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INTERNET GOVERNANCE, STANDARD SETTING, AND SELF-REGULATION

by Philip J. Weiser¹

After the initial enthusiasm for a “cyberanarchy,” as some have called it,² the legal academic literature has moved to embrace the view that governmental decisions and regulation will be critical to — and essential for — the shaping of the Internet’s future.³ In the hopes that our political discourse begins to take a more sober look at the realities of Internet governance and the role of government in it,⁴ this Essay offers a preliminary look at the overall framework for Internet regulation, examining in particular the nature and limits of a key private regulator of the Internet: standard-setting organizations and their institution of open, interoperable standards. Whether or not we admit it, the Internet did not develop without government influence and, given its importance, government cannot afford to ignore the limits of standard-setting bodies as a form of self-regulation.⁵ Consequently, this Essay argues, using the FCC’s recent decision regarding instant messaging as an example, that the government should develop a principled framework for when to mandate open, interoperable standards that have yet to be instituted by private standard-setting bodies.⁶

¹ Associate Professor of Law and Telecommunications, University of Colorado. For helpful comments and suggestions, thanks to Julie Cohen, Ellen Goodman, Mark Lemley, Doug Lichtman, Doug Melamed, Tom Nachbar, Jon Nuechterlein, Doug Sicker, Jim Speta, Molly Schaffer Van Houweling, and Heidi Wald.

² See Jack L. Goldsmith, *Against Cyberanarchy*, 65 U. CHI. L. REV. 1199 (1998).

³ For a good example of the emerging consensus, see Neil Weinstock Netanel, *Cyberspace Self-Governance: A Skeptical View from Liberal Democratic Theory*, 88 CAL. L. REV. 395 (2000) [hereinafter, “*Cyberspace Self-Governance*”]; see also, e.g., Lawrence Lessig, *The Limits in Open Code: Regulatory Standards and the Future of the Net*, 14 BERKELEY TECH. L.J. 759, 762 (1999) (“Everyone now gets how the architecture of cyberspace is, in effect, a regulator. Everyone now understands that the freedom or control that one knows in cyberspace is a function of its code.”).

⁴ On the willingness of government officials to recognize that the Internet is and will be regulated, compare *FCC Commissioner Ponders Extent of Regulation Among Rivals on Internet*, 77 ANTITRUST & TRADE REG. REP. (BNA) 417, 417 (Oct. 14, 1999) (quoting Commissioner Powell as stating that, “if you don’t believe that [current] regulatory choices . . . have a direct and indirect effect on the development of the Internet, you’re really missing something.”) with Lawrence Lessig, *Innovation, Regulation, and the Internet*, THE AMERICAN PROSPECT (Apr. 10, 2000) <<http://www.prospect.org/archives/V11-10/lessig-1.html>> [hereinafter, “*Innovation*”] (reporting congressional aides as aghast at thought of “regulating” cyberspace); see also Bickerstaff, *infra* note 9, at 6 (“In effect, the FCC directly and indirectly went about creating a regulatory structure that, despite numerous intervening decisions over almost thirty years, still shapes the computer services marketplace and effectively subsidizes public use of the Internet.”).

⁵ Even advocates of self-regulation acknowledge the role of the U.S. government in the Internet’s development and that the government has “always placed some regulation on cyberspace.” Llewellyn Joseph Gibbons, *No Regulation, Government Regulation, or Self-Regulation: Social Enforcement or Social Contracting for Governance in Cyberspace*, 6 CORNELL J.L. & PUB. POL’Y 475, 501 (1997).

⁶ In so doing, it follows in the visionary work of scholars who have long recognized — at least for Internet time — that government can regulate the Internet most effectively by acting in aid of the

This Essay proceeds in four parts. Part I briefly outlines the Internet's emergence and the changing nature of the debate over its regulatory status. Part II highlights how standard-setting bodies and the Internet's reliance on open standards have shaped the Internet's character in critical ways. Part III proposes an analytical framework for government regulators to use in evaluating whether, and if so when, to impose interoperability mandates on information platforms. Finally, Part IV criticizes, based on the principles set forth in Part III, the FCC's recent decision to impose an interoperability mandate on AOL Time Warner's instant messaging product.

I. LAW AND THE INTERNET

Depending on one's vantage point, the Internet was born in 1969 as a Defense Department project, in 1989 when Timothy Berners-Lee developed the software code that launched the World Wide Web, or possibly even 1992 when the Internet browser made using the Web a multimedia experience and the U.S. government allowed commerce to be conducted on the Internet.⁷ In any event, from 1969 to 2000, the dominant ideology of the Internet community resisted almost all forms of conventional government regulation. As a result, many embraced the mantra of "don't regulate the Internet" and others insisted that the Internet, by virtue of its openness and international nature, could not be regulated.⁸

The reality is that the Internet has always been regulated. To be sure, it has not been subject to the full panoply of command and control regulation placed upon, say, the telecommunications industry. Rather, the Federal Communications Commission consciously decided to forbear from regulating information processing or, as it termed it, "enhanced" services like those traditionally provided over the Internet.⁹ In so doing, the FCC allowed for other forces — namely, the leadership of the U.S. government in getting the Internet started, the constraints imposed by a standard-setting process led by a community of engineers who insisted on open, non-proprietary standards for the Internet, the self-restraint of companies doing business on the Internet, and/or the free market itself to regulate the shape of and behavior on the Internet.¹⁰

private organizations that govern the Net, not by staying out of the way entirely. See Joel R. Reidenberg, *Governing Networks and Rule-Making in Cyberspace*, 45 EMORY L.J. 911, 930 (1996) [hereinafter, "*Governing Networks*"].

⁷ For a recitation of this relevant history, see Edward L. Rubin, *Computer Languages as Networks and Power Structures Governing the Development of XML*, 53 SMU L. REV. 1447, 1449-52 (2000).

⁸ For a listing of some of the notable scholarship, see Netanel, *supra* note 3, at 398 n.2.

⁹ For two discussions of this history, see Jason Oxman, *The FCC and the Unregulation of the Internet*, OPP Working Paper No. 31, 1999, <http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp31.txt>; Steve Bickerstaff, *Shackles on the Giant: How The Federal Government Created Microsoft, Personal Computers, and the Internet*, 78 TEX. L. REV. 1, 7-21 (1999).

¹⁰ For an explanation of how forces other than "law" regulate conduct, see Lawrence Lessig, *The New Chicago School*, 27 J. LEGAL STUD. 661, 662-66 (1998) (discussing how markets, social norms, and architecture all regulate conduct).

In 1997, academic commentators analyzing the Internet regularly exclaimed that “the strongest argument for self-regulation is that it works,”¹¹ pointing to the Web’s exponential growth. Following this sentiment, the U.S. government also championed self-regulation by industry to address public policy questions raised by Internet commerce, including technical standard setting.¹² The basic ideal of self-regulation is that a community can police itself through either the development of norms of conduct, private law enforced by contract, technological architecture,¹³ or some combination of the three.¹⁴ This ideal, however, has been subject to all too little critical examination.¹⁵ In areas involving technical standard setting, the case for deferring to private organizations seems particularly strong, as technical standards are an area where industry participants are likely to have “superior knowledge of the subject compared to a government agency.”¹⁶ In addition, when it comes to standard setting (as opposed to, say, privacy policy), the institution of an open standard can be a self-executing act (whereas other areas like privacy policy require the maintenance of an adjudication mechanism to monitor compliance).¹⁷ Thus, in

¹¹ Gibbons, *supra* note 5, at 484.

¹² See President William J. Clinton & Vice President Albert Gore, Jr., A Framework For Global Electronic Commerce Sec. 9 (1997) (“Standards are critical . . . as they can allow products and services from different vendors to work together”; “the marketplace . . . should determine technical standards and other mechanisms for interoperability”).

¹³ Commentators continue to debate the advantages and disadvantages of technological approaches, such as filtering, for addressing Internet issues such as spam (i.e., junk email), undesirable content (e.g., pornography), and privacy. Lawrence Lessig, for example, highlights the risk that filters pose to the Internet’s open architecture, assailing such measures on this ground. See Lawrence Lessig, *The Spam Wars*, THE INDUSTRY STANDARD (Dec. 31, 1998) <<http://www.thestandard.com/article/display/0,1151,3006,00.html>> (assailing use of programs designed to limit spamming through blacklisting); Lawrence Lessig, *Tyranny in the Infrastructure*, WIRED 5.07 (July 1997) <http://www.wired.com/wired/5.07/cyber_rights.html> (terming the Platform for Internet Content Selection, PICS, which is used to filter out pornography, “the devil”). Others have defended such private solutions. See David G. Post, *What Larry Doesn’t Get: Code, Law, and Liberty in Cyberspace*, 52 STAN. L. REV. 1439 (2000). Yet others, in a third camp, have looked for intermediate solutions that would combine the use of such technologies with government involvement in the ratings system to address private censorship concerns. See Thomas B. Nachbar, *Paradox and Structure: Relying on the Government To Preserve the Internet’s Unregulated Character*, 85 MINN. L. REV. 215 (2000). Unfortunately, a careful assessment regarding the proper role for such technological solutions is beyond the scope of this Essay.

¹⁴ As one commentator put it, “[r]ules are established by mutual agreement, and like the old West, each person defends his or her own electronic homestead; violating the few rules that exist is punished through technology, social forces, or system administrators.” Gibbons, *supra* note 5, at 481.

¹⁵ See Cass R. Sunstein, *Television and the Public Interest*, 88 CALIF. L. REV. 499, 504 (2000) (“[D]espite its growing importance, the general topic of self-regulation has received little academic attention.”). For a notable exception, see Angela J. Campbell, *Self-Regulation and the Media*, 51 FED. COMM. L.J. 711 (1999).

¹⁶ Douglas C. Michael, *Federal Agency Use of Audited Self-Regulation as a Regulatory Technique*, 47 ADMIN. L. REV. 171, 181-82 (1995).

¹⁷ As Cass Sunstein put it, “[w]ithout an enforcement mechanism, a code might have no effect at all, indeed it might be a form of public deception.” Sunstein, *supra* note 15, at 555. Indeed, without such a system, the incentive for non-compliance will prove alluring to those who can compete without having to follow the restrictions. See *id.* at 556 (“A special problem here is that in

terms of critically evaluating the proper balance between the alternatives of government abdication, oversight, and regulation, appreciating the nature of standard setting is an important part of understanding the government's basic commitment to self-regulation as the dominant mode of Internet governance.¹⁸

In retrospect, the year 2000 may emerge as the year when opinion began to shift on the role of law and regulation in shaping the Internet. In his important book published late in 1999, Lawrence Lessig championed the role of law in preserving liberty on the Net, thereby challenging the popular view that government regulation should be fought at all costs.¹⁹ Moreover, despite the "hands off the Internet" rhetoric, Congress continues to evaluate a series of laws that would shape the future of the Internet.²⁰ Finally, despite the suggestion that technology would render law irrelevant in shaping the Internet's future, a series of high-profile cases, including those involving Napster,²¹ the use of decryption software to make DVDs available over the Internet,²² and eBay's legal action against a company that copied its auction listings,²³ demonstrated that the irrelevance of law to the Internet's future had been greatly exaggerated.²⁴ In short, the sooner legal commentators and policymakers fully appreciate the important relationship between law and the Internet, the better able they will be to make intelligent choices regarding how regulation will play a critical part in shaping the Internet's future.

II. STANDARDS AND THE INTERNET

The most formidable regulatory regime that has governed the Internet to date is the institution of open standards that has allowed the Internet to grow exponentially as a network of networks. Indeed, many technology companies initially failed to appreciate just how significant the basic open protocols were to the Internet's success. Microsoft, for example, believed that the open protocol for documents, HyperText Markup Language (HTML), would be displaced by

light of increasing competition from nonbroadcast programming sources, a code would not be in the economic interest of broadcasters even if generally adopted, and this is an unpromising fact for a code's effectiveness.").

¹⁸ It is also important, of course, to examine critically the effectiveness of self-regulation as to other matters such as privacy policy where the initial self-regulatory efforts have not been encouraging. See FEDERAL TRADE COMMISSION, *PRIVACY ONLINE: FAIR INFORMATION PRACTICES IN THE ELECTRONIC MARKET-PLACE* 34-35 (May 2000) (critiquing the lack of effective enforcement mechanisms and noting that, "notwithstanding several years of industry and governmental effort, only 8% of heavily-trafficked Web sites display a seal from one of the self-regulatory seal programs.").

¹⁹ LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* (1999).

²⁰ See Yochai Benkler, *Net Regulation: Taking Stock and Looking Forward*, 71 U. COLO. L. REV. 1203 (2000).

²¹ *A&M Records v. Napster*, 114 F. Supp. 2d 896 (N.D. Cal. 2000).

²² *Universal City Studios, Inc. v. Reimerdes*, 111 F. Supp.2d 294 (S.D.N.Y. 2000).

²³ *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000).

²⁴ A number of commentators have made this point. See, e.g., Charles Fried, *Perfect Freedom or Perfect Control*, 114 HARV. L. REV. 606, 630-36 (2000) (reviewing LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* (1999)).

the use of its dominant and proprietary word processing program, Microsoft *Word*.²⁵ Despite Microsoft's ambitions, a series of open protocols, such as the basic protocol that facilitates data transport, the Transmission Control Protocol/Internet Protocol (TCP/IP) and others such as HTML, have gained wide acceptance, enabling millions to use the Internet. These standards, in large part because they were open and endorsed by trusted standard-setting committees, helped drive the development of new applications and encourage the increased usage of the Internet.

The close relationship between the Internet's success and voluntary standard-setting organizations reflect a happy coincidence of events. During the formative years when individuals in the scientific, research, and governmental communities began envisioning the emergence of what would become the Internet, the telecommunications establishment — then represented by the AT&T monopoly — viewed the Internet skeptically and rejected an offer to manage its infrastructure.²⁶ In retrospect, the fact that the Defense Department's Advanced Research Projects Administration (ARPA), along with individuals in the academic community, developed the basic architecture for the Internet meant that no one owned the Internet's protocols or had to pay a license for their use.²⁷ Thus, the Internet's standards were open and approved by standard-setting bodies like the Internet Engineering Task Force (IETF)²⁸ and were not proprietary ones held by AT&T.²⁹

The Internet's openness created a virtuous cycle where members of the Internet community continued to improve upon its basic architecture by adding new functionalities that were placed in the public domain, thereby making the Internet a more valuable network.³⁰ On the supply side, a culture emerged whereby developers would work with one another and rely on open standards rather than compete with one another to establish the basic architecture that

²⁵ See CHARLES H. FERGUSON, *HIGH STAKES, NO PRISONERS* 58 (1999).

²⁶ See JOHN NAUGHTON, *A BRIEF HISTORY OF THE FUTURE* 115-17 (1999).

²⁷ See Nathan Newman, *Storming the Gates*, 11 AMERICAN PROSPECT (Apr. 10, 2000) <<http://www.prospect.org/archives/V11-10/newman-n.html>> ("Largely funded by the federal government, open-source software was the creative force behind the explosion of the computer industry; it also drove development of the Internet and still comprises much of the Internet's inner workings.").

²⁸ For an overview of the IETF, which is acknowledged to be the most important Internet standards body, see Internet Engineering Task Force, *Overview of the IETF* (visited Jan. 10, 2001) <<http://www.ietf.org/overview.html>>; Scott Bradner, *The Internet Engineering Task Force*, in OPEN SOURCE: VOICES FROM THE OPEN SOURCE REVOLUTION 47 (Chris DiBona et al. eds. 1999).

²⁹ It seems reasonable to assume that AT&T would have sought to keep the Internet's basic standards proprietary, as it ultimately did so with the operating system invented at Bell Labs, UNIX. See Lawrence Lessig, *Open Code and Open Societies: Values of Internet Governance*, 74 CHI. KENT L. REV. 1405, 1411 (1999) [hereinafter "*Open Code*"].

³⁰ The phenomenon that a network becomes more valuable as more persons use it (such as the telephone, fax machine, or email) is often referred to as a "network effect." See Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424 (1985); Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSP. 93 (1994); Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479 (1998); CARL SHAPIRO & HAL R. VARIAN, *INFORMATION RULES* 173-226 (1998).

supports the Internet.³¹ Because trusted standard-setting organizations adopted these key standards and made them open,³² developers did not have to worry about these standards being ignored and defeated, thereby undermining the value of any applications built off of those standards.³³ In a particularly clever move that helped to entrench these arrangements as to some key Internet technologies, Richard Stallman, the founder of the Free Software movement, set up a legal regime for open source using a license that relied on the power of copyright — the General Public License (or GPL) — to guarantee that any improvements on the basic code be contributed back to it.³⁴

The positive feedback loop experienced on the supply side of the Internet's development also drove the demand side growth of the Internet as well. As economists have explained, the economics of information goods, like those supplied on the Internet, differ markedly from traditional industrial goods. For starters, information goods are often expensive to produce, but very cheap to copy (particularly if they are in a digital format); thus, as an economist would put it, when the marginal cost of a product is very close to zero, people should not be surprised when companies adopt unconventional strategies like giving products away for free.³⁵ The other key dynamic, which reinforces the value of giving away information goods for free, is that companies supplying such products are often concerned about establishing a dominant network. As on the supply side, the demand side also benefits from the virtuous cycle that the more users who join a network, the more valuable it is. Thus, whether the network is AOL instant messaging users, eBay auction customers, or Napster users, the more individuals who use the product, the more valuable it is. Significantly, provided that the basic platform of the Internet is open and accessible, the various

³¹ See Sharon Eisner Gillet & Mitchell Kapor, *The Self-Governing Internet: Coordination by Design* in COORDINATING THE INTERNET 15 (eds. Brian Kahin & James H. Geller 1997) ("As a practical matter, the [open] platform architecture greatly simplifies — and therefore expedites — the development of interoperable Internet applications."). The work by the U.S. government's Advanced Projects Research Association facilitated the emergence of such a culture. See Newman, *supra* note 27 ("ARPA's network harnessed the resources of universities to provide a continuous stream of free software to improve its functionality."). As a result, many Internet companies took the perspective "[t]he Internet is not, by its nature, intellectual property-based; it's standards-based," and adopted "a radical commitment to open standards." Victoria Slind-Flor, *Daniel Scheinman, Cisco Systems, Inc., THE NAT'L L.J.*, B1 (May 31, 1999) (quoting Daniel Scheinman, Cisco System Inc.'s General Counsel).

³² The importance of trusted standard-setting organizations like the IETF cannot be underestimated, as other industries have yet to coalesce on standards for key products, such as the format for medical records. See Jonathan Zittrain, *What the Publisher Can Teach the Patient: Intellectual Property and Privacy in an Era of Trusted Privication*, 52 STAN. L. REV. 1201, 1246 (2000) (noting this fact, due to a collective action problem, and contrasting it with the development of trusted standards for the sale of music on the Internet).

³³ See Clayton P. Gillette, *Interpretation and Standardization in Electronic Sales Contracts*, 53 SMU L. REV. 1431, 1434 (2000) ("[K]nowing that all others in the industry will be moving simultaneously, each party is assured that it will not be ostracized from the network by moving to what all consider a superior standard.").

³⁴ Ira V. Heffman, Note, *Copyleft: Licensing Collaborative Works in the Digital Age*, 49 STAN. L. REV. 1487, 1508 (1997) (setting out conditions of GPL).

³⁵ See SHAPIRO & VARIAN, *supra* note 30, at 24.

applications that ride on top of it — instant messaging, auctions, or digital music — can all enhance the value of the Internet itself, particularly because its open protocols assures both users and developers that it will be a stable standard.

The supply side and demand side developments stemming from the Internet's open platform have contributed greatly to the Internet's popularity and increased use. On today's Internet, individuals, whether as developers or users, benefit from what engineers have called the Internet's "end-to-end" architecture principle. In short, "end to end" means a commitment to (1) openness (both in terms of its basic standards and in the culture of the standard-setting organizations themselves); (2) modularity and protocol layering; and (3) the shifting of intelligence and control to the edge of the network.³⁶ Significantly, the norm of end-to-end architecture reflected a particular policy that facilitated open access to applications made available on the Internet. Whether and how Internet standards follow this principle in the future will impact greatly on matters ranging from privacy to security policy.³⁷ Thus, policymakers cannot afford to ignore the work of technical standard-setting committees.³⁸

Numerous commentators have championed the role of government in maintaining a communications commons and preserving the Internet's end-to-end architecture, Lawrence Lessig and Yochai Benkler being two of the most prominent.³⁹ In the "Internet space," a central question is how much of the Internet should be governed as a commons as opposed to as private property. eBay's website, for example, which lists a large number of items for auction, could be viewed as a commons where anyone could have access to the listings and could re-list them. Not surprisingly, eBay maintains that such an approach would deprive it of the incentive to build a better directory of listings and that

³⁶ See Dale Hatfield, *Preface*, 8 COMMLAW CONCEPTS 1, 1 (2000). For a classic articulation of the principle, see Jerome H. Saltzer et al., *End-to-End Arguments in System Design*, 2 ACM TRANSACTIONS IN COMPUTER SYSTEMS 277 (1984), reprinted in INNOVATIONS IN INTERNETWORKING 195 (Craig Patridge ed., 1988).

³⁷ In fact, concerns about privacy and security, among other things, have placed considerable pressure on the commitment of network architects to the end-to-end principle. See David D. Clark & Marjory S. Blumenthal, *Rethinking the Design of the Internet: The End to End Arguments vs. the Brave New World* (Aug. 10, 2000) <<http://ebusiness.mit.edu/research/TPRC-Clark-Blumenthal.pdf>>.

³⁸ Joel Reidenberg identified this point back in 1996. See Reidenberg, *Governing Networks*, *supra* note 6, at 927; see also Joel R. Reidenberg, *Lex Informatica: The Formulation of Information Policy Rules Through Technology*, 76 TEX. L. REV. 553 (1998) [hereinafter, "*Lex Informatica*"]. Indeed, regulators have begun to pay increasing attention to the importance of technical standards. See, e.g., Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 HARV. L. REV. 501, 514 n.43 (1999) [hereinafter, "*The Law of the Horse*"] (offering example of the FBI's request of the IETF that it endorse protocols that would enable government to monitor Internet communications).

³⁹ See Lessig, *Open Code*, *supra* note 29, at 111 (stressing the importance of the end-to-end principle); Lawrence Lessig, *The Limits in Open Code: Regulatory Standards and the Future of the Net*, 14 BERKELEY. TECH. L.J. 759 (1999) (championing open code as key to protecting liberty); Yochai Benkler, *Communications Infrastructure Regulation and the Distribution of Control over Content*, 22 TELECOMMUNICATIONS POLICY 183, 195 (1998) (urging policymakers to "a broad social distribution of communicative functions, rather than policies likely to lead to a concentrated model of communications").

copying its listings should be barred as an illegal trespass.⁴⁰ By prevailing on this claim in a recent case, eBay took a first step to establish a limitation on the commons principle.⁴¹ Unfortunately, the property right granted to eBay, unlike the right available under copyright, appears to be unqualified and does not discriminate between a Consumer Reports reporter who wants to list eBay's prices versus a competitor who wants to "free ride" on eBay's network to build its own rival auction site.⁴²

The ongoing struggle to define the nature of the Internet commons takes place in the shadow of an old debate among economists and lawyers: under what conditions does society face the "tragedy of the commons" problem.⁴³ The strong version of this theory maintains that common property, such as the set of protocols and architecture that created the Internet, cannot be maintained over time because individuals will realize that it is in their individual self-interest to be a "free rider" and not the "sucker" who devotes effort to maintaining property that benefits others. On this view, it is irrational to devote time and energy to community endeavors. Obviously, the strong version of this theory fails to explain a variety of civic engagements, including the devotion of numerous engineers who spent time in standards-setting committees developing the basic protocols that made the Internet possible. Nonetheless, it is important to acknowledge that this perspective raises an important governance concern for the Internet's future: The greater amount of resources that are stake, the more difficult it may be to rely on informal methods of coordination.⁴⁴ Put differently, history suggests that the development of open source (as opposed to proprietary) innovations in a commercial environment will be the exception, not the rule.⁴⁵

The shift in the Internet from an entirely open standards-based model to one where there are increasing uses of proprietary standards for critical functions raises a serious question for Internet governance. As long as the basic standards

⁴⁰ eBay, Inc. v. Bidder's Edge, Inc., 100 F. Supp. 2d 1058, 1065 (N.D. Cal. 2000).

⁴¹ *Id.* at 1066.

⁴² This criticism is at the heart of the Law Professors' amicus brief to the Ninth Circuit. See Bidder's Edge, Inc. v. eBay, Inc., No. 00-15995, Brief of Amicus Curiae by Mark A. Lemley and 27 Other Professors of Law 12-13 (June 22, 2000) <<http://www.law.berkeley.edu/institutes/bclt/pubs/lemley/bedgeami.pdf>>. For an application of an appropriately tailored free rider concern, see International News Service v. Associated Press, 248 U.S. 215 (1918); NBA v. Motorola, Inc., 105 F.3d 841, 845 (2d Cir. 1997).

⁴³ For a good discussion of the phenomenon where a collective good, such as a community park, is left to wither because no individual enjoys a property interest in it and takes responsibility for its maintenance, see Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

⁴⁴ The formalization of Internet governance continues to be a challenging process, particularly as there is a strong commitment to keep the government out of it. With respect to the effort to develop a regime for regulating the use of domain names, many have criticized strongly the work of the Internet Corporation for Assigned Numbers and Names (ICANN). See Lawrence Lessig, *A Bad Turn for Net Governance*, THE INDUSTRY STANDARD, Sept. 18, 1998 <www.thestandard.com/article/display/0,1151,1718,00.html>; A. Michael Froomkin, *Wrong Turn in Cyberspace: Using ICANN to Route Around APA and the Constitution*, 50 DUKE L.J. 17 (2000); Jonathan Weinberg, *ICANN and the Problem of Legitimacy*, 50 DUKE L.J. 187 (2000).

⁴⁵ See Lessig, *Open Code*, *supra* note 29, at 107 ("The idea that through this collective, essentially volunteer, effort, one of the most powerful operating systems on the planet could be developed is, to put it mildly, surprising.").

were in the public domain, the Internet's architecture contained a form of self-control that ensured that individuals and developers could easily access critical functions.⁴⁶ But as the Internet moved to accommodate commerce, the incentives for developing proprietary applications — and the increased difficulty in maintaining a categorical commitment to openness — were going to be difficult to contain. Indeed, the larger the Internet community becomes, the more difficult it is to maintain a completely "commons" model. The dynamics introduced by the transformation of the Internet from a public commons to a growing private marketplace thus creates challenges both for the existing standard-setting committees and, where critical standards remain proprietary, for government as well.

By adopting an open standard, an industry places a key value proposition — the underlying platform — outside of proprietary ownership and thus facilitates the broad adoption of the standard. The Internet, while today's most significant case of how standards can structure an industry, merely follows prior models of this dynamic, such as the railroad industry's adoption of a standard gauge nationwide and the electric industry's adoption of AC power and a standard plug.⁴⁷ The powerful logic for open standards, however, masks the often more powerful self-interest in maintaining a proprietary standard, which possibly obscured AT&T's appreciation of the Internet's future significance at its creation and Microsoft's appreciation for open standards as it was just starting to take off. This dynamic presents a different form of the tragedy of the commons: the Internet community as a whole will sometimes be better off with open, interoperable standards, but an individual company will often see sticking with a proprietary standard as in its best interest.⁴⁸ A second and related dynamic that drives companies to develop proprietary standards are that open standards developed or approved by a standard-setting body may constrain a company's control over its network and/or its ability to innovate, as open standards are often set at the lowest common denominator.⁴⁹ Thus, the future of open standards

⁴⁶ As Professor Lessig explains, the danger of owning the commons that forms the Internet experience is that "[i]f the code of cyberspace is owned . . . it can be controlled; if it is not owned, control is much more difficult." LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* 7 (1999). See also Oxman, *supra* note 9, at 5 (The internet's "openness is driven by the sharing of that common communications protocol: IP, the Internet protocol, developed by early Internet pioneers. No one owns the Internet protocol, no one licenses its use, and no one restricts access to it.").

⁴⁷ PHILIP EVANS & THOMAS S. WURSTER, *BLOWN TO BITS* 33 (1999).

⁴⁸ See Nicholas G. Carr, *Gated Communities*, *THE INDUSTRY STANDARD* 178 (Dec. 4, 2000) ("There is always an incentive for one company to try to . . . change standards and leave other companies inoperable, but there is a tremendous incentive for the community as a whole to prevent that.") (quoting Tim Berners-Lee); Morris & Ferguson, *infra* note 49, at 87 ("Simply stated, competitive success flows to the company that manages to establish proprietary architectural control over a broad, fast-moving, competitive space.").

⁴⁹ Some commentators have criticized such standards. See Charles R. Morris & Charles H. Ferguson, *How Architecture Wins Technology Wars*, *HARV. BUS. REV.*, March-April 1993, at 86, 89 ("Because they are set by committees, they usually settle on lowest-common denominator, compromise solutions."). Others have stressed that such standards are "good enough." See EVANS & WURSTER, *supra* note 47, at 31 (acknowledging the "lowest common denominator" criticism, but explaining that "at some point in advance of a technology, generic standards become good enough

faces challenges both from the incentive of companies to extract value from the development of new standards and to increase their control over their network.⁵⁰

In 1995, before the Internet became big business, private standard-setting bodies like the IETF could focus on the technical merits of proposed standards without the distorting influence of private companies that would benefit depending on the ultimate outcome. As the stakeholders in the future of the Internet become more diverse and more concerned with the impact of the Internet's development on their profits, stable, open, and end-to-end-based standards may well become the exception, not the norm.⁵¹ Take the case of instant messaging, for example. Instant Messaging, or IM, relies on the Internet transport protocols and adds a Names and Presence Directory to facilitate real-time communication. Unlike email, IM providers have yet to agree on an open, interoperable protocol that enables all users of the service to reach one another. But with the high stakes in a battle to "win" this new network market, AOL has not been eager to share its network externality with others. AOL claims that its actions reflect legitimate concerns about privacy and security, but others, including the FCC, have concluded that AOL is "dragging its feet" to maintain a dominant position that might suffer in a world where IM was an interoperable service.⁵²

Although direct government oversight of the deliberations or outcome of Internet standard setting would be quite controversial, antitrust oversight of the setting of Internet standards will undoubtedly increase as the area becomes ripe for anticompetitive conduct.⁵³ In particular, antitrust enforcers (and courts) should guard against two particular concerns: (1) the use of standard-setting bodies to freeze technology, either through delay or refusal to certify a new

for their advantages in universal acceptance to outweigh their disadvantages in any specific application.").

⁵⁰ Noting this phenomenon, Carl Shapiro and Hal Varian emphasize that "[o]pen standards can . . . be 'hijacked' by companies seeking to extend them in proprietary directions, and thus in time gain control over the installed base." SHAPIRO & VARIAN, *supra* note 30, at 257.

⁵¹ Lawrence Lessig, *Innovation, Regulation, and The Internet*, THE AMERICAN PROSPECT (Apr. 10, 2000) <<http://www.prospect.org/archives/V11-10/lessig-1.html>> [hereinafter "Innovation"] ("[E]nd-to-end is a norm among network architects [that] is increasingly becoming displaced as other players move onto the field."); Margaret Jane Radin & R. Polk Wagner, *The Myth of Private Ordering: Rediscovering Legal Realism in Cyberspace*, 73 CHI.-KENT L. REV. 1295, 1309 (1998) ("Achievement of stability in self-regulated commons is often thought to be dependent on the degree to which the cooperators are a close-knit, homogenous cultural group."); Reidenberg, *Lex Informatica*, *supra* note 38, at 592 ("[I]t is unlikely that the consensus model will persist to function effectively because global networks now reflect more diverse interests."); cf. Alan Schwartz & Robert E. Scott, *The Political Economy of Private Legislatures*, 143 U. PENN. L. REV. 595, 650-51 (1995) ("[T]heory suggests that a private legislature with a membership similar to that of the ALI and NCCSUL and procedures similar to theirs will have a strong status quo bias and sometimes will be captured by powerful interests.").

⁵² Memorandum Opinion and Order at 73 ¶ 169, In the Matter of Applications 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, FCC 01-12, (rel. Jan. 22, 2001) (No. 00-30) [hereinafter "AOL Order"].

⁵³ Antitrust law recognizes that where organizations are motivated by public interest concerns – as opposed to economic self-interest – courts should be more reluctant to assign antitrust liability. See *United States v. Brown Univ.*, 5 F.3d 658, 677-78 (3rd Cir. 1993).

technology;⁵⁴ and (2) the non-disclosure of information that enables a company to control key proprietary technology used in a purportedly open standard.⁵⁵ But as antitrust can only safeguard a fair competitive process,⁵⁶ it will be up to government regulators to decide whether to condone *de facto*, proprietary standards or to enforce some form of open access regime to preserve the Internet's commitment to open standards for its key functions.⁵⁷ In so doing, government regulators will have to be mindful of the difficulty of superintending open access regimes,⁵⁸ not to mention setting technical standards.

III. INFORMATION PLATFORMS AND GOVERNMENT REGULATION OF STANDARDS

A challenging question for Internet governance and government regulators is how to maintain a core commitment to open standards for the basic Internet architecture and whether, if at all, to ever mandate some form of openness as to critical extensions of the Internet. As the Internet is increasingly becoming the central communications platform of the future, the government will have no

⁵⁴ See *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492 (1988) (holding that an anticompetitive refusal to certify a new product as safe gives rise to an antitrust claim); Ernest Gellhorn & W. Todd Miller, *Competitor Collaboration Guidelines – A Recommendation*, 42 ANTITRUST BULLETIN 851, 864 (1997) (“Where innovation is important and the duration of product life cycles brief, delay in the approval of a standard critical for entry into a market can be as effective as a direct exclusion.”); STEPHEN BREYER, *A THEORY OF REGULATION* 115 (1985) (noting this concern); FTC STAFF REPORT, STANDARDS AND CERTIFICATION 2 (1983) (“Participants in the standards process often have incentives to promulgate standards that enhance their own competitive position at the expense of their competitors or consumers.”).

⁵⁵ Because standard-setting bodies generally impose a reasonable compulsory licensing policy on their participants, they often require that all patented technology be disclosed and made available for licensing before being included in an approved standard. See Joseph Farrell & Carl Shapiro, *Standard Setting in High-Definition Television*, BROOKINGS PAPERS: MICROECONOMICS 1992 at 42 (discussing this practice of the American National Standards Institute). Thus, when Dell withheld such information and later sought to charge a premium for access to its patented technology, the Federal Trade Commission challenged this tactic under the antitrust laws. See Federal Trade Commission press release, “Dell Computer Settles FTC Charges; Won’t Enforce Patent Rights for Widely Used Computer Feature (Nov. 2, 1995) <www.ftc.gov/opa/1995/9511/dell.htm>; see Mark A. Lemley, *Antitrust and the Internet Standardization Problem*, 28 CONN. L. REV., 1041, 1086-87 (1996) (describing incident).

⁵⁶ As FTC Chairman Robert Pitofsky put it, “The role of government [antitrust] enforcers, therefore, is not to interdict legitimate industry self-regulation but to ensure that such efforts are consistent with the operation of competitive markets.” Antitrust Implications of Entertainment Industry Self-Regulation to Curtail Violence, Testimony Before U.S. Senate Judiciary Committee 9 (Sept. 20, 2000) <<http://www.ftc.gov/os/2000/09/jctestimony.htm>>.

⁵⁷ As one commentator points out, the government’s involvement in this area would mean a partial return to its prior approach of helping to ensure the centrality of open standards. See Newman, *supra* note 27 (“[T]he government’s abdication has left Internet development increasingly in the hands of self-interested companies seeking commercial advantage rather than maximum innovation and compatibility for consumers.”). In theory, the government continues to champion the virtues of open standards, but it has done little in practice to advance that goal. See Mark A. Lemley, *Standardizing Government Standard Setting Policy for Electronic Commerce*, 14 BERKELEY TECH L.J. 745, 748-57 (1999).

⁵⁸ For a list of government-mandated interoperability mandates in the telephony context, see AOL Order, *supra* note 52, at 79 n.487.

choice but to address this issue. Due to its historical pedigree as a government and academic creation, the Internet grew up under the “end-to-end” principle. Thus, the Internet differs markedly from traditional telecommunications networks, which maintained the intelligence of the network in the center, were often operated by monopoly providers, and were heavily regulated. For the last thirty years, when the Internet was an “application” that relied on telecommunications, the FCC distinguished between telecommunications and information services, regulating the latter, but not the former. But as Internet technology displaces traditional telecommunications networks, the old regime of regulation will become increasingly antiquated. Anticipating the development of a new regulatory regime, this Part introduces the concept of an “information platform”⁵⁹ and outlines how regulators should evaluate whether to mandate interoperability between different service providers.

A. Information Platforms

Lawyers are just starting to understand how the basic architecture of the Internet relates to regulation and the role of government. Timothy Wu, building off the Internet’s end-to-end principle and the increasingly accepted point that “code is law,”⁶⁰ has highlighted how the law should distinguish between the “applications” that ride on the Internet and the basic standards that are developed by standards bodies such as the IETF.⁶¹ This argument makes sense as far as it goes, but it risks imposing too sharp a dichotomy between applications and basic standards. In particular, it suggests that the Internet’s basic architecture and commitment to the end-to-end principle will be relatively static and self-sustaining. In so doing, this perspective does not appreciate that the evolution of the Internet such that certain of today’s proprietary *applications* may emerge as tomorrow’s *information platforms*. Thus, if the end-to-end principle is to be protected in the future not just as to today’s basic standards, but also as to the critical information platforms of the future, it will require regulators to develop a new approach to Internet regulation.⁶²

⁵⁹ I use the term “information platforms” because it appropriately conveys that a platform can be either comprised of hardware or software. To my knowledge, the only other academic use of a related term is in Douglas Lichtman, *Property Rights in Emerging Platform Technologies*, 29 J. LEGAL STUD. 615 (2000).

⁶⁰ Lessig, *The Law of the Horse*, *supra* note 38, at 509 n.31 (collecting sources); Timothy Wu, *Application-Centered Internet Analysis*, 85 VA. L. REV. 1163, 1183 (1999) (“study of the Internet also works from a sufficiently general common denominator: the set of standards that define the Internet”); Fried, *supra* note 24, at 609 (“there is nothing pre-conventional about how communications takes place between a user and her machine”).

⁶¹ Wu, *supra* note 60, at 1164 (“[N]early everything that ‘counts’ about the Internet from a legal standpoint is a function of the particular application at issue and *not* of the basic Internet protocols.”).

⁶² See Carr, *supra* note 48, at 178 (“[T]he days of the open Internet may be numbered.”); Mark A. Lemley, *The Law and Economics of Internet Norms*, 73 CHI.-KENT L. REV. 1257, 1283 (1999) [hereinafter “*Internet Norms*”] (“[I]t is not too hard to imagine a future in which the [Internet’s] protocol – or the wires, or the implementing software – is proprietary.”); see also Neil Weinstock Netanel, *Cyberspace 2.0*, 79 TEX. L. REV. 447, 450 (2000) [hereinafter “*Cyberspace 2.0*”] (“We are rapidly entering a domain of media conglomerates’ proprietary control of content, distribution, and

Rather than an "application-centered Internet analysis," policymakers should focus on an "information platform-centered analysis." In particular, if a given Internet function is merely an application that rides on top of Internet infrastructure, policymakers need not worry about claims that other parties should have access to this application. But for software programs or hardware that facilitates the use of other applications, policymakers will need to consider whether an open access or interoperability mandate makes sense as a means of preserving the Internet's open architecture. The difficult challenge here is to distinguish between two categories that are not fixed: While some software programs will clearly be information platforms (such as the Internet browser), others (such as instant messaging services) may initially be a stand-alone application, but will become an information platform that supports other applications. Unfortunately, not only will finding the right answers here be difficult, but it will also be challenging to determine what are the right questions.

Because the development of standards profoundly impacts the Internet economy, policymakers cannot reject categorically the argument for imposing interoperability mandates on the ground that Internet standards are voluntary and not coercive. To be sure, Johnson and Post are technically correct in stating that "[a]ll are free to decline to follow the standard and to obey some other protocol, and they will communicate only to those who, literally, speak their language,"⁶³ but this suggestion is akin to responding to a criticism of a lack of privacy or free speech on the Internet by telling users to "turn off their computer."⁶⁴ The reality is that a widely adopted Internet standard, whether of the open or proprietary kind, does not afford an opportunity for exit.⁶⁵ To use an analogy of a defeated standard, one does technically have a choice between using Betamax or VHS VCRs, but in today's world, such a free choice is no choice at all.⁶⁶ Thus, where

access, a realm in which our every Internet movement is tracked, recorded, and analyzed.").

⁶³ DAVID R. JOHNSON & DAVID G. POST, *And How Shall the Net Be Governed?: A Mediation on the Relative Virtues of Decentralized, Emergent Law*, in COORDINATING THE INTERNET 74 (Brian Kahin & James H. Keller eds. 1997); see also Dawn C. Nunziato, *Exit, Voice, and Values on the Net*, 15 BERKELEY TECH. L.J. 753 (2000) (arguing that ease of exit protects users in cyberspace); David Post, *Governing Cyberspace*, 43 WAYNE L. REV. 155, 169 (1996) ("[B]ecause America Online's ability to 'impose' rules contrary to that collective will is severely constrained by the ability of its subscribers to move somewhere else - to 'vote with their electrons.'").

⁶⁴ A review of Lessig's CODE AND OTHER LAWS OF CYBERSPACE offered this very response. See David Pogue, *Don't Just Chat, Do Something*, N.Y. TIMES BOOK REV., Jan. 30, 2000 <<http://partners.nytimes.com/books/00/01/30/reviews/000130.30pogu.html>>.

⁶⁵ In network markets where a dominant standard is likely to emerge, there may be only a small "window of opportunity" before the technology with the largest installed base gains an insurmountable advantage. David & Greenstein, *infra* note 69, at 14. As Mark Lemley explained, "The nature of the Internet, and indeed of most computer software markets, is such that a single standard is likely to emerge as the dominant one at each of several levels of performance." Mark A. Lemley, *Antitrust and the Internet Standardization Problem*, 28 CONN. L. REV. 1041, 1052 (1996).

⁶⁶ Similarly, where a subscriber is "locked-in" to a particular service because of prohibitively high switching costs, they also lack such a choice. To get around this problem, proponents of the "exit" theory sometimes posit hypotheticals of Internet markets where no one network emerges as dominant. See Nunziato, *supra* note 63, at 768 (analyzing issues under counterfactual assumption of five, equally sized ISPs).

a standard becomes dominant in a network industry (or where a customer is locked-in to a particular standard⁶⁷), there may well be a public value in a "general regime of open access."⁶⁸

Government regulation of standards concerning information platforms is hardly a novel concept. Unfortunately, lawyers have tended to leave the study of the matter to economists,⁶⁹ rarely considering when government involvement in standard setting is appropriate.⁷⁰ In broadcasting, for example, the FCC endorsed the NTSC standard for color television and has been closely involved in the development of a standard for digital television.⁷¹ By contrast, the government refrained from regulating the standards used in wireless telephony, leading to a proliferation of standards.⁷² In a third way, the FCC endorsed the setting of an open standard for settop boxes by an industry group (Cablelabs) to set a standard and certify compliance.⁷³ With the Internet, the challenge of standards regulation poses special difficulties, including that information platforms can be either physical — such as a broadband connection like a cable modem — or logical — such as a technical specification that facilitates compatibility between two instant messaging services — and that Internet markets tend to be very dynamic.

B. Towards a Principled Framework for Regulating Information Platforms

Given the lack of careful attention by the FCC or commentators to the challenges of regulating information platforms, the FCC's decision in the AOL/Time Warner matter to regulate instant messaging (discussed in Part IV,

⁶⁷ Even if dominance is not the issue, it is possible that a lock-in theory might justify regulatory oversight. The lock-in concern, which underlay the Supreme Court's decision in *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 465-78 (1992), remains controversial in that it condones that consumers may not appreciate the consequence of accepting higher switching costs. See SHAPIRO & VARIAN, *supra* note 30, at 146-47. Whether consumers appreciate it or not, many Internet companies most certainly do their best to provide "sticky" applications so as to "lock-in" consumers to individual services.

⁶⁸ Lemley, *Internet Norms*, *supra* note 62, at 1281; see Netanel, *Cyberspace Self-Governance*, *supra* note 3, at 427 ("To the extent that such exclusion substantially reduces the number of persons with whom the dissenter might potentially communicate, it also carries a loss of 'network benefits'").

⁶⁹ See, e.g., Farrell & Shapiro, *supra* note 55, at 6 (looking at case of high definition television as one posing the problem of "how to pick a single version of a promising new technology when multiple incompatible versions are available but ordinary marketplace rivalry is (at least arguably) undesirable."); Paul A. David & Shane Greenstein, *The Economics of Compatibility Standards: An Introduction to Recent Research*, 1 *ECON. INNOV. NEW. TECH.* 3, 3 (1990) (noting that questions regarding "compatibility and voluntary standard setting have emerged as having central strategic significance.").

⁷⁰ Two notable exceptions are Kathleen M.H. Wallman, *The Role of Government in Telecommunications Standards Setting*, 8 *COMMLAW CONCEPTS* 235 (2000) and Mark A. Lemley, *Standardizing Government Standard-Setting Policy For Electronic Commerce*, 14 *BERKELEY TECH. L.J.* 746 (1999). See also BREYER, *supra* note 57, at 96-119 (addressing the subject through the lens of automobile standards set by the National Highway Traffic Safety Administration (NHTSA)).

⁷¹ Wallman, *supra* note 70, at 243-46.

⁷² *Id.* at 246-47.

⁷³ *Id.* at 247-49.

below)⁷⁴— as well as its notice of inquiry related to whether cable companies should provide open access to cable modems⁷⁵ — may well spark a valuable dialogue concerning the issues presented in regulating information platforms. As an initial matter, regulation will need to develop a method for identifying what information platforms must be shared in some fashion.⁷⁶ By so doing, regulators can avoid imposing restrictions on platforms that need not be regulated while allowing critically important platforms to go unregulated.⁷⁷ In particular, I recommend that regulators consider at least three types of concerns before deciding whether to regulate an information platform: (1) the rationale for why access to a particular platform is critical and outweighs the risk of discouraging investment; (2) the extent to which the government can rely on natural incentives for platform creators to open their platforms; and (3) the seriousness of any implementation difficulties. In developing these three criteria, I do not mean to suggest that other considerations will not be important, but, at a minimum, that regulators should focus on these three. Unfortunately, as discussed below, the FCC failed to do just that in its AOL/Time Warner decision mandating interoperability of IM systems.

1. Relative Costs and Benefits of an Open Access Mandate

In considering whether or not to impose a regulatory mandate on an information platform, the threshold determination is what rationale justifies such a step. Put simply, not all information platforms merit government intervention to facilitate interoperability; thus, while government-mandated interconnection between new entrant and incumbent monopoly telephone networks addresses concerns about a dominant incumbent's ability to exclude competitors through denying interconnection,⁷⁸ regulators need not worry about such concerns with regard to video game console platforms, where there are a number of formidable competitors who are in the midst of a marketplace rivalry. As for the rationale for regulatory oversight, Lessig and other advocates of preserving a robust information commons on the Internet regularly invoke two distinct rationales for government regulation: (1) the importance of facilitating competition and

⁷⁴ See AOL Order, *supra* note 52.

⁷⁵ Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, GN Docket No. 00-185, Notice of Inquiry ("Cable Open Access Inquiry"), FCC 00-355 (rel. Sept. 28, 2000).

⁷⁶ It is worth noting that this task is not for telecommunications regulation alone, but also implicates intellectual property and antitrust law.

⁷⁷ In discussing the decision to regulate, I have simplified the issue by not discussing alternate forms of regulation, some of which, such as disclosure, are much less intrusive than others. For a contrast between two forms of regulation of information platforms (interconnection versus unbundling), see Phil Weiser, *Paradigm Changes in Telecommunications Regulation*, 71 U. COLO. L. REV. 819, 827-37 (2000).

⁷⁸ See 47 U.S.C. § 251.

innovation;⁷⁹ and (2) protecting liberty and the ability to speak and be heard using the medium.⁸⁰

The heart of the debate about government's role in the future of the Internet's development may well focus on the import of the rationale for regulation. At times, Lessig's concern with the specter of proprietary control of key Internet standards appears to lead to a categorical command for government oversight.⁸¹ To be sure, government should be concerned about the future development of the Internet,⁸² but Lessig's deep distrust of commercial development of proprietary standards (as opposed to open standards) overlooks a number of important countervailing considerations,⁸³ including that forced sharing of facilities, intellectual property, or a customer base should not be ordered lightly, as doing so threatens to undermine investment incentives.⁸⁴

The incentive for investment concern must be taken seriously as a counterweight to the rationale for mandating some form of shared access to an information platform, as it helps regulators avoid the trap of "*ex post*" (or, in English, after-the-fact) thinking. From the *ex post* perspective, ordering some form of interconnection to AOL's instant messaging service, for example, appears not to undermine any existing investment; from an *ex ante* (i.e., before-the-fact) perspective, however, the question is whether AOL would have made

⁷⁹ Lessig, *Innovation*, *supra* note 51 (arguing for Internet regulation over broadband access to preserve innovation).

⁸⁰ On the liberty front, Lessig highlights the concern that closed architectures will enable regulators (be they public or private) to regulate through hidden code. See Lessig, *CODE*, *supra* note 19, at 107-08. In terms of facilitating a vibrant marketplace of ideas, the government can act by regulating information platforms as well as through subsidizing certain types of speaking opportunities. See Netanel, *Cyberspace 2.0*, *supra* note 62, at 472-75 (discussing PublicNet proposal offered in ANDREW SHAPIRO, *CONTROL REVOLUTION: HOW THE INTERNET IS PUTTING PEOPLE IN CHARGE AND CHANGING THE WORLD WE KNOW* (2000)).

⁸¹ Lessig's argument, advanced along with Mark Lemley, that cable modems must be subject to an open access regime appears to reflect this sentiment. See Written Ex Parte of Professor Mark A. Lemley and Professor Lawrence Lessig at 15, Application for Consent to the Transfer of Control of Licenses MediaOne Group, Inc. to AT&T Corp., (No. 99-251) (visited Feb. 1, 2001) <<http://cyber.law.harvard.edu/works/lessig/cable/fcc/fcc.html>>. Apparently, Lessig's categorical concern with open architectures stems from his view that both commerce and government can limit individual freedom where Internet architectures are controlled by particular companies:

In a world where the code writers were the sort of people who governed the Internet Engineering Task Force of a few years ago, the government's power to regulate code would be slight. The underpaid heroes who built the Net have ideological reasons to resist government's mandate. They are not likely to yield to its threats. And unlike some commercial interests, they do not have millions riding on a single architecture winning out in the end. Thus, they would provide an important check on government's power over the architectures of cyberspace.

Lessig, *CODE*, *supra* note 19, at 52.

⁸² See James Boyle, *A Nondelegation Doctrine for the Digital Age?*, 50 DUKE L.J. 5, 16 (2000) ("Internet regulation . . . through 'private' bodies empowered by the government . . . should not escape completely from the world of democratic and constitutional review.").

⁸³ Lessig's distrust of commercialization of Internet standards leads him to suggest that commerce will invariably be of the concentrated economic power variety. See David G. Post, *What Larry Doesn't Get: Code, Law, and Liberty in Cyberspace*, 52 STAN. L. REV. 1439, 1451 (2000).

⁸⁴ See Weiser, *supra* note 77, at 831 n.53.

the critical investments at that time had they known that they would be forced to share some of the benefits (in this case the network externality of a large customer base) with their competitors. In many cases, it may well be that not mandating some form of sharing will enable a dominant firm to maintain and/or extend its monopoly power, but that judgment should be the result of reasoned analysis, not assumed to be the case.⁸⁵

The type of reasoning I have in mind is aptly illustrated by Judge Boudin's thoughtful concurrence in the *Lotus* case.⁸⁶ In particular, that case involved whether Borland could utilize Lotus' familiar command hierarchy without infringing its copyright.⁸⁷ But, like the question of whether to mandate an open, interoperable standard, the *Lotus* case addressed the appropriate level of copyright protection to afford to user interfaces with which users may well have become "locked-into" because of high switching costs. In concluding that Lotus did not deserve protection for the command hierarchy, Judge Boudin concluded that withholding copyright protection is warranted where "one places a very high value on public access to a useful innovation that may be the most efficient means of performing a given task."⁸⁸ Put simply, when protecting an innovation from open access would threaten to "fenc[e] off access to a commons"⁸⁹ and provide far more reward than necessary to encourage innovation, such protection would more likely limit, rather than enhance, consumer welfare.⁹⁰

The most challenging aspect of assessing the costs and benefits of open access is how to conceptualize the free speech value of open architectures. For some, such as Lessig, this value appears to dictate a categorical insistence on openness for all Internet standards. Unfortunately, as noted above, such an approach may mean that parties never invest in development or that a procompetitive standards development process is cut short. One possibility for addressing the issue might be to view this value as a tie-breaker for when the

⁸⁵ Some might suggest that the appropriate categorical position is to allow a network monopoly to control a standard until toppled by the forces of "creative destruction." See Richard Posner, *Antitrust in the New Economy* 4 (speech delivered to American Law Institute on Sept. 14, 2000) <http://www.ali-aba.org/aliaba/Posner_101100.htm> ("The gale of creative destruction that Schumpeter described, in which a sequence of temporary monopolies operates to maximize innovation that confers social benefits far in excess of the social costs of the short-lived monopoly prices that the process also gives rise to, may be the reality of the new economy.").

⁸⁶ *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 49 F.3d 807 (1st Cir. 1995) (Boudin, J., concurring), *aff'd by an equally divided Court*, 516 U.S. 233 (1996).

⁸⁷ *Id.* at 820.

⁸⁸ *Id.* at 819.

⁸⁹ *Id.*

⁹⁰ As Judge Boudin explained:

But if a better spreadsheet comes along, it is hard to see why customers who have learned the Lotus menu and devised macros for it should remain captives of Lotus because of an investment in learning made by the users and not by Lotus. Lotus has already reaped a substantial reward for being first; assuming that the Borland program is now better, good reasons exist for freeing it to attract old Lotus customers: to enable the old customers to take advantage of a new advance, and to reward Borland in turn for making a better product.

Id. at 821.

importance of protecting investment issue does not tip clearly in one direction or the other. Another approach would be to mandate interconnection only as to truly crucial media, such as those involving voice communications, for example.

2. *The Natural, Market Incentives for Openness*

Even where there is an important rationale for an open access regime, regulators should hesitate before regulating an information platform because there are natural, market incentives for a provider to open up its platform that might well obviate the need for a regulatory mandate. As an initial matter, lawyers, regulators, and courts should recognize the difference between sharing access to a customer base for a platform of users and making a platform available for developers. In either case, the platform owner decides to share the network externalities that its platform enjoys; however, the opening up of the platform for developers to build complementary applications presents analytically different issues than allowing access to a company's customer base to a direct competitor whose product could be a potential substitute.

In general, companies will generally choose to open up access to their platforms to enable developers to create new applications for them.⁹¹ Although there are occasions where a platform owner will attempt to discriminate against applications that rest on its platform (e.g., when they compete with that application), such a strategy will often be self-defeating, as it will lessen the value of its network.⁹² As Lessig has explained, by making a platform open, a company assures developers "that the platform cannot behave strategically, that it can't turn against them."⁹³ Thus, even where a company like AOL/Time Warner might have the ability and some incentive to close off rival content, there are marketplace reasons for them to hesitate to do so.⁹⁴ That said, the greater the

⁹¹ SHAPIRO & VARIAN, *supra* note 30, at 98 (suggesting that companies adopt liberal use policies for their information platforms, as "[a] product that can be shared with friends, loaned out and rented, repeatedly accessed, or sold in a resale market is obviously more valuable to a user than one that can be accessed only once, under controlled conditions, by only a single party.").

⁹² The strong version of this argument is that the platform owner, even if a monopolist, will never discriminate against such applications. See James B. Speta, *Handicapping the Race for the Last Mile?: A Critique of Open Access Rules for Broadband Platforms*, 17 YALE J. ON REG. 39, 84 (2000) ("A monopolist generally has no incentive to 'extend' or 'leverage' its monopoly into the market for complimentary goods, because to do so would simply diminish consumer demand for the monopoly good, and thereby diminish total profits."). Other commentators have qualified this argument to point out situations where such discrimination might occur. See Steven C. Salop & R. Craig Romaine, *Preserving Monopoly: Economic Analysis, Legal Standards, and Microsoft*, 7 GEO. MASON L. REV. 617, 625 n.26 (1999) (listing situations); see also James B. Speta, *Tying, Essential Facilities, and Network Externalities: A Comment On Piraino*, 93 NW. U. L. REV. 1277, 1282 (1999) (pointing out that Microsoft's predatory actions vis-a-vis Netscape can be explained on the ground that Microsoft viewed the browser as a partial substitute for the operating system). Even taking account of such cases, however, regulators should realize that a proprietary and/or discriminatory access strategy is quite risky and is likely to occur only where a company establishes a strong monopoly in the platform market.

⁹³ Lessig, *Innovation*, *supra* note 51.

⁹⁴ *Few Regulatory Obstacles Seen for AOL Time Warner*, COMM. DAILY, Jan. 11, 2000, available at 2000 WL 4694269 (reporting that "[t]here's not many cases of closed access working very well, restricting content to one location and making people come to you It would be a mistake for

individual company's belief that it could successfully pull off a discriminatory access strategy, the more risk that it might do so, thereby giving government regulators understandable cause for concern.⁹⁵

An analytically distinct question for regulators is whether natural, market incentives will encourage a platform owner to allow interoperability of its platform to its direct competitors' rival products. As an initial matter, it is again important to recognize that whether it is eBay's auction site or AOL's IM services, regulation should recognize the importance of investment incentives by not requiring the sharing of network externalities in all situations.⁹⁶ To be sure, the fear of tipping in network markets such as instant messaging, the Internet backbone, and plain old telephone service is a crucial concern for competition policy, as evidenced by the Department of Justice action against the MCIWorldcom/Sprint merger and AT&T's abuse of its dominant position in the local market at different points during the past century.⁹⁷ Nonetheless, regulators must be careful not to mandate an interoperable standard too soon, lest they cut short a healthy competitive battle and/or afford the interested parties to develop an interoperable standard on their own.⁹⁸ Moreover, even in the context of a "winner take all" standards battle, there are incentives to settle on an open standard, lest a company end up in Apple's position vis-a-vis IBM-compatible

them to limit consumers to only AOL or Time Warner content, and I think they get that.").

⁹⁵ In the case of AOL/Time Warner, that concern appears to be what drove the Federal Trade Commission and Federal Communications Commission to each impose regulatory safeguards as a condition of approving the merger. For a review of some of the relevant economic literature, see David & Greenstein, *supra* note 69, at 21 ("Inasmuch as compatibility is an aspect of product quality, it is hardly surprising that some contributors to the antitrust literature have alleged that a dominant firm has an incentive to manipulate the interface between system components over which it has proprietary control, and other, potentially complementary system components."). In terms of the general antitrust theory to address such conduct, it might well fall under a "raising rivals' costs" theory, see Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209 (1986).

⁹⁶ Joseph Farrell, *Creating Local Competition*, 49 FED. COMM. L.J. 201, 210 (1996) ("Just as we would not want to reduce the life of a patent from seventeen years to seventeen minutes, since that would reduce innovative effort, so also it would be unwise policy to make all developers of network externalities share them in all circumstances.").

⁹⁷ For a description of the tipping concern in the Internet backbone, see Complaint, *United States v. Worldcom* (June 26, 2000) (available at <http://www.usdoj.gov/atr/cases/f5000/5051.htm>). As for AT&T, its anticompetitive refusal to interconnect took place both in the early part of the nineteenth century as to local competitors, see Farrell, *supra* note 96, at 203-04; MILTON L. MUELLER JR., *UNIVERSAL SERVICE* 45-46 (1997), and in the later part of the century as to long distance competitors like MCI, see *MCI v. AT&T*, 708 F.2d 1081 (7th Cir. 1982).

⁹⁸ As Mark Lemley has recognized, "[C]ompetition to set the standard for the next generation of products may still serve a valuable purpose if it drives innovation the market." Lemley, *Internet Standardization*, *supra* note 55, at 1055; see Michael I. Krauss, *Regulation vs. Markets in the Development of Standards*, 3 S. CAL. INTERDISC. L. J. 781, 805 (1994) (arguing that the Betamax-VHS battle pushed each standard to new heights); Michael J. Schallap, *The IPR Paradox: Leveraging Intellectual Property Rights to Encourage Interoperability in the Network Computing Age*, 28 AIPLA 195, 211 (2000) (suggesting that property rights can encourage investment and that network effects will encourage the development of an interoperable standard); cf. Lemley, *Standardizing Government Standard-Setting*, *supra* note 57, at 756 (recognizing complex assessment necessary to select between open and closed standards).

PCs.⁹⁹ Put simply, in evaluating whether to mandate interconnection between two rival products, regulators must be self-conscious that watchful waiting can sometimes be the best policy.

3. *Implementation Challenges in Mandating Access to an Information Platform*

Finally, even where the government concludes that a platform is very important to consumers and that there is too much of a risk that it will be abused, the government faces a series of implementation challenges related to its ability to devise and administer a workable regulatory regime.¹⁰⁰ First, in dynamic areas, government should be concerned that its involvement in standard setting might slow technological development.¹⁰¹ Second, in devising a new regulatory regime, government should consider the reliability of the information upon which it decides to act. In many cases, a classic problem for an agency will be the quality of information it considers in evaluating a proposed standard; as then-Judge Breyer put it regarding the setting of automobile standards, "the agency fears that industry information is biased, outside sources must themselves rely on industry information, and in-house sources are inadequate."¹⁰²

As for information platforms, the industry players are less likely than those in the automobile industry to present a united front on the optimal regulatory strategy, thereby giving government regulators a richer texture of information. This diversity of information, like that the FCC received in considering regulations of instant messaging,¹⁰³ does not necessarily place an agency in a superior position to confronting a united industry front, as competitors will sometimes use the regulatory process to assist them on issues they could not win in the marketplace.¹⁰⁴ In contrast to the reliability of information presented on the merits of whether to intervene, a competitor-suggested interconnection standard

⁹⁹ Written Ex Parte of Professor Mark A. Lemley and Professor Lawrence Lessig at 15, Application for Consent to the Transfer of Control of Licenses MediaOne Group, Inc. to AT&T Corp., (No. 99-251) (visited Feb. 1, 2001) <<http://cyber.law.harvard.edu/works/lessig/cable/fcc/fcc.html>> ("Beta v. VHS and Apple vs. Microsoft both tell us that customers primarily care about content and applications and will flock to the vendor that gives them the best and widest selection of each."); Morris & Ferguson, *supra* note 49, at 90 (noting how Macintosh's refusal to open its platform hurt it in the marketplace).

¹⁰⁰ For a discussion echoing these concerns and adding the one of "industry capture," see Lemley, *Internet Standardization*, *supra* note 55, at 1063-64.

¹⁰¹ Ferguson & Morris, *supra* note 49, at 89 (criticizing governmentally developed standards as resistant to change); David & Greenstein, *supra* note 69, at 30 ("government should not mandate standards if they are likely soon to require revision").

¹⁰² BREYER, *supra* note 54, at 111-12.

¹⁰³ On that issue, competitors to AOL, such as Microsoft and Yahoo!, requested the imposition of an interconnection mandate whereas AOL argued that no such mandate was necessary or appropriate. Don Clark, *Internet Rivals Attempt to Open Up AOL's Instant Message System*, WALL ST. J., July 26, 1999, at B2 (detailing AOL's efforts to keep other services from accessing its Instant Messaging platform).

¹⁰⁴ See, e.g., AOL Order, *supra* note 52, at 14 (Powell, dissenting) ("Increasingly, one of [competitors'] responses, even if the largely unregulated Internet realm, is to seek the assistance of the government either to intervene directly and impede the market leader, or to use the threat of regulation as business leverage with that player.").

should be crafted in a manner that is enforceable, as the competitor will be the direct beneficiary of such a mandate.

The final implementation concern is that where an agency remains unsure about whether it can enforce effectively a proposed standard, it should be very reluctant to impose one, as difficult-to-enforce or vague standards can only invite more disputes and potentially undermine respect for the agency.¹⁰⁵ In particular, where an agency does not understand fully how its mandate will work in practice, it may be tempted to defer some difficult issues for later resolution by leaving key points vague or open to further inquiry. Taking this approach, however, may well undermine the effectiveness of any mandate and will ultimately deepen any concerns about the agency's ability to address complicated technology issues. One possible mechanism for avoiding this trap is for the agency to articulate an output-based goal, such as interconnection between different services, and leave the matter to a private body to develop the appropriate technical resolution of the issue. This approach, which the FCC essentially adopted in its regulation of instant messaging as part of its approval of the AOL/Time Warner merger, follows in the path of what some have described as "audited self-regulation."¹⁰⁶ Obviously, for such an approach to work, the identified body must be equipped to take on the task at hand and the relevant government agency must be qualified to ensure that the assigned task is completed successfully. Thus, even for government to implement interoperability mandates with the assistance of such a body, it must possess the technical know-how to ensure that the relevant standards-setting body handled its charge in an effective and reliable manner.

IV. INSTANT MESSAGING AND INTERCONNECTION MANDATES

The U.S. government's first foray into regulating Internet standards and new information platforms came in the FCC's review of the AOL/Time Warner merger, where it imposed an interoperability mandate on AOL's instant messaging services.¹⁰⁷ As Commissioner Powell's dissent in this matter highlights, there is understandable cause for criticism of this action on both procedural and substantive grounds.¹⁰⁸ For present purposes, I will not address

¹⁰⁵ See BREYER, *supra* note 54, at 112 ("The agency must develop practical standards capable of easy, widespread application."); Ken Auletta, *Final Offer*, THE NEW YORKER, 43 (Jan. 15, 2001) (quoting Chief Judge Posner, mediator in the Microsoft case, as stating that an essential criterion for a decree is that the proposed standards be "sufficiently clear to be judicially administrable and that (even if clear) they would not impose an undue administrative burden on the district court, which would have to administer the decree.").

¹⁰⁶ For a list of areas in which the government uses such an approach, see Douglas C. Michael, *Federal Agency Use of Audited Self-Regulation as a Regulatory Technique*, 47 ADMIN. L. REV. 171, 203-40 (1995).

¹⁰⁷ Technically, AOL offers two distinct instant messaging products: AOL's Instant Messenger (AIM) and ICQ's instant messaging service. See AOL Order, *supra* note 52, at 12. For simplicity purposes, I shall refer to two products collectively as "AOL's instant messaging services."

¹⁰⁸ In a partial dissent from the FCC's Order, Commissioner Michael Powell offered both sets of criticisms, highlighting that the action did not reflect a genuine merger specific concern warranting a conditional approval and that the substantive case for the conditions had not been adequately developed. See *infra* note 116.

the procedural point that industry-wide regulation should not be mandated in the context of a specific merger. On substance, regardless of its shortcomings, the FCC's order is very significant in that it identified an information platform worthy of regulation. In so doing, the FCC identified a model of regulating information platforms that may become increasingly significant in ensuring an "information commons": an interconnection or compatibility mandate. By not addressing the issue in a general rulemaking, however, the FCC failed both to develop a coherent analytical framework for regulating information platforms and did not suggest what other platforms might merit such regulation.¹⁰⁹

Instant messaging may well represent a precursor for new Internet-based technologies that will become important information platforms of the future. Instant messaging programs work over the basic Internet Protocol, adding a Names and Presence Directory (NPD) that enables users of instant messaging (IM) to know which other users are online.¹¹⁰ Estimates of the number of IM users vary, but the FCC placed the number at 150 million users for AOL's system alone;¹¹¹ given the usefulness of this service for real-time interactions and its suitability for handheld, wireless devices, it seems likely that this number will continue to increase dramatically. Indeed, for certain users, IM may partially substitute for, as well as heavily supplement, email usage and even the telephone.¹¹² Given the network nature of this market (its value is proportionate to its number of users), AOL has emerged as the early market leader (based on its AOL Instant Messenger and ICQ products). Thus far, AOL has maintained proprietary control over its NPD, refusing to allow other IM services, such as that operated by Microsoft, to have access to its base of customers.¹¹³ In response, Microsoft and others insisted first that AOL accept an open standard promulgated by the IETF, and later requested that the FCC impose such a condition in approving the merger between AOL and Time Warner.¹¹⁴

The FCC's AOL/Time Warner Order's treatment of IM takes the agency into novel terrain. Under the mantle of protecting against the creation of undue market power in "advanced IM high speed service (AIHS)," the agency instituted — for the first time in its history — a regulatory regime for an Internet-based information platform comprised of software (as opposed to hardware).¹¹⁵ In

¹⁰⁹ Among other things, the FCC also avoided explaining why it had authority to regulate instant messaging.

¹¹⁰ AOL Order, *supra* note 52, at 57.

¹¹¹ AOL Order, *supra* note 52, at 59.

¹¹² Nick Wingfield, *Changing Chat: Will Instant Messaging be the Dial Tone of the Future?*, WALL ST. J., Sept. 18, 2000 at R38 (Sept. 18, 2000) (43 percent of daily IM users report using less email as a result of IM and 59 percent report using the telephone less).

¹¹³ See AOL Order, *supra* note 52, at 73-74; see also Don Clark, *AOL and Apple Team Up to Offer Instant Messaging*, WALL ST. J., July 30, 1999, at B6 (noting that Instant Messaging could be a very important platform and discussing efforts to create open access to AOL's customer base); Don Clark, *Internet Rivals Attempt to Open Up AOL's Instant Message System*, WALL ST. J., July 26, 1999, at B2 (detailing AOL's efforts to keep other services from accessing its Instant Messaging platform).

¹¹⁴ See Wingfield, *supra* note 112, at R38 (noting efforts to lobby the FCC).

¹¹⁵ Commissioner Powell pointed out the novelty of the action: "Unlike traditional

particular, the order mandates that AOL cannot deliver AIHS unless and until it complies with one of two mandates. Option One requires AOL to implement a server-to-server interoperability system adopted by the IETF or another widely recognized industry standards-setting body to allow access for other providers to AOL's NPD such that "[t]he adopted standard shall ensure that AOL Time Warner shall afford the same quality in processing transactions to and from the other provider as it affords to its own."¹¹⁶ Option Two requires AOL to file a petition demonstrating that it has entered into a written contract providing server-to-server interoperability with a significant, unaffiliated actual or potential competitor and to commit to negotiate in good faith with other providers interested in such an arrangement. Finally, the FCC provided that, should AOL Time Warner be able to demonstrate that it has not been a dominant provider (i.e., holds a 50 percent or less market share) of IM services for at least four consecutive months, it shall be not be subject to either of the above mandates.

In terms of setting a precedent for future regulation of information platforms, the FCC's AOL/Time Warner Order failed to set forth a principled model of analysis that includes the key considerations set out in Part III. For starters, the FCC did not develop the clear record for explaining why IM is a critical service or analyze the market incentives for openness in this context. Insofar as the FCC offered a general principle for imposing an interoperability mandate, it suggested that a "tipping" concern justifies such a step.¹¹⁷ This analysis, however, misses the mark in several key respects. First, the FCC failed to focus on the facts that AOL's rivals had not made their IM programs interoperable nor had AOL implemented an interoperable standard between its two IM products (AIM and ICQ);¹¹⁸ taken together, these facts suggest that the market is not in imminent danger of tipping, as AOL had neither taken the obvious action to expedite that dynamic and its rivals had not yet undertaken an obvious self-help remedy.¹¹⁹

telecommunications infrastructure, like cable or DSL, that affect Internet transmission, IM is a software application born purely of the mother Internet. We accept this child with little appreciation of what the responsibility entails." Press Statement of Commissioner Powell (Jan. 11, 2001) <www.fcc.gov/Speeches/Powell/Statements/2001/stmkp101.html>; AOL Order, *supra* note 52, at 13 (Powell, dissenting) ("The result [in the AOL Order] is a regulatory foray across a border consistently held to be inviolate."). Again, Powell's point appears to be, in considerable part, a procedural criticism of the FCC's choice to act in the context of a merger review. See AOL Order, *supra* note 52, at 2 (Powell, dissenting) ("Our merger 'conditions' more often look like rules, reflecting judgments that, if true, affect the entire industry and not just the parties. As such, they should be entertained, if at all, in a broader-based proceeding.").

¹¹⁶ AOL Order, *supra* note 52, at 81.

¹¹⁷ By pegging the interoperability mandate to AOL's maintenance of a 50 percent market share, the FCC endorsed the fear that IM has already or shortly will "tip" to AOL, though the FCC did constrain itself to adhere to the standards required by the antitrust laws. In particular, Section 2 of the Sherman Act imposes a duty to interconnect on a monopolist where interconnection is necessary to compete.

¹¹⁸ Commissioner Powell pointed this out in dissent, as well as noting that recent studies suggest that the marketplace developments are far from conclusive. See AOL Order, *supra* note 52, at 4, 10 (Powell, dissenting).

¹¹⁹ Microsoft and Yahoo! have begun recently to move towards making their systems interoperable. See CNET News, *New MSN Messenger Fuels Rivalry Against AOL* (Feb. 6, 2001) <<http://news.cnet.com/news/0-1005-200-4735513.html>>.

Second, the FCC decision appeared to disregard reports that the rivalry — and the lack of interoperability — actually helped to drive Microsoft and Yahoo! to enhance the effectiveness and increase the reach of their products, with both companies' market shares growing rapidly.¹²⁰ Third, as the browser war illustrates, Microsoft's ability to overcome a rival's early lead should not be underestimated.¹²¹

Unfortunately, the FCC's order does not suggest any analytical framework for evaluating the rationale for an open access mandate. To the extent that the FCC realized its imposition of an interoperability mandate would cut short a marketplace battle, it seemed to suggest that the standards battle would not be pro-consumer.¹²² As noted above, there was evidence that the marketplace battle spawned innovation, so the FCC should have been clearer on what justified the imposition of an interoperability mandate. To be sure, some commentators have highlighted that lingering uncertainty and the use of proprietary standards can create inefficiencies,¹²³ but the jury is still out on this score. Finally, and most troublingly, the FCC's failure to suggest a more general analytical framework for information platform regulation leaves industry players in related areas such as broadband transport provided by cable modems and interconnection in the Internet backbone in the dark about what to expect in the future.¹²⁴

On the positive side, the FCC's AOL/Time Warner Order demonstrated that agency's appreciation for relying on private standard-setting committees, and indeed empowering them, when regulating information platforms. To date, the FCC has relied on private standards in critical cases such as those for cellular telephone networks as well as in relying on Cablelabs to develop and superintend the settop box standard. Indeed, of the three major sets of considerations set out above, the FCC followed the most critical one in that it did not set up a regime

¹²⁰ Press Release, Yahoo! Messenger And MSN Messenger Service Are Fastest Growing Instant-Messaging Applications in the U.S. (Nov. 16, 2000) <<http://www.mediametrix.com/press/releases/20001116.jsp?language=us>>.

¹²¹ Mark Lemley's perspective back in 1996 is worth remembering:

Take the Microsoft-Netscape browser battle as an example. Which of these companies is the dangerous monopolist who must be stopped? The immediate answer from those schooled in the operating system market may be: Microsoft. But it is Netscape, not Microsoft, that has an 85% market share today, and it would seem odd to prosecute a fringe competitor in such a market. People interested in the industry can spend hours debating who will win this competition; perhaps that fact alone should incline antitrust enforcers against acting at all.

Lemley, *Internet Standardization*, *supra* note 55, at 1076.

¹²² AOL Order, *supra* note 52, at 71 ("And even if Microsoft's NPD did grow to rival AOL's, the result would be merely a duopoly, not the healthy competition that exists today in electronic mail and that we hope will exist in new IM-based services and AIHS in particular.").

¹²³ Jeffrey Church & Neil Gandal, *Network Effects, Software Provision, and Standardization*, 40 J. IND. ECON. 85, 100 (1992) ("Since our analysis suggests that there is a suboptimal amount of standardization in the market with competitive technologies, one can conjecture that the inefficiency would be exacerbated if the technologies were proprietary.").

¹²⁴ For a discussion of the cable modem issue, see Weiser, *supra* note 77, at 827-37. For one on the Internet backbone issue, see Hatfield, *supra* note 36, at 2-3.

which would lock the industry into a particular standard and quite probably slow technological change.

In short, by taking its first foray into information platform regulation in the context of a merger review, the FCC did not develop a clear and principled analysis for how it will approach the issue of information platforms in the future. Indeed, it may well be the case that IM regulation is critical to the public interest and warrants the FCC's regulatory oversight, but its defense of the conditions imposed in the AOL/Time Warner Order do not make the case. Moreover, the importance of developing a principled analytical framework is not merely to justify the merits of a particular action, but also to enable would-be regulated parties to take steps to regulate their own conduct short of government intervention. To develop an appropriate set of criteria for information platform regulation, the FCC should build off its AOL/TW precedent by developing a coherent analytical framework that outlines where, when, and how open architectures will be protected through regulatory oversight.

V. CONCLUSION

The advent of the Internet offers policymakers and lawyers an opportunity to experiment with and appreciate the development of new legal models to regulate important policy concerns. In particular, the Internet's reliance on private standard setting as a means of self-regulation will continue to attract attention and scrutiny as it constitutes an important alternative to a formal statutory or administrative law regime. As the Internet develops, its initial commitment to openness and the end-to-end principle will not be self-sustaining, thus requiring the government to develop an approach to regulating critical information platforms. From examining the case of instant messaging, commentators and policymakers can begin to understand what types of questions to ask regarding where government intervention is necessary, even though the FCC's order is not a model on this score. The FCC's order is a model, however, in avoiding unnecessary government standard setting by providing incentives for private parties to do so. How the new regime for regulating information platforms will develop remains to be seen, but insightful analysis and sound experimentation with different approaches may help regulators navigate their way through this difficult terrain.