out of fear of an incomplete picture (lacking the means or desire to complete it).

139. See, e.g., WALTER CICIORA ET AL., MODERN CABLE TELEVISION TECHNOLOGY 28-29 (1999) (discussing introduction of digital-video compression into cable plant).

140. For example, the Comcast response to the FCC's Order to provide a new network-management plan ran nineteen pages and included detailed specifications of equipment from three different vendors. See Letter from Kathryn A. Zachem, Vice President, Regulatory Affairs, Comcast Corporation, to Marlene H. Dortch, Secretary, Federal Communications Commission (Sept. 19, 2009) available at http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520169715.

141. See generally MARK GREEN, SELLING OUT (2002).

142. The nearly two dozen workshops sought a wide variety of speakers and greater public participation. A Web site was established to reach all interested parties. See Broadband.gov, Workshops, <http://www.broadband.gov/workshops.html> (last visited Dec. 9, 2009).

143. Industry capture theory developed to explain how regulators become so reliant on information provided by the industry itself, or become corrupted because of excessive contact, improper gifts, or excessive reliance on interested parties. See George Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. 3 (1971). See also Jean-Jacques Laffont & Jean Tirole, *The Politics of Government Decision-Making: A Theory of Regulatory Capture*, 106 Q. J. ECON 1089 (1991).

This characterization is by no means a denigration of the integrity of the FCC staff or of their efforts. They are not unlike most scholars trying to critique network regulation; we all must rely on an observer's understanding of the technology.

But administrative law assumes deference to a regulatory agency because of a supposed expertise and sustains judgments made on that expertise in interpreting its own rules or ambiguous statutory mandates.¹⁴⁴ Where the staff has neither worked in nor designed a network, judgments about how best to operate should be approached with regulatory humility and reviewed with a degree of skepticism, not strong deference.

2. The Commissioners' Own Expertise

The FCC has grown in importance because the industries over which it exercises jurisdiction—explicit, implied, or presumed—have loomed larger in the U.S. economy. The nation moved to a services and information economy. Internet-related industry has become an indispensable part of much of modern life. Minutes of telephone usage continue to increase (even while much of the traffic is transferred from wireline to wireless).¹⁴⁵ Despite the growth of the Internet for recreational uses, household television viewing has not significantly ebbed.¹⁴⁶ And we are at the threshold of mobile broadband use, which will combine the must-have wireless device with the must-have content of the Internet.

The FCC lies at the intersection of these social and business trends. An understanding of physical and electrical engineering principles would seem to be a much-needed qualification. A facility with economics and an ability to invoke economic theory in shaping policy would seem, too, to be a must for such a deliberative body. The ability to understand and apply the nation's communications laws would also be critical. And, when it comes to understanding the effect of regulation on networks, the combination of engineering and economics appears indispensable.¹⁴⁷

144. *Chevron U.S.A. v. Nat'l Res. Def. Council, Inc.*, 467 U.S. 837, 842-44 (1984).

145. FCC Wireline Competition Bureau, Industry Analysis and Technology Division, Trends in Telephone Service 11-6 (2008), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-284932A1.pdf.

146. "Nielsen's findings show that screen time of the average American continues to increase with TV users watching more TV than ever before (127 hrs, 15 min per month), while also spending 9% more time using the Internet (26 hrs, 26 min per month) from last year." News Release, The Nielsen Company, Nielsen Reports TV, Internet and Mobile Usage Among Americans (July 8, 2008), http://en-us.nielsen.com/main/news/news_releases/2008/july/nielsen_reports_tv (to download, click on PDF under "Related Links").

147. The problem of sufficient agency expertise is not confined to the FCC. The Food and Drug Administration has been criticized as being unable to "fulfill its mission because its scientific base has eroded and its scientific organizational structure is weak." SUBCOMMITTEE ON SCIENCE AND TECHNOLOGY, FDA SCIENCE AND MISSION AT RISK 3

Surprisingly, since 1960, the FCC has never had an experienced engineer, scientist, or technologist as a commissioner. Only one trained, Ph.D. economist has served on the FCC. Lawyers have been appointed to the FCC but, in the last thirty years, few have been versed in federal communications law.¹⁴⁸ Instead, like many presidential appointments, the chief qualification of the incumbents to these positions has often been a connection to an influential senator or congressman or to the administration (up to and including the president, who, in addition to nominating proposed commissioners, designates the one who will serve as chair). For an expert agency, there is no vetting as is done by the American Bar Association for federal judicial appointments.¹⁴⁹

Appointments to the FCC do not appear to have the qualification-laden attributes of many, though certainly not all, who serve on the Securities and Exchange Commission or the FTC. As noted, although there are radio-spectrum issues that arise, the science may go one way, the policy another. And issues of broadcasting, cable, and the Internet, or matters like universal-service funding, are not decided on the procedural or liability-assignment policies of securities law or economic analysis of FTC Competition Bureau matters. Generalists can, and do, get appointed; well-connected Hill staffers have been frequent appointees for this reason.

And even the most qualified will face the competing pressures of having to answer to both the president and Congress, leading to constraints on the flexibility of agencies to develop policies that do not comply with one branch or another. In addition, because all commissioners are named by the president, Congress will build in protections against undue White House influence.¹⁵⁰

(2007), available at http://www.fda.gov/ohrms/dockets/ac/07/briefing/2007-4329b_02_01_FDA%20Report%20on%20Science%20and%20Technology.pdf. See also Terry Carter, *The Pre-emption Prescription*, A.B.A. J., Nov. 2008, at 42, 46.

148. Of the twenty-nine commissioners who have served on the FCC since 1980, twenty-two were lawyers, three were nonlawyer government employees, one was an economist, one served in industry (as a local broadcast executive), and one had a bachelor's degree in engineering but served as a lawyer in government. See Federal Communications Commission, Previous FCC Commissioners, <http://www.fcc.gov/commissioners/previouscommish.html> (last visited Dec. 9, 2009). And see FCC Comm'r Robert McDowell, "Questions To Ask Regarding Internet Regulation", Nov. 12, 2009, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-294631A1.pdf ("I have the highest regard for each of my four colleagues on the Commission, but not one of us is an engineer. Do you really want us making these highly technical decisions?").

149. See Terry Carter, Do-Over: After an Eight-year Pause, the ABA Is Again Vetting Possible Federal Bench Nominee (May 1, 2009), available at <http://www.abajournal.com/magazine/article/do-over/>.

150. Matthew D. McCubbins, Roger G. Noll & Barry R. Weingast, Structure and Process, Politics and Policy: Administrative Arrangements and the Political Control of Agencies, 75 VA. L. REV. 431, 435 (1989).

Expert arguments—by economic or engineering consultants—are frequently filed at the FCC. But the process is increasingly more open to the layperson. Consider change in the way interested parties comment on proposed rules or other matters. Much is to the good. Gone are the days of complicated filing and service requirements if one wanted to file an informal comment in an FCC rulemaking proceeding. Anyone can file comments via the Internet, and even formal comments are expected to be filed electronically.¹⁵¹ Ten years ago, the only way to review what was filed in a proceeding was to visit the file room of the agency in person and review papers in the docket. This is no longer the case; parties can retrieve all filings in a docket online, including formal comments and studies, informal comments, and after-comment period *ex parte* filings.

The result is a far more open process. But because of its openness, the process takes on aspects of a legislative, rather than an administrative, proceeding. The FCC has conducted legislative-type hearings, akin to a city-council hearing, where panels present and citizens get the opportunity to present short speeches.¹⁵² Partisans on one side of a controversial issue are urged to e-file with the FCC. In the pre-Internet days, these calls to action meant hundreds of thousands of postcards directed at the FCC. One years-long campaign was directed at a nonexistent petition supposedly filed by atheist Madeline Murray O'Hare to prohibit radio licenses to religious entities.¹⁵³ Another postcard campaign arose in the early 1980s to register opposition to an announcement that the ABC Television network was going to air a romantic comedy about two men, "Adam and Yves."¹⁵⁴

These postcard campaigns led to no FCC decisions and may have been designed as much by their promoters as straw man, fund-raising tools than as a way to register citizen reaction with federal authorities. But the campaigns could not be ignored by the FCC; millions were watching what it did (or did not do).

151. See Federal Communications Commission, FCC Electronic Comment Filing System, <http://www.fcc.gov/cgb/ecfs/> (last visited Dec. 9, 2009).

152. Broadcast localism hearings are reviewed on the FCC Web site at fcc.gov/localism.

153. Multiple Ownership *et al.*, See *Memorandum Opinion and Order*, 54 F.C.C.2d 941, 941-42 (1975). See also FCC, Excerpts from Multiple Ownership *et al.*, available at http://www.fcc.gov/ftp/Bureaus/Mass_Media/Databases/documents_collection/75-946.html (last visited Oct. 6, 2009), which states the following:

The rumor that the FCC has before it a proposal to not issue licenses to religious broadcasters still continues to circulate, more than 30 years after the Commission denied that request. The FCC's policy toward religious broadcasters remains unchanged in that no special provisions or restrictions are applied to religious stations or licensees, nor are any changes to that policy contemplated.

Id.

154. This is my recollection while serving as legal advisor to the FCC chair in the early 1980s. The source was a proposed story idea that ran in some newspapers, leading to a backlash from anti-gay groups.

The e-filings of the twenty-first century possess a similar populist ring. They present a version of “reverse regulatory capture.” Instead of the agency decision makers being limited in their knowledge base by the control of industry lobbying, they can be influenced by the ability of populist or corporate movements to rally the base.¹⁵⁵ Fact-based analysis gets replaced by political-campaign-style practices.¹⁵⁶ FCC members are increasingly comfortable with the legislative process, and the exercise of expert judgment morphs into a plebiscite. This possibility was predicted by McCubbins, Noll, and Weingast a decade before the e-filing.¹⁵⁷

Those filing in this manner can exert additional influence because a vote “against” a large citizen constituency can also lead to creating public opposition to reappointment. Initial or reappointment confirmation, even after full vetting by an administration, has proved difficult in the last twenty years, even when qualifications have nothing to do with the delay.¹⁵⁸ Issues like network neutrality have generated a political force with which commissioners desirous of reappointment must reckon.

155. In the campaign to obtain rules for unlicensed devices in the broadcasting “White Spaces,” Google pointed to over 20,000 comments in favor of such licensing that had been filed in the FCC docket examining the proposal, *Unlicensed Operation in the TV Broadcast Bands, Second Report and Order and Memorandum Opinion and Order*, 23 F.C.C.R. 16807, 16903 (2008): “And, thanks to the more than 20,000 of you who took a stand on this issue through our Free the Airwaves campaign, the FCC heard a clear message from consumers: these airwaves can bring wireless Internet to everyone everywhere.” Posting of Larry Page to The Official Google Blog, <http://googleblog.blogspot.com/2008/11/vote-for-broadband-in-white-spaces.html> (Nov. 4, 2008, 14:46 PST).

156. Mathew Lasar, *Interview: Laying it on the line with FCC Chair Kevin Martin*, ARS TECHNICA, Oct. 6 2008, <http://arstechnica.com/articles/culture/fcc-interview-kevin-martin.ars/2>. Lasar wrote the following:

The post-Dot Bomb Internet fueled and propelled this experience through the Bush years. Blogs, social networks, and most importantly, on-line [sic] Web forums became a kind of organic extension of the FCC’s Web site, www.fcc.gov, allowing groups to deluge the agency with hitherto untold numbers of comments, complaints, petitions, and filings. Access to the Commission’s online database of filings also allowed an army of nobodies (like me) to become instant commentators on the agency’s internal doings. *Id.*

157. McCubbins, Noll & Weingast, *supra* note 150, at 440-41:

An agency that has sufficient resources to generate its own information about the consequences of its decisions, available funds to subsidize the participation in its processes of various poorly organized interests, and a relatively lenient standard for judicial review of its actions (for example, arbitrary and capricious), will be far less dependent on highly organized, well-represented interests than an agency that lacks resources and faces a high standard for upholding its decisions in court.

158. See Ted Hearn, *Politics Hold Up Ness Reappointment*, MULTICHANNEL NEWS, Mar. 27, 2000, at 38, available at http://findarticles.com/p/articles/mi_hb4895/is_200003/ai_n17985431.

B. *The Political Economy of the FCC*

When broadcasting was more dominant, the FCC's role in administering Section 315,¹⁵⁹ the "equal opportunity" rules for political candidates, could be critical. The FCC can decide when a candidate is entitled to demand equal time to match the conditions of an opponent's appearance (or "use" of a broadcaster's station). It determines when a talk show is deemed to be an exempt news-interview program. For a president seeking re-election, whose decision led to the commissioner's nomination, the outcome of these decisions can be significant. Even with broadcast television's declining viewing audience, the FCC's administration of Section 315 still matters.

While there are no documented cases of overt influence, several FCC chairmen were appointed following active involvement in a presidential campaign.¹⁶⁰ There is no harm in that. But, other than those in the Federal Election Commission, few agency appointments are as tied to the political future of those who help to obtain an appointment. And, even if not impacted by the President, Congress carries near-constant oversight of the agency's business.¹⁶¹

The assumption that the FCC is an expert body could be replaced by one that frankly assumes it is a legislative one. Many state public-utility commissioners must stand for election. But those agencies have traditionally regulated utilities—water, telephone, or electric—whose plant has been financed by guaranteed rates of return on invested capital. Networks, like cable or wireless broadband networks, were not created under that model and have not been subject to such political influences. And it is by no means evident that a legislative-focused FCC would be a move in the right direction where technical, network-management questions are concerned.

159. 47 U.S.C. § 315 (2009).

160. Newton Minow (1961-1963) worked on John Kennedy's campaign. *See* Museum of Brdst. Comm., Minow, Newton, <http://www.museum.tv/archives/etv/M/htmlM/minownewton/minownewton.htm> (last visited Dec. 9, 2009). Kevin Martin (2003-2008) was Deputy General Counsel of the George W. Bush campaign (2000). *See* FCC, Former FCC Chairman Kevin J. Martin, <http://www.fcc.gov/commissioners/previous/martin/biography.html> (last visited Dec. 9, 2009). The current Chair, Julius Genachowski, was law school classmate of Barack Obama and is credited with developing his campaign's Internet strategy. *See* FCC Commissioner Juilius Genachowski: Obama Selects Former Harvard Classmate, Posting to the Huffington Post, http://www.huffingtonpost.com/2009/01/12/fcc-commissioner-julius-g_n_157350.html (Feb. 12, 2009, 5:12 AM).

161. *FCC v. Fox Television Stations, Inc.*, 129 S. Ct. 1800, 1815 (2009) ("The independent agencies are sheltered not from politics but from the President, and it has often been observed that their freedom from presidential oversight (and protection) has simply been replaced by increased subservience to congressional direction.").

VI. THERE ARE BETTER ALTERNATIVES TO EX ANTE NETWORK REGULATION

So far, this Article has tried to demonstrate that prescriptive broadband regulation by the FCC lacks the elements for success. Success presupposes the following: a proved record of managing similar regulatory challenges, a subject matter that can lend itself to reasonable inquiry to arrive at sensible and predictable outcomes, providers that have the reasonable expectation of regulation of their networks, and an agency competence adequate to the task. In each phase of the model, the FCC's profile is unavailing. The result is a low expectation of success in the endeavor.

But there are issues arising in broadband management that demand some resolution short of government intervention. In this Section, the scope of the regulatory problems and alternatives to resorting to the FCC for resolving disputes will be examined. In particular, this Article advocates greater reliance on the community culture of the Internet and the use of ever-increasing levels of network disclosure, on which liability for inaccuracies can be based.

A. The Problem of Defining the Problem: Ex Ante Regulation and the Use of a Legal Standard

There is no agreed-upon definition of "network neutrality." One attempt at a neutral definition of the term defines it in three parts: a broadband service provider (1) charges the consumer only once for Internet access, (2) declines to favor one content provider over another, and (3) does not charge content providers for sending information over broadband lines to end users.¹⁶² Most advocates would allow price tiering of speeds of services so that a network provider could charge more for faster throughputs (i.e., 1 Kilobits per second (Kps) pays less than 3 Kps). Beyond that, little consensus exists.

In the *Comcast* complaint, the FCC cited its previously determined (but not generally enforceable) policy statement¹⁶³ as applicable law.¹⁶⁴

162. Robert Hahn & Scott Wallsten, *The Economics of Net Neutrality*, THE ECONOMISTS' VOICE, June 2006, <http://www.bepress.com/ev/vol13/iss6/art8/> (click "Download"). Another definition would invoke the four Internet freedoms, which were first articulated in a speech by one FCC chairman, then adopted by another as an enforceable policy, and used against Comcast. See generally Jon M. Peha, *The Benefits and Risks of Mandating Network Neutrality, and the Quest for a Balanced Policy*, 1 INT'L J. COMM. 644, 657 (2007) (discussing briefly the four freedoms).

163. Appropriate Framework for Broadband Access to the Internet over Wireline Facil., *Policy Statement*, 20 F.C.C.R. 14986 (2005) [hereinafter Internet Policy Statement].

164. Formal Complaint of Free Press and Pub. Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications, *supra* note 3, at para. 13.

That policy, drawing from an earlier articulation of four “Internet freedoms” in a speech by one FCC chairman,¹⁶⁵ guarantees that individuals may access anyone or any content, use any application, and attach any device.¹⁶⁶ It also included a provision for “reasonable” network management. Comcast was found to deny access to throttled content, and this throttling was not saved as reasonable network management.

Enforcing some or all of these provisions has been lauded¹⁶⁷ and criticized. For instance, Scott Hemphill has convincingly demonstrated that allowing network providers to charge content providers for enhanced service (so-called extraction) has considerable procompetitive benefits,¹⁶⁸ even though such arrangements would raise major concerns for some advocates, including leading content providers, like Google and Amazon.com. These companies currently do not pay for enhanced QoS and their dominance gives them an advantage today that could be undercut by a smaller competitor who could use a broadband network’s priority service to differentiate its product. Some unaffiliated content providers may wish to buy QoS from the broadband provider and bundle that additional cost into its retail price. HDNet, which has an online high-definition television service, has argued that it needs that priority to offer its service.¹⁶⁹

A version of this non-neutrality has been available at locations other than those served by end-user providers. Business enterprises and video Web sites sign “service level agreements” with Internet backbone providers or content delivery server networks (like Akamai) to obtain some assurance against network congestion to produce faster content delivery.¹⁷⁰ And Google has reportedly nonexclusive arrangements to collocate its services within the premises of ISPs (so-called edge caching), thereby improving page-load times.¹⁷¹

165. Michael K. Powell, Chairman, FCC, Remarks at the University of Colorado School of Law Silicon Flatirons Symposium on “The Digital Broadband Migration: Toward a Regulatory Regime for the Internet Age” 5 (Feb. 8, 2004) (as prepared for delivery), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-243556A1.pdf.

166. *Internet Policy Statement*, *supra* note 163, at paras. 4-5 n.15.

167. *See, e.g.*, Lessig, *supra* note 7.

168. C. Scott Hemphill, Network Neutrality and the False Promise of Zero-Price Regulation, 25 YALE J. ON REG. 135, 164-76 (2008).

169. *See* R. Michael Senkowski, *et al.*, *Net Neutrality Primer*, CYBERSPACE LAWYER, July 2006, at 1, 3, available at <http://www.wrf.com/docs/publications/12598.pdf>.

170. *See* Jon Crowcroft, *Net Neutrality: The Technical Side of the Debate ~ A White Paper*, 1 INT’L J. COMM. 567, 572 (2007), available at <http://ijoc.org/ojs/index.php/ijoc/article/viewFile/159/84> (discussing ISP guarantees of performance); *see also* Posting of George Ou to ZDNet.com, <http://blogs.zdnet.com/Ou/?p=512> (June 4, 2007, 5:40) (discussing QoS pack prioritization for business customers).

171. Op-Ed., *Congress Should Preserve Net Neutrality*, S.F. CHRON., Dec. 18, 2008, at B6, available at <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2008/12/17/>

Other practices are more likely to be a problem even to observers without an economic stake. One is the exclusion of content providers from access to the provider's network, particularly where the exclusion is based on the unrelated provider offering a service or application that competes with one vertically integrated into the network.¹⁷² Another such practice is providing QoS to some content sites and adding to that service the commitment to deny QoS to all others in that content provider's category (i.e., exclusive QoS). The solution for neutrality advocates would be categorical rules forbidding, *ex ante*, some or all of these practices.

However, as sinister as such practices might appear, there may be benefits to each of these practices to justify them as procompetitive. For instance, consider the "pay twice" extraction for access (once by the subscriber, once by the content site) for what today is paid for exclusively and directly by the end user. Put aside the expenditures that a content provider might already be paying upstream to a backbone provider or a server network. Payments by content providers to broadband networks may help defray the cost of improvements to the broadband provider's infrastructure that is otherwise solely borne by end users, who must pay ever-increasing fees. Lower broadband subscriber fees might increase the adoption rate for the service, which is a national policy objective. Ruling out such a model on a categorical basis would make little sense.

Or consider the even more potentially exclusionary arrangement where the broadband network provider blocks some applications to favor others with whom a financial arrangement has been made. This situation could raise anticompetitive concerns for a broadband provider, a telephone company, or cable operator. Would the same be said for an upstart wireless provider, for whom such arrangements might be the only realistic way of generating investment in its third-entry network?¹⁷³

Categorical rules do apply to the Internet. Enforceable by the FCC or not, viruses, phishing, and cybercrimes can be banned outright. And network blocking is the antithesis of the Internet and is likely always forbidden by a dominant ISP. But nearly any other practice undertaken by a network broadband provider should at least be given the opportunity for its

ED4414PASG.DTL. The revelation of this arrangement led to a renewed argument over what constitutes "network neutrality," given Google's leadership as a neutrality advocate.

172. See Hemphill, *supra* note 168, at 155-57 (discussing refusal of broadband provider who offers voice service denying service to Vonage, an over-the-top provider).

173. Clearwire, a newcomer wireless provider in Canada, reportedly had such an arrangement with Bell Canada. See Robert D. Atkinson & Philip J. Weiser, *A Third Way on Network Neutrality*, THE NEW ATLANTIS, Summer 2006, at 47, 58, available at <http://www.thenewatlantis.com/publications/a-third-way-on-network-neutrality>.

procompetitive possibilities to be considered.¹⁷⁴ A categorical prohibition of any non-neutral network conduct denies the possibility of society obtaining the benefits of network innovation.¹⁷⁵ As the former FTC Chair indicated, a one-size-fits-all business model may adversely affect consumer welfare.¹⁷⁶ The FCC has rejected the dumb-pipe theory of network since it recognized that networks could provide enhanced services alongside basic transmission services in the *Computer Inquiries*, discussed above.

As Philip Weiser,¹⁷⁷ Howard Shelanski,¹⁷⁸ and others have argued, a legal standard against which conduct would be evaluated by the FCC is therefore strongly preferable to ex ante categorical rules. But, even here, one faces the challenge of devising the exact right set of words to formulate a general rule that would allow for after-the-fact enforcement. Drafters must be quite careful to avoid government second guessing in the guise of enforcing a statute. The indefiniteness of “public interest” in broadcasting has led to varying standards. The FCC established one horizontal limit on broadcast ownership¹⁷⁹ only to have Congress lower it months later. It deemed broadcast network ownership of television shows verboten and then entirely reversed its view in the “fin-syn” proceedings.¹⁸⁰

In the context of network neutrality, some participants in the debates would use “unreasonable discrimination” as the touchstone of what is prohibited.¹⁸¹ Broad language would develop from this case law. But this

174. Hemphill, *supra* note 168, at 152 (“Condemnations of access provider ‘discrimination’ do not carefully distinguish practices that set different prices for different content types—a garden-variety extraction strategy of price discrimination—from practices that disfavor one content provider relative to its rival.”) (internal citations omitted).

175. “No 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.” Shane Greenstein, *Economic Experiments and Neutrality in Internet Access* 42 (Nat’l Bur. Of Econ. Research, Working Paper No. 13158, 2007), available at <http://www.nber.org/papers/w13158>.

176. Deborah Platt Majoras, Chair, FTC, Keynote Address at the Federal Communication Bar Association, Annual Meeting: The FTC: Working for Consumers in the On-Line World 14 (June 27, 2007), available at <http://www.ftc.gov/speeches/majoras/070627fcba.pdf>.

177. Philip Weiser, *The Next Frontier for Network Neutrality*, 60 ADMIN. L. REV. 273, 322 (2008).

178. Howard Shelanski, *Network Neutrality: Regulating with More Questions than Answers*, 6 J. ON TELECOMM. & HIGH TECH. L. 23, 39 (2007) (although he suggests the possibility of modest ex ante regulations without identifying them).

179. 2002 Biennial Regulatory Review—Review of the Commission’s Broadcast Ownership Rules et al., *Notice of Proposed Rulemaking*, 17 F.C.C.R. 18503, paras. 98-101 (2002).

180. Consolidated Appropriations Act, 2004, Pub. L. No. 108-109, § 629, 118 Stat. 3, 99 (codified at 47 U.S.C. § 303 note (c) (2004)). See Tamber Christian, *The Financial Interest And Syndication Rules — Take Two*, 3 COMM. L. CONSPECTUS 107 (1995).

181. Public Knowledge, a leading network neutrality advocate, calls for nondiscrimination: “Public Knowledge supports a neutral Internet where network operators

standard may prove to be, like the “public interest, convenience, or necessity,” so general that it means nothing at all and amounts to simply stating a political conclusion that can be invoked by the FCC.¹⁸² The risk in using such a standard is that it leaves the decision process to the FCC—a less-than-desirable outcome given the shortcomings associated with agency understanding of evolving networks detailed in Section II. The FCC’s request that Comcast fully explain what it had done *after* it found that Comcast had violated its policies suggests that the FCC was itself aware of its own uncertainty of how Comcast had managed its network.¹⁸³ This was an inauspicious start for those seeking a case-law approach to deciding unlawful discrimination. Add to this the delay and likelihood of uncertainty as decisions of this sort run through the appellate process.¹⁸⁴

We next explore whether there are alternatives to FCC policymaking that might yield a better system of deciding network management

may offer different levels of access at higher rates as long as that tier is offered on a nondiscriminatory basis to every other provider.” Public Knowledge, Network Neutrality, <http://www.publicknowledge.org/issues/network-neutrality> (last visited Dec. 9, 2009). The NTIA’s Broadband Technology Opportunities Program requires entities awarded funds to adhere to “nondiscrimination and network interconnection obligations” to be established by NTIA. American Recovery and Reinvestment Act of 2009, § 6001(j). The FCC’s network neutrality notice also provides for “nondiscrimination” as a fifth FCC principle of Internet freedom. Preserving The Open Internet, Notice of Proposed Rulemaking, 2009 WL 3413028, para. 103 (F.C.C.), October 22, 2009. Just before the FCC’s proposal was issued, leaders of Verizon and Google, who have differed on the need for network neutrality, agreed on a joint statement. In that version, the two companies described “nondiscrimination” in greater detail:

Fifth, broadband network providers should have the flexibility to manage their networks to deal with issues like traffic congestion, spam, “malware” and denial of service attacks, as well as other threats that may emerge in the future--so long as they do it reasonably, consistent with their customers’ preferences, and don’t unreasonably discriminate in ways that either harm users or are anti-competitive.

Posting of Eric Schmidt to Google Public Policy Blog, <http://googlepublicpolicy.blogspot.com/2009/10/finding-common-ground-on-open-internet.html> (Oct. 21, 2009, 18:16 EST).

182. In *Mistretta v. United States*, Justice Scalia stated that it is difficult to imagine any standard “too vague to survive judicial scrutiny” given that the public interest standard has been upheld. 488 U.S. 361, 416 (1989) (Scalia, J., dissenting) (citing *NBC, Inc. v. United States*, 319 U.S. 190, 216-17 (1943)). See generally Randolph J. May, *The Public Interest Standard: Is It too Indeterminate to Be Constitutional?* 53 FED. COMM. L.J. 427 (2001).

183. Formal Complaint of Free Press and Pub. Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications, *supra* note 3, at para. 54.

184. Several of the apparently victorious parties appealed the *Comcast* decision, even though Comcast itself agreed to comply with the requirements that it revise its policy and report on what it believed occurred. See *Petition for Review, Consumers Union of the United States, Inc. v. FCC*, No. 08-4269 (2d Cir. Aug. 29, 2008); *Petition for Review, Pennsylvania PIRG v. FCC*, No. 08-3676 (3d Cir. Aug. 29, 2008); *Petition for Review, Vuze, Inc. v. FCC*, No. 08-73768 (9th Cir. Aug. 29, 2008). Comcast and other cable operators also appealed. *Comcast Corp. v. FCC*, No. 08-1291 (D.C. Cir. Sep. 4, 2008).

questions, in particular reliance on Internet community values and a disclosure/contract model.

Other approaches have been considered elsewhere, and are worth brief mention, namely use of antitrust lawsuits and self-regulatory organizations.

B. Antitrust Law

Disputes over the behavior of a broadband network provider by application providers would stem from the perceived monopoly or duopoly status of providers. Even if there are some competitive choices among networks, it is not as if the consumer can switch between providers easily in response to a new policy, especially if there are only two providers and both follow the same policy. Indeed, price and quality competition will likely trump competitive network policy offers. Anticompetitive conduct—say, for example, outright blocking—presents a harm to consumers which may not be remedied by a sufficiently competitive marketplace. This concern could be reached by antitrust enforcement.

But how good a fit are the laws here? Antitrust analysis starts with a definition of a market and harm to consumers, not to intermediate dependent producers. It is hard to see how competition is substantially lessened by practices that would, say, charge one online bookseller more than another, or even blocking a rival's application if the network had its own application.¹⁸⁵ In the bricks-and-mortar world, retailers engage in these practices.¹⁸⁶ The market for broadband service may be even more competitive as a result.

Antitrust enforcement law might be a better fit in the case of the broadband network provider who creates a tying arrangement with its ISP service and a complementary product and requires the consumer to buy the tied product as a condition of ISP service. For example, suppose a broadband provider bundles a streaming movie service with its ISP service. (Such an arrangement is akin to Microsoft's operating system being bundled with its application software suite.)¹⁸⁷ The argument is that other sellers of movie content will be disadvantaged by the arrangement. But it is hard to see how consumers are always necessarily hurt. If consumers do not

185. See J. Thomas Rosch, Comm'r, FTC, Address at the Broadband Policy Summit IV: Broadband Access Policy: The Role of Antitrust 6 (June 13, 2008), available at <http://www.ftc.gov/speeches/rosch/080613broadbandaccess.pdf> (stating that the FTC Commissioner was not confident that antitrust courts would find blocking a violation of the Sherman Antitrust Act).

186. Wal-Mart may sell only certain brands. IKEA mostly sells its own branded merchandise.

187. *United States v. Microsoft Corp.*, 2002 U.S. Dist. LEXIS 22864 (D.D.C. Nov. 12, 2002).

value the ISP service at the price offered for the bundle, they will not buy it. The tied movie service amounts to a “free” service if it has no value to the customer. Application providers may not like the pressure the broadband network can apply—that is, after all, one of the reasons for the network neutrality advocacy by the applications community.

So, antitrust law may be a “good way”¹⁸⁸ to think about the problem, but its ability to provide a predictable, timely remedy may be of limited use. Even if antitrust law is ultimately applied, as FTC Commissioner Jonathan Leibowitz notes, it may be too little, too late.¹⁸⁹ The length and expense of leading antitrust cases supports that viewpoint.

There is another problem: the U.S. Supreme Court’s *Trinko*¹⁹⁰ decision declined to allow antitrust law to remedy the situation where a monopolist refuses to help rivals compete with it, either under the “essential facilities” or any other doctrine. The Court reasoned that application of antitrust laws would “lessen the incentive for the monopolist, the rival, or both to invest in . . . economically beneficial facilities.”¹⁹¹ While the case involved the question of the overlap between antitrust and claims under the 1996 Telecommunications Act, the Court raised the bar for demonstrating under antitrust law that discriminatory network conduct invariably had anticompetitive effects.¹⁹²

It is hard to predict what a court would do with antitrust claims by applications that are excluded or otherwise discriminated against by a network broadband provider. Just as communications policy is struggling to deal with objections of the type raised in the *Comcast* case, so courts may fashion a standard for claims more forgiving than *Trinko*.¹⁹³

But it is by no means clear that antitrust law will be a satisfactory remedy for determining whether a network broadband provider’s practice is

188. Jon Leibowitz, Comm’r, FTC, Concurring Statement Regarding the Staff Report: “Broadband Connectivity, Competition Policy” 1 (June 27, 2007), available at <http://www.ftc.gov/speeches/leibowitz/V07000statement.pdf>.

189. *Id.* at 3. (“[T]here 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.”).

190. *Verizon v. Trinko*, 540 U.S. 398 (2004).

191. *Id.* at 408.

192. *Id.*

193. See Jonathan E. Nuechterlein, *Antitrust Oversight of an Antitrust Dispute: An Institutional Perspective on the Net Neutrality Debate* iii (Reg-Markets Ctr., Working Paper No. 08-07), available at <http://aei-brookings.org/admin/authorpdfs/redirect-safely.php?fname=../pdffiles/phpGw.pdf>. Tom Hazlett has also endorsed an antitrust approach. Thomas Hazlett, *FCC Should Leave Net Neutrality to Anti-Trust Courts*, <http://www.ft.com/cms/s/0/bac78ca4-8ee8-11dd-946c-0000779fd18c.html>. But see James V. DeLong, *Avoiding a Tech Train Wreck*, *The Am.*, and May/June 2008, available at <http://www.american.com/archive/2008/may-june-magazine-contents/avoiding-a-tech-train-wreck> (describing the application of antitrust law to network neutrality as “fairly useless”).

unlawful. The likelihood that a complained-of activity has sufficient procompetitive effects is significant. And the cost and duration of solving issues by means of government or private antitrust lawsuits raise their own significant limitations to this remedy.

C. *Standards-Setting and Self-Regulatory Organizations*

Much of the formative work in developing Internet policies in the 1990s arose through voluntary and quite inclusive organizations, like ICANN,¹⁹⁴ and inclusive but more qualification-heavy groups, such as The Internet Society¹⁹⁵ and its two organizations, the Internet Engineering Task Force¹⁹⁶ and the Internet Architecture Board.¹⁹⁷ ICANN played its most significant card (so far) in establishing the system of domain names and methods for domain registration. The latter organizations identify best practices through ongoing forums that require some degree of technical prowess and an understanding of the developments that have already occurred.¹⁹⁸

Technical standards of the Internet backbone—at least since the National Science Foundation released government control over its structure and function in the 1990s¹⁹⁹—have been the result of voluntary agreements

194. The Internet Corporation for Assigned Names and Numbers (ICANN) is a nonprofit corporation that works with the Department of Commerce to manage and monitor Internet activity and functionality. The primary functions of ICANN are to manage the assignment of domain names and IP addresses, help preserve the operational stability of the Internet, achieve broad representation of the global Internet community, and develop policies appropriate to its mission through bottom-up, consensus-based processes. Internet Corporation for Assigned Names and Numbers, <http://www.icann.org/> (last visited Dec. 10, 2009).

195. The Internet Society (ISOC) is a nonprofit organization founded in 1992 to provide leadership in Internet related standards, education, and policy. Internet Society (ISOC): Introduction to ISOC, <http://www.isoc.org/isoc/> (last visited Dec. 10, 2009).

196. The Internet Engineering Task Force (IETF) is a voluntary, open-standards organization funded by various sponsors including the National Security Agency. IETF works to develop and promote Internet standards with particular regard to TCP/IP and Internet Protocol suite. Internet Engineering Task Force, <http://www.ietf.org/> (last visited Jan. 12, 2010).

197. The Internet Architecture Board (IAB) is the committee of the Internet Society (ISOC) charged with oversight of the technical and engineering development of the Internet. It oversees a number of task forces including IETF, providing architectural oversight, standards process oversight and appeals, and serves as the external liaison to organizations concerned with standards and other technical and organizational issues relevant to the Internet. Internet Architecture Board, <http://www.iab.org/> (last visited Dec. 10, 2009).

198. These groups exhibit Douglass North's characterization that "[t]ypically they economize on information, so, for example, players need no longer know the entire past history of any partner." DOUGLASS C. NORTH, INSTITUTIONS, INSTITUTIONAL CHANGE AND ECONOMIC PERFORMANCE 57 (1990).

199. JEFFREY A. FRANKEL & PETER R. ORSZAG, AMERICAN ECONOMIC POLICY IN THE 1990S 328 (2002); NUECHTERLEIN & WEISER, *supra* note 70, at 131 (2005).

among backbone providers.²⁰⁰ Through mutually beneficial peering arrangements, backbone providers have generally shied from seeking governmental dispute resolution. This environment differs from the highly contentious telecommunications environment, where disputes over interconnection between incumbent and newcomer wireline rivals²⁰¹ or hands-off charges among wireless providers²⁰² have occupied federal and state regulators for years.

There is a movement afoot to create a self-regulatory organization (SRO) capable of addressing disputes over network management issues, including at least one member of the FCC.²⁰³

Network management, like network neutrality, comprises a broad swath of concepts. The Comcast dispute addressed that company's policies addressing treatment of P2P traffic during periods of assumed network congestion. One definition includes the "activities, methods, procedures, and tools that pertain to the operation, administration, maintenance, and provisioning of networked systems"²⁰⁴—a sweeping set of activities that includes prioritizing packets to where a network gets built. While all parties agree that reasonable network management is essential, what constitutes "reasonable" network management is an exercise in line drawing that is at the heart of the Comcast dispute.

The first, and perhaps insurmountable, challenge for the SRO will be to achieve agreement on what its charter is. In the SRO, non-ISP interests—academics, public interest groups, and content or application providers like Google or BitTorrent—would consider and comment upon the network management practices of the ISP. The ISP would try to address

200. See General Accounting Office, Characteristics and Competitiveness of the Internet Backbone Market, Report 02-16, at 7-23 (2001).

201. 47 U.S.C. § 251(a)(1) (2009) (creating the obligation on telecommunications service providers to interconnect).

202. Roaming charges have been a long-running dispute among local and national wireless carriers: "No customer should have to see the words 'No Service' on their wireless device when there is a compatible network available." Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers, *Report And Order And Further Notice Of Proposed Rulemaking*, 22 F.C.C.R. 15817, 15886 (2007) (Comm'r Jonathan Adelstein, approving in part, concurring in part).

203. Formal Complaint of Free Press and Pub. Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications, *Memorandum Opinion and Order*, 23 F.C.C.R. 13028, at 13088 (2008) (Comm'r Robert M. McDowell, Dissenting). See Robert M. McDowell, *Who Should Solve this Internet Crisis?*, WASH. POST, July 29, 2008, at A17, available at <http://www.washingtonpost.com/wp-dyn/content/article/2008/07/27/AR2008072701172.html>. Philip Weiser has begun discussions on how to devise a new SRO to address network-management issues of the type raised in the *Comcast* case. PHILIP J. WEISER, EXPLORING SELF REGULATORY STRATEGIES FOR NETWORK MANAGEMENT, (2008), available at <http://www.silicon-flatirons.org/documents/publications/summits/WeiserNetworkManagement.pdf>.

204. ALEXANDER CLEMM, NETWORK MANAGEMENT FUNDAMENTALS 5 (2006).

objections in that forum rather than deal with a complaint process filed at the FCC.

No enterprise will agree to submit every business practice to a working group whose membership may include commercial or ideological interests adverse to its own. In this sense, the SRO really is an advice-leading-to-consent organization.

The issues raised in the *Comcast* case would seem well suited for an across-the-table discussion with the relevant parties. In fact, perhaps in an effort to ward off a finding of wrongdoing, Comcast took this initiative on its own while its complaint was pending before the agency and it developed working relationships with BitTorrent and others.²⁰⁵ And the FCC's ordered remedy in the case—submissions within thirty days of a revised set of congestion management rules—might have been best developed in discussions with representatives of public-interest groups and application providers, who raised the first sets of complaints.²⁰⁶

But, even where there is consensus that the SRO legitimately should address an issue, what mechanism is there to ensure that the parties will work to a consensus in a reasonable time period? Advocates of SRO resolution recommend that there be government regulation as a backstop in the event the parties cannot reach common ground.²⁰⁷ But, given the history of the FCC in network management prior to issues relating to broadband

205. On March 27, 2008, Comcast and BitTorrent announced they would “undertake a collaborative effort with one another and with the broader Internet and ISP community to more effectively address issues associated with rich media content and network capacity management.” Press Release, Comcast, Comcast & Bit Torrent Form Collaboration to Address Network Mgmt., Network Architecture and Content Distribution (Mar. 27, 2008), <http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=740>. A month later, Comcast and Pando, another P2P provider, announced an industry-wide effort to “create a ‘P2P Bill of Rights and Responsibilities’ (BRR) for peer-to-peer (P2P) users and Internet Service Providers (ISPs).” Press Release, Comcast, Comcast & Pando Networks to Lead Creation of “P2P Bill of Rights and Responsibilities” for Peer-to-Peer Users & Internet Service Providers (Apr. 15, 2008), <http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=747>.

206. These complainants included nonprofit groups, like Free Press and Public Knowledge, and commercial Web site operators like Vuze. For a discussion of Free Press's involvement, see Net Neutrality at the FCC, FREE PRESS, <http://www.freepress.net/node/43776> (last visited Dec. 10, 2009).

207. FTC STAFF REPORT, BROADBAND CONNECTIVITY COMPETITION POLICY 136 (2007), <http://www.ftc.gov/reports/broadband/v070000report.pdf>. See Jodi L. Short & Michael W. Toffel, *The Causes and Consequences of Industry Self-Policing* 15 (Harvard Bus. Sch. Working Paper No. 08-021, 2007) (“[O]ur findings support a regulatory policy that recognizes the ongoing importance of government regulation and regulators to the success of public-private regulatory partnerships.”). And where government regulation is withdrawn, as it was when the FCC stopped considering the news bias complaints of the National News Council, self-regulation atrophied. Angela J. Campbell, *Self-Regulation and the Media*, 51 FED. COMM. L.J. 711, 758 (1999).

network providers,²⁰⁸ this “safety valve” is a backstop with little to recommend it. The likelihood that the FCC would decide any unresolved SRO dispute might act as an inducement to reach timely settlement with those challenging the ISP’s behavior. But, if the bid-ask gap is too great, the SRO mechanism is liable to fail or be accused of being ineffective by those seeking changed behavior by the ISP. Since the “legitimacy and effectiveness of an SRO go hand-in-hand,”²⁰⁹ such an organization may be hobbled by a delay (by the ISP) in reaching a consensus or its use (by ISP critics) as a staging area for “gotchas” to be used once the dispute moves to the federal agency.

Also, no matter how lauded the SRO is, the FCC is unlikely to shed its residual authority unless barred from acting by Congress. Given the need for quick action on issues like direct blocking behavior (as condemned in the *Madison River* case²¹⁰), complete FCC withdrawal is not really a possibility.

The failure of the SRO to resolve an issue through consensus should not automatically confer authority on the FCC to decide the issue. There is a sea of difference between telling a dominant ISP to stop blocking a competing application (as in *Madison River*) and intervening in every dispute where a critic believes the ISP’s pipe is not dumb enough to its liking. Ideally, the SRO could address much of what falls below the *Madison River* paradigm case.

The SRO could take on less contentious tasks, such as deciding network-management policies, however, particularly where there is substantial buy-in by all parties to the authority of the group. The SRO could offer advisory opinions as opposed to decisions. An ISP inclined to launch a new practice might seek the views of the group as to its strengths and weaknesses, much as it might submit proposed new services to consumer panels for feedback and improvement. The SRO might be required to provide a statement of advantages and disadvantages to a practice, lest the ISP’s justification for it becomes lost in statements of only a critical or disparaging character.

There are a host of factors that will determine how successful the SRO might be here, besides determining its jurisdiction. If ISPs see it in their enlightened self-interest to refer matters to the organization instead of the FCC, that concession will help its credibility. If ISP critics believe the forum is a fair one for resolving complaints, that too will help confidence in the SRO process. Feedback on the Internet about its work, as well as

208. See *supra* Sec.III(C).

209. WEISER, *supra* note 177, at 27.

210. *Madison River Comm., LLC, Order*, 20 F.C.C.R. 4295 (2005).

who finances it, will also affect its credibility. And, if it produces results that are credible to all sides, it will be helped as well.

Successful examples of self-regulation exist. As SRO, the Financial Industry Regulatory Authority (originally established as the National Association of Securities Dealers), although governed by agency rules, is used to manage securities markets (even though it failed to address the broader market problems brought on by over leverage and has proved itself no replacement for formal regulation).²¹¹ A less-tarnished example might be the National Advertising Division, an SRO of the advertising industry, which adjudicates claims about advertising, thereby avoiding the FTC's more formal processes under Section 5 of the Federal Trade Act.

So, the history of cooperative SROs and advisory groups suggests that one could work to address network-management issues. But it may not stop complainants going to the FCC and drawing the agency into asserting its authority to govern networks for which it has shown less than prodigious aptitude.

This Article turns to two other possibilities for dispute resolution: (1) reliance on community values and pressure and (2) contract law, tied to disclosure requirements.

D. *Wiki Law: Community Policing as Policy*

The wiki phenomenon belongs near the top of those online communications that “coalesce into dynamic human relationships made possible by a globally addressable network.”²¹² The Internet culture is full of feedback and referral mechanisms. For physical reasons, it is often described as a network of networks, but the catch phrase also captures its content cycle. Networks cycle to data-collection points, whether actively pursued (as in blogs, social networks, Tweets, creative commons or wikis),²¹³ affirmatively or passively assented to (as in cookie capture and “you might also like” offers or anticipated targeted advertising), and unknown or unwanted (opted-out targeted advertising or zombies, pretexting, and other ills).

It is the intentional feedback mechanisms of the Internet, perhaps best portrayed by wikis and blogs, which represent a useful nongovernmental approach to solving Internet management disputes. Blogs played an important part in the process leading up to the *Comcast* complaint and its aftermath. Bloggers opined on the strength and weaknesses of both the

211. 52 Stat. 1075, 1075 (1938) (codified at 15 U.S.C. § 780 (2000)).

212. Crawford, *supra* note 7, at 359, 361-62.

213. *Id.* at 362 (“These relationships, pulled together by interests and accident and characterized by shifting boundaries and unpredictable dynamics, are what is so attractive about the Internet.”).

complainants and Comcast.²¹⁴ Experiments were run to corroborate the complaints.²¹⁵ Comcast paid attention to these comments and weighed their relevance and usefulness; it did not merely use the comments to develop the next set of rebuttal talking points. Over time, some middle-ground understanding of the problem emerged by some online commentary.²¹⁶ An online uproar also led to Verizon's within-days reversal of its decision not to sell short message-code service to an abortion-rights advocacy group.

Thinking more broadly, stories break constantly on the Web; but just as falsehoods can be part of "cybercascades" (as Cass Sunstein refers to them),²¹⁷ so can the truth. And blogs that are watched by policymakers in industry, the public-interest sector, academia, and government can create a momentum of their own.²¹⁸ Discussion would occur on blogs. Eventual rules could be arrived at on a "network management wiki," updated as management tools were refined.

There is no reason to think that many management issues cannot substantially benefit from the public give-and-take of the Internet. These informal blogs have several advantages over an SRO. Their immediacy and open-endedness avoid the issue of who gets invited to participate and how funding affects process. Posted comments also eliminate the delays between SRO sessions and complained-of management practices. Practices that emerge from online debate and dialog can be posted to a wiki with the refinements made as circumstances warrant.

This benefit of sharing and building processes together is hardly new. Open-source software is predicated on a shared environment where improvements are cumulative.²¹⁹ It is a shared-value system that seems to

214. See, e.g., David Kravets, *Comcast Beginning 'Net Neutrality Testing*, WIRED, June 03, 2008, <http://blog.wired.com/27bstroke6/2008/06/comcast-beginni.html>; Posting of Vinu Goel to BLOG NYTIMES.COM, <http://bits.blogs.nytimes.com/2008/07/11/an-imminent-victory-for-net-neutrality-advocates/> (July 11, 2008, 12:53 EST).

215. Formal Complaint of Free Press and Pub. Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications, *Memorandum Opinion and Order*, 23 F.C.C.R. 13028, para. 7, 9 (2008).

216. See, e.g., George Ou, *Fixing the Unfairness of TCP Congestion Control*, ZDNet.com, Mar. 24, 2008, <http://blogs.zdnet.com/Ou/?cat=30> (last visited Dec. 10, 2009).

217. CASS SUNSTEIN, REPUBLIC.COM 2.0 46 (2007).

218. The FCC established its own broadband policy blog in 2009. See Blogband: Broadband.gov blog, <http://blog.broadband.gov/> (last visited Dec. 10, 2009).

219. Jonathan Zittrain makes an apt comparison of wiki-like regulation to a physical-world example of a Dutch community that eliminates government-posted traffic signs that leads to less accidents:

They are verkeersbordvrij, a light regulatory touch coupled with an openness to flexible public involvement, including a way for members of the public to make changes, good or bad, with immediate effect; a focus on earnest discussion, including reference to neutral dispute resolution policies, as a means of being strengthened rather than driven by disagreements; and a core of people prepared to model an ethos that others can follow.

work, although the model has not been thought of in terms of achieving standards for network management. But it is not as foreign a concept as it might seem. The cable industry (as surprising as it may be to its critics) has promoted standards that can only be described as open source in some aspects of its business. This open approach includes the following: the DOCSIS standard for cable modems (allowing scores of manufacturers to create attaching equipment to the cable network),²²⁰ and the specifications for unaffiliated two-way applications to run on its interactive “Tru2way” video platform, even if they are subject to some operator oversight.²²¹ The growing number of applications for 3G phones is another example from the wireless industry.

And such a process might open up prospects for business models that now seem difficult to implement. As discussed earlier, much of the network neutrality debate has been about whether a broadband network can provide priority transmission to certain applications. While some content providers at one time would welcome this service,²²² its controversy has made it a nonstarter. Any broadband network that risks this offering may find itself embroiled in an FCC inquiry. An open online dialog might lead to a better understanding of the reasons for and against trying this service. And there may be other business models that could be “brown bagged” through an online forum.

Wiki law has the additional advantage (or drawback) over the FCC or an SRO of being a never-ending course of action. Political winds can shift

ZITTRAIN, *supra* note 125, at 146.

220. Inquiry Concerning the Deployment of Advanced Telecomms. Capability, *Fifth Report*, 23 F.C.C.R. 9615, para. 8, 9 (2008) [hereinafter *Fifth Report*].

221. Tru2way technology can be used to create and deploy new applications and features that appear on the television screen with a click of the television remote. Viewers can access interactive entertainment, information, or features embedded in a particular program including interactive games, shopping, music, news, weather, local information, sports, interactive advertising, voting and polling, banking, and other services. Previously called “OpenCable” or OCAP, several manufacturers, including Sony, LG, and Funai, agreed to produce digital television sets with this technology, which eliminates the need for a set top box from the operator. Media Release, Nat’l Cable & Telecomms. Ass’n, LG Electronics and Funai Electric Sign Tru2way MOU (July 28, 2008), *available at* <http://www.ncta.com/ReleaseType/MediaRelease/LG-and-Funai-Sign-tru2way-MOU.aspx>.

222. The following quotation is relevant here:

HDnet owner Mark Cuban thinks that “we need multiple tiers of service [on the Internet]. . . . I want the telcos and the cable companies . . . to work out a way to exchange traffic at multiple quality of service levels.” What he really wants is the right to buy off Internet providers to ensure that HDnet’s video web content works faster and better than video on other sites. (Originally appearing on Blog Maverick, January 15, 2006).

Common Cause, Quotes on Network Neutrality, <http://www.commoncause.org/site/pp.asp?c=dkLNK1MQlwG&b=1388061> (on file with author, view has been deleted from Mark Cuban’s blog).

at the FCC; an SRO may be stymied by its processes; an antitrust suit may never seem to end. But, night after night, observers of questionable network practices can alert policymakers, the news media, other bloggers and the networks themselves about shortcomings. And an effective online forum, while it cannot order a network to cease and desist, can focus continuing shame on the broadband provider.

That shame can be backed up by customers threatening FCC intervention (however bad an idea that is) as a spur to reform the conduct.²²³ The threat of an expensive and uncertain regulatory proceeding is not idle. And online or physical-world protests attacking the reputation of the broadband provider also matter. Verizon's short-lived, SMS code rejection has had staying power in the network neutrality debate, no matter how often and how vociferously Verizon repudiated the company's initial decision. If the online community, including the broadband providers, takes on the character of open-source and wiki environments,²²⁴ there is reason to accord this form of dispute resolution more than a pat on the head.

And it is congenial with the consensus-driven, cooperative history of Internet governance. As Jonathan Zittrain argues, the future of the Internet is aligned with generative models of the sort typified by blogs and wikis.²²⁵ The *absence* of regulation in areas as law-prone as automobile traffic signs has proved to produce more automobile safety, as illustrated by one of Zittrain's more memorable examples.²²⁶ Regulators can be viewed as preserving the generative quality of the Internet by forbidding operators from blocking innovation inconsistent with the network owner's self-interest; that, after all, is the basis for activists seeking more regulation from the FCC. But, beyond blocking, it is unclear that regulators will invariably do more good than harm in restricting network practices without a thorough examination of all of the generative/nongenerative aspects of the practices. A wiki-based system of rules might accomplish that better.

223. The Verizon SMS complaint was a quick response to Internet attention. *See supra* note 2.

224. *See* SUNSTEIN, *supra* note 217 (discussing Wikipedia: "The great benefit of deliberating enclaves is that positions may emerge that otherwise would not, and that deserve to play a larger role both within the enclave and within the heterogeneous public.").

225. ZITTRAIN, *supra* note 125 at 127-48.

226. *Id.* at 128-29 ("When people can come to take the welfare of one another seriously and possess the tools to readily assist and limit each other, even the most precise and well-enforced rule from a traditional public source may be less effective than that unimpelled goodwill.").

E. Contract Law and Disclosure

Dean Leon Green once described tort law as public law in disguise.²²⁷ It might be said that, in a consumer economy, contracts can inhabit the same disguise. For instance, the twentieth century's favorite tort, invasion of privacy, has become a question of rights alienable through opt-in agreements with users of information like Google or online broadband providers.²²⁸

Much of the complainants' consternation, occasionally descending into name calling,²²⁹ in the network management debate arises from the lack of disclosure in the ISP's acceptable-use policy given to its subscribers.²³⁰ For most customers, these disclosures would be hard to understand or be of no consequence.²³¹ For example, over ninety-nine

227. Leon Green, *Tort Law Public Law in Disguise*, 38 TEX. L. REV. 257 (1960).

228. See Gateway Learning Corp., *Agreement Containing Consent Order*, File No. 042-3047, available at <http://www.ftc.gov/os/caselist/0423047/040707agree0423047.pdf> (stating that educational company agreed it violated its contract when it shared personal information after it agreed not to do so); Press Release, FTC, Gateway Learning Settles FTC Privacy Charges (July 7, 2004), available at <http://www.ftc.gov/opa/2004/07/gateway.shtm> (“It’s simple—if you collect information and promise not to share, you can’t share unless the consumer agrees,” said Howard Beales, Director of the FTC’s Bureau of Consumer Protection.”).

229. See, e.g., Posting of Harold Feld to Wetmachine, <http://www.wetmachine.com/?query=jim+harper&amount=0&blogid=1> (Nov. 1, 2007, 19:35 EST) (“Because while some folks may think that lying to your customers is an acceptable network management technique, or even an acceptable technique for managing elected members of Congress, I think most Americans would disagree.”); Posting of Harold Feld to Wetmachine, <http://www.wetmachine.com/item/1156> (April 24, 2008 22:00:08 EST) (“He [Internet user] was going about his normal business when he discovered something, investigated, and Comcast lied their asses off about it.”) (author commenting on original posting).

230. Comcast did not disclose what its network practices were to deal with congestion. In particular, it did not disclose or explain its use of application-specific (i.e., targeting BitTorrent users) rather than application-agnostic tools to manage traffic. It did not explain when those tools would be triggered. It did not inform the user what amount of use might trigger throttling back speeds because of the effect of that use on others. It did not disclose at what level in the network—an individual residence, a node of 500 homes, a port comprising many nodes—congestion would be measured. These shortcomings were remedied in its subsequent filing. Compare Comments of Free Press Ex Parte Filing at 2-3, WC Docket No. 07-52, (rel. Oct. 24, 2008) [hereinafter Free Press Ex Parte Filing], available at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520179100, and Formal Complaint of Free Press, *supra* note 3 with Comments of Comcast Corp. at 39-42, WC Dkt. No. 07-52, (rel. Feb. 12, 2008), available at http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=651984099 1.

231. The same has been said of opt-in disclosure through shrinkwrap agreements. Compare *ProCD v. Zeidenberg*, 86 F.3d 1447, 1453 (7th Cir. 1996) (holding such contracts enforceable because customer had opportunity to review terms before accepting), with *Klocek v. Gateway, Inc.*, 104 F. Supp. 2d 1332, 1341 (D. Kan. 2000) (holding that shrinkwrap agreements binding after five days of receipt by customer do not show that

percent of users never get anywhere near an announced bit-rate cap.²³² And even P2P users are often unaware of slow downs because the file transfers occur while the customer's computer is unattended. So their significance for many subscribers is dubious, just as annual financial privacy disclosure forms or cardholder agreements from credit-card companies are seldom read by customers.

But, as the *Comcast* complaint and its aftermath²³³ demonstrate, these terms are of enormous importance to some customers and, more generally, to Internet academics and activists.²³⁴ The details of these terms can be used to determine whether promises are delivered and whether Internet values of, for instance, transparency and non-blocking of content are followed. And they are entirely within the control of the broadband provider, assuming that the ISP is aware that there is a need to formalize the disclosure.

This latter point is not as obvious as disclosure advocates may think. Decision making as to network operations may be disbursed throughout an organization.²³⁵ Policymakers and executives who do not manage the

customer expressly agreed to terms). These decisions turn on the degree to which the customer provided constructive versus actual consent.

232. See Comcast, Terms of Service—Announcement Regarding an Amendment to Our Acceptable Use Policy, <http://www.comcast.net/terms/network/amendment/> (last visited Dec. 10, 2009) (establishing a specific monthly data usage threshold of 250 GB/month per account for all residential customers); Comcast, Customer Central, Frequently Asked Questions about Excessive Use, <http://help.comcast.net/content/faq/Frequently-Asked-Questions-about-Excessive-Use#excessive> (last visited Dec. 10, 2009) (less than one percent of customers are excessive users).

233. Free Press, which brought one of the initial complaints against Comcast, was satisfied with the company's subsequent FCC-ordered disclosure and wanted all ISPs to provide comparable disclosure. See Free Press Ex Parte Filing, *supra* note 230, at 5-6 (“Comcast has demonstrated that providers can disclose clear, basic, yet valuable information on infrastructure and on methods and thresholds for network controls.”).

234. The Florida Attorney General investigated and settled with Comcast over its bandwidth usage disclosures prior to its bandwidth cap modification to its acceptable user policy. Press Release, Office of the Att’y Gen. of Fla., Bill McCollum, Att’y Gen. Reaches \$150,000 Settlement with Comcast (Aug. 29, 2008), available at <http://myfloridalegal.com/newsrel.nsf/newsreleases/D70311C8F6C0FC02852574B4005661>

34. Some activists do not believe disclosure is sufficient in all cases. See Press Release, Pub. Knowledge, Pub. Knowledge Praises FCC Decision to Protect Internet, Punish Comcast (July 31, 2008), available at <http://www.publicknowledge.org/node/1690> (commenting on Comcast Complaint Decision: “Simple disclosure policies or consumer education is simply not sufficient.”).

235. Compare, for example, Federal Express's protocol in delivering packages through its network. There is considerable visibility as to a shipment's movement via the company's Web site. But we know little about which locations are more likely than not to be delayed for pickup, what rules apply when certain airports are closed, and what priorities apply when the network is overbooked. Myriad other businesses, from supermarket chains to broadcast networks, have decentralized decision making that leads to results that top management cannot control. Whoever was behind the celebrated “wardrobe malfunction” during CBS's

network may be either unaware of these decisions, how they are made, or their importance to Internet watchers.²³⁶ What turns out to be a significant disclosure matter sometimes arises only when a significant problem arises. The selling practices of electricity network wholesalers were, and today are, a matter of obscure interest. During the 2000 California power shortage, it was front-page news.²³⁷

Reliance on disclosure has a distinct advantage over regulation: it is faster than an agency adjudication.²³⁸ It allows for a question to be asked immediately and answered quickly on the Internet when a dispute arises and can take advantage of the wiki-law debate surrounding it. It requires the network ISP to think through its practices, knowing that an ambiguous response will invite further questions. It also has the benefit of contract where the customer believes the network has not lived up to its representations.²³⁹

Barbara van Schewick argues that disclosure is not sufficient unless a customer can easily change to another provider whose terms of service are more acceptable.²⁴⁰ As discussed earlier,²⁴¹ ISPs may choose not to

2004 Super Bowl coverage, it was probably not the company lawyers and executives who then had to defend it.

236. Until the network-management practices in *Comcast* were formally questioned, there was very little drill down by management as to what any particular ISP did to handle peak upstream congestion. The system was serving the vast majority of customers without a hitch. The problem (as Comcast saw it) dealt with P2P traffic which, more often than not, is focused on illegal copying, and the techniques used benefited the large number of customers who had nothing to do with P2P. While Comcast did not agree with the FCC's authority to act, its response expressed a willingness to address the problems raised by its critics. See Letter from Kathryn A. Zachem, Vice President, Regulatory Affairs, Comcast Corporation, to Marlene H. Dortch, Secretary, Federal Communications Commission (Sept. 19, 2009) (available at http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520169715) ("Moreover, we know that clear communication with our customers is essential to a successful long-term relationship. So we are committed to ensuring that our customers receive clear, concise, and useful information about the services that we provide.").

237. See David Shook, *The Power Meltdown in California*, BUS. WK., Dec. 6, 2000, available at http://www.businessweek.com/bwdaily/dnflash/dec2000/nf2000126_813.htm.

238. See Aaron J. Burstein & Fred B. Schneider, *Trustworthiness as a Limitation on Network Neutrality*, 61 FED. COMM. L.J. 591, 619 (2009); Richard S. Whitt, *Adaptive Policymaking: Evolving and Applying Emergent Solutions for U.S. Communications Policy*, 61 FED. COMM. L.J. 483, 587 (2009).

239. A contract approach has been suggested in lieu of a tort approach to protect information privacy, based on enforcement of a web site's privacy policies. ZITTRAIN, *supra* note 125, at 226.

240. FCC's Second Public En Banc Hearing on Broadband Network Management Practices at 4, WC Docket No. 07-52, (2008) (Official Testimony of Barbara van Schewick), available at http://www.fcc.gov/broadband_network_management/041708/vanschewick-written.pdf. As van Schewick testified:

Disclosure can only facilitate competition and discipline providers if there is effective competition. In order for disclosure to have a disciplining effect,

compete on non-price criteria like network-management disclosure. So the ability to change may not really matter, and van Schewick's test standard would never be met. This Article argues that the more sensible way to judge disclosure statements is on the basis of their accuracy and responsiveness to the objections raised on the wiki. In addition, the terms should be enforceable.

Part of the issue is deciding what matters to the different constituencies of disclosure: customers, policy advocates, networks, and applications providers. As network providers gain an understanding of what parties expect to know, they can formulate their customer disclosure statements to be more responsive to actual concerns.²⁴² This is an evolving process.²⁴³ Identifying what is important to disclose and then accurately disclosing it—in the *Comcast* case, what does its nodal infrastructure look like and the procedures the ISP follows in case of network congestion—can resolve many network-management issues. For once, the company's policy is established and modified through the wiki-law process of online dickering,²⁴⁴ it is disclosed in the acceptable use policy or on the network provider's Web site. Just as the customer agrees to abide by the terms of that policy, so too is the ISP bound to follow its commitments. And a failure to comply amounts to a contract breach.

The evolving disclosure process can apply to non-network management issues too, such as offering QoS as an optional product to content providers. The degree of disclosure will also reveal the sufficiency of the competitive justifications for a given practice. And it will allow

customers need to be able to switch to another provider that does not impose a similar restriction, and they need to be able to do so at low costs.

Id.

241. *See supra* § II(B).

242. Disclosure is by no means only a network provider issue. For example, persons responding to Google e-mail may find that their e-mail is searchable just as Google e-mail accounts are. And search-term logs kept by search engines may pose privacy problems as well. Identifying information can also be obtained from a Web site. *See, e.g.*, Google, Search Term Demonstration, <http://www.google-watch.org/cgi-bin/urldemo.htm> (last visited Dec. 10, 2009) (demonstrating how a Web site can identify your place of business if a search is made from there).

243. Free Press proposed a sixteen-part disclosure requirement that the FCC would adopt covering network management (or "interference" as Free Press described it), monitoring of a customer's data, and infrastructure, such as the number of users located on a shared connection. Free Press Ex Parte Filing, *supra* note 230, at 11-13.

244. This online dialog began after Comcast announced the use of bit caps to deal with bandwidth hogs. Free Press challenged that approach. Free Press Policy Brief, S. Derek Turner, Research Director, Free Press, Blocking or Metering: A False Choice, (Aug. 2008), available at http://live.freepress.net/files/Blocking_or_Metering_A_False_Choice.pdf.

applications providers to adjust their behavior in light of the network operator's disclosures.²⁴⁵

Exposure to contract breaches can be costly to entities like broadband providers. Cable operators are targets of class-action lawsuits challenging the terms of service, for example, fees for late payment of cable bills.²⁴⁶ The ISP will have furnished the disclosure language, and a dissatisfied customer can pinpoint its objections. State consumer protection laws may also apply to disclosures that are not backed up by behavior. That leverage, and the threat of larger liability, along with the ISP's decision to include the term in its own contract at the beginning, gives considerable weight to this method of establishing network norms enforceable outside of a federal regulatory regime.

Of course, there may be terms that a customer does not like, and those terms may be incorporated by all significant ISPs serving a customer. For instance, suppose both of the two largest broadband providers today, cable and the telco, disclose that they provide QoS, as opposed to best efforts, to those who will pay. Disclosure may require detailing how the priority service does (or does not) disadvantage the best-efforts service all other traffic will receive. But disclosure is obviously not the same as prohibiting or limiting the practice. If the explanation is satisfactory, it will pass the Internet's laugh test; if not, it will continue to be assailed by critics and may be a violation of the ISP's contract with the customer, if QoS for some actually impairs service to others. If disputed, disclosed terms are so one-sided or hard-headed, the inability to defend them on the Internet will spill over to other arenas of concern to large network operators, including its other lines of business or as a near-last resort, the regulator (the short life-cycle of the Verizon SMS incident is illustrative).²⁴⁷ And the detailed

245. In the *Comcast* case, one of the complaints came from Vuze, an online video distributor which uses BitTorrent to download its offerings. Vuze, Inc. Pet. to Establish Rules Governing Network Mgmt. Practices by Broadband Network Operators, *Petition for Rulemaking*, WC Dkt. No. 07-52, p. 7 n.8 (Nov. 14, 2007), available at <http://www.publicknowledge.org/pdf/vuze-petition-20071114.pdf>. Had it known of Comcast's singling-out of BitTorrent, it could have adjusted its distribution practices, just as businesses adjust practices to deadlines established by Federal Express or the U.S. Postal Service.

246. See, e.g., *Cantu v. AT&T Broadband*, 2006 Tex. App. LEXIS 1185 (Tex. App. San Antonio 2006); *Garcia v. Texas Cable Partners, LP*, 114 S.W.3d 561 (Tex. App. Corpus Christi 2003). More cases are cited in BRENNER, *supra* note 29, at § 7:54 n.2.

247. Verizon's decision not to sell an abortion-rights group access to its short messaging service, a business choice which even its critics say was entirely legal, lasted only a few days, after the story got out (and before any regulatory proceeding commenced). See *supra* note 2. And Comcast's changes to its disclosure about its management techniques while the complaint against it was pending shows how demanding disclosure can act to ameliorate disputed management practices, even though the shadow of regulatory action was present. See *supra* note 203.

explanation may advance an antitrust claim against a truly anticompetitive practice related to QoS.

VII. CONCLUSION

Each day that we use the Internet to discover something valuable, we believe more deeply that fast Internet access is indispensable for engaged living. Google's tenth anniversary was a moment to pause to consider how just one company has changed what we know and how we learn.²⁴⁸ Modeling this vibrant space takes us in many directions. It may start with the code-as-law analysis and advocates of the Internet as layers. It engages in a near-religious war between network neutrality advocates who envision a dumb (or nearly dumb) pipe provided by broadband providers and those who champion generative benefits from whatever source—network innovations alongside edge improvements.

So far, missing in this analysis is a careful view of where advocates of active federal regulation would take their case. This Article has focused on that regulator—the FCC. It appears limited in its ability to function as the creator or wise arbiter of *ex ante* rules, measured by what it is, its resources, and its record of success and failure in guiding and governing communications networks. Its greatest regulatory successes in spurring networks have paradoxically occurred through inaction. Its biggest failures—video dialtone, for instance—arose when it tried to shape networks based on its judgment rather than the market. Congress had little better luck with its formulation of OVS.

There are better alternatives to government regulation (and the inevitable court appeals). These approaches include the young, but vibrant, development of online debate and resolution through blogs and wikis enforceable disclosure rights in contract. They are more congenial to the human values that we seek to unlock by the Internet²⁴⁹ than a trail of litigation-bound decisions that agency adjudication will produce. It may be impossible to avoid an *ex ante* regulatory approach. But, as this Article demonstrates, there is a better way forward.

248. See, e.g., Verne Kopytoff, *Google still innovating on 10th anniversary*, SF Chron., Sept. 7, 2008, at A1.

249. Crawford, *supra* note 7, at 390-91.