Net Neutrality vs. Net Reality: Why an Evidence-Based Approach to Enforcement, And Not More Regulation, Could Protect Innovation on the Web

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People have discussed the purpose, structure, and governance of the Internet since its earliest days. More recently, this discussion has sharpened into a debate about whether and how to enforce network neutrality—*i.e.*, access to the Internet on equal terms for all content providers and consumers. Some content providers want the government to adopt regulations to guarantee them fair access to the Internet. Some network owners, like Verizon or Comcast, disagree and think such regulations are unnecessary and could sti e innovation on the Internet. is debate is taking place at a time of radical change in how we access and use the Internet. e convergence of telecommunications technologies means that today we listen to the radio, watch television, and talk with friends and family on the Internet. is new reality stands in stark contrast to the archaic regulatory framework under the Communications Act of 1934, as amended,[1] which treats each form of communication separately.

With the Federal Communications Commission's (FCC) regulatory approach to network neutrality again being challenged by network owners in the U.S. Court of Appeals for the D.C. Circuit, I think now is the right time for us to seriously consider alternatives. From my perspective, we do not need another layer of regulations issued under the Communications Act. Doing this in the face of a dynamic and robust online environment would contradict my understanding of good government and could impede development of the Internet. We should instead focus on informed, exible, and fact-based enforcement of our existing competition and consumer protection norms by expert government agencies, supplemented with private self-regulation of technical standards through consensus-based multi-stakeholder organizations of engineers, consumers, and businesspeople. To the extent the government is involved, the Federal Trade Commission (FTC) model of enforcement, advocacy, and industry education is the better model that will allow free markets the breathing room they need to prosper.

I. Framing The Net Neutrality Debate

A. Design Characteristics Shaping e Debate

Like many of our modern technologies, the Internet began as a Department of Defense research project.[2] ree core design principles from those days are still relevant for today's policy decisions: rst, the Internet is intentionally decentralized and redundant; second, communications over the Internet are packet-switched, meaning each message is broken apart and its many pieces travel separately across the web before being re-assembled at the message's nal destination; and, third, the Internet uses "end-to-end architecture" that carries content from servers at the "edge" of the Internet on a " rst-in, rst-out" or "best e orts" basis.[3]

B. Proponents of Net Neutrality Regulation

Network neutrality advocates see the success of content and applications providers like Google, Yelp, or Facebook arising from the core design principles, especially end-to-end architecture. As Professors Mark Lemley and Lawrence Lessig have explained: "While the e2e [end-to-end] design principle was rst adopted for technical reasons, it has important social and competitive features as well. e2e expands the competitive horizon by enabling a wider variety of applications to connect to and to use the network."[4] ey think "[the] strong presumption [should be] in favor of preserving the architectural features that have produced this extraordinary innovation."[5] Net neutrality proponents want rules that protect these core design attributes by proscribing certain types of behavior by network owners.

Many successful "edge" providers are concerned that owners of the underlying infrastructure could engage in anticompetitive hold-up, either by cutting o access to users or to other networks, by charging high prices for transport or by providing better services to one content provider instead of its competitor either for a fee or because of a nancial a liation.[6] As explained at an FTC-sponsored conference several years ago, content providers worry about "(1) blockage, degradation, and

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philosophy of rule-based prohibitions to address mainly vertical concerns is the main force propelling the FCC's e orts on net neutrality.[8]

C. Opponents of Net Neutrality Regulation

Opponents of net neutrality rules are concerned that regulation, by its nature, is in exible and would penalize innovation in an attempt to maintain the original design principles of the Internet.[9] ey argue that among the core engines of growth on the Internet has been the latitude to experiment with new and di erent business models.[10] ey point out that many once-successful Internet businesses were vertically-integrated and arguably would violate modern network neutrality regulations were they still in business today. Adopting rigid network neutrality rules would freeze the existing business environment into place and potentially prevent experimentation with di erent technologies and types of vertically-integrated businesses or business practices. It also could derogate many of the e ciencies of vertical integration (like eliminating double marginalization problems) and skew investment incentives. Instead of allowing the free market to guide investment dollars where needed and businesses to charge based on the best use of potentially dear resources, like bandwidth, the government would dictate many of these decisions. Network operators and ISPs advocate for more fact-intensive and exible enforcement of widely-acknowledged legal and economic norms. ey question whether a systemic problem requiring expansive solutions even exists.[11]

re-tested. With this evidence-based process, we can conclude either that the initial theory and subsequent iterations were de cient and drop the matter or decide there is reason to believe a violation of law exists and pursue the matter further. is enforcement paradigm allows us to approach each complaint or issue anew and to apply broad norms to the facts before us.

C. A Growing Role for the FTC

Technological convergence and the litigation about FCC jurisdiction have raised questions about the nature of governing the Internet and the viability of the FCC's approach to network neutrality.[29] And, as questions grow about the FCC's role in this space, more people are looking to the FTC and its evidence-based enforcement approach as an answer. Although the FTC Act exempts "common carriers" from its jurisdiction, to the extent broadband services are classi ed as information services, the agency can play a meaningful role in shaping policy on the Internet.[30] Indeed, the FTC already plays a signi cant role in the Internet space, from enforcing legislation like the Children's Online Privacy Protection Act[31] to reviewing mergers and acquisitions like Google/AdMob or AOL/TimeWarner and investigating competition issues relating to Internet search engines or smartphone patents. e FTC's exible, normative, and rigorously fact-based approach to enforcement is a perfect t for overseeing the dynamic businesses tied to the Internet. But before o ering solutions, maybe we should rst ask—is there the problem?

III. Wait…Is There Really a Problem Here?

A. e Legacy Structure of the Internet

Much of the network neutrality debate hinges on the idea that there are bottlenecks on the Internet that allow network owners to exercise market power. Given the core design principles, rampant growth, and intense competition shaping the Internet ecosystem, I am skeptical about claims of a widespread problem. It seems the debate may rely on assumptions about the network's structure and capacity that, even if they had once been true, are increasingly less so because of the rapid growth in wireless broadband and the proliferation of new xed broadband technologies.

e Internet in the United States was originally structured as a multi-tiered hierarchy, making it conceivable that some providers could have maintained disproportionate market power. Until the 1990s, the Internet had basically three levels, including from the top down: (1) a national backbone of sixteen interconnected research facilities forming the original NSFNET (later replaced by private backbone providers interconnected at four public network access points or NAPs); (2) several regional networks connected to the backbone facility closest to them; and (3) numerous local or "last mile" providers, which connected consumers' homes or businesses with the regional networks through local distribution facilities.[32] Many of the last mile providers were legacy local cable and telephone networks, potentially giving them "termination monopolies" with the power to lock-in customers and discriminate at will.[33]

B. e Changing Structure of the Internet

Although the legacy structure of the Internet remains relevant and still in uences the debate, the forces of the free market are changing it rapidly. At least ve di erent trends are reshaping network access and in the process undermining the possibility of signi cant bottlenecks. Each of these bears on the question of network neutrality and the nature of governance on the Internet.

Fi , growth in mobile broadband is now outpacing all other modes of access and is becoming the default means by which people interact with the Internet, especially outside the United States. e FCC noted that "[w]ireless broadband subscriptions topped 500 million in [Organisation for Economic Co-operation and Development or OECD] countries [at] the end of 2010 (compared to 300 million xed broadband subscriptions)."[34] In addition, "[a]ccording to Cisco, global mobile data in 2011 (597 petabytes per month) more than doubled for the fourth consecutive year. Cisco also reports all mobile data tra c generated in 2011 was 'eight times the size of the entire global Internet in 2000.'"[35]

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action will allow free markets to serve the greatest good, while still maintaining a federal role in protecting the rights of consumers and a level playing eld for competitors.

Endnotes

1 47 U.S.C. § 151 *et seq.*

2 Barry M. Leiner et al., A Brief History of the Internet, Internet Society, http://www.isoc.org/internet/history/brief.shtml (last visited October 26, 2012); *see also* Philip J. Weiser & Jon Sallet, *e Case for Innovation Policy: Key Principles for National Success*, at 3 (Sept. 2011), *available at* http://www.silicon- atirons.com/documents/publications/report/CaseForInnovationPolicy.pdf.

3 *See* David D. Clark, *e Design Philosophy of the DARPA Internet Protocols*, Computer Comm. Rev., Aug. 1988, at 106–107, *available at* http://nms.csail.mit.edu/6829-papers/darpa-internet.pdf; Fed. Trade Comm'n, Broadband Connectivity Competition Policy 17 (2007) [hereinafter *Net Neutrality Report*], *available at*

companies like Google [are] constructing their own global delivery networks; others purchase such speed-enhancements through content delivery networks (CDNs) like Akamai, BitGravity, or Limelight Networks." *Id.*

47 Yoo, *Status Quo*, *supra* note 32, at 88.

48 Weller & Woodcock, *supra* note 44, at 27.

49 *See* Google, *About Google Fiber*, https:// ber.google.com/about/ (last visited Mar. 4, 2013).

50 Danny Schreiber, *Brad Feld Buys KC House with Google Fiber, Opens Contest to Live In It*, Silicon Prairie News (Feb. 13, 2013), http://www.siliconprairienews.com/2013/02/brad-feld-buys-kc-house-with-google- ber-opens-contest-to-live-in-it.

51 Weller & Woodcock, *supra* note 44, at 27.

52 *Id.*

53 Hazlett and Wright, *supra* note 10, at 780.

54 *See* Telegeography, *Global Internet Capacity Reaches 77Tbps Despite Slowdown* (Sep. 6, 2012), *available at* http://www.telegeography.com/products/commsupdate/articles/2012/09/06/global-internet-capacity-reaches-77tbps-despite-slowdown/.

55 *FCC Broadband Report*, *supra* note 36, at 5.

56 *Id.* at 6.

57 Press Release, FCC, FCC Launches First-In- e-World Incentive Auction to Repurpose Broadcast Television Spectrum for Mobile Broadband; Auction Set to Unleash Wave of Economic & Innovation Opportunities for U.S. (September 28, 2012), *available at* http://www.fcc.gov/document/fcc-initiates-incentive-auction-process.

58 *FCC Broadband Report*, *supra* note 36, at 43–44.

59 Chairman Julius Genachowski, Remarks of Chairman Genachowski on the O ce of Engineering and Technology and the Wireless Telecommunications Bureau Presentation on White Spaces for Wireless Broadband (July 19, 2012), *available at* http://www.fcc.gov/document/chairmans-remarks-white-spaces-wireless-broadband.

60 *Net Neutrality Order*, *supra* note 8, at ¶72 (stating "However, prohibiting tiered or usage-based pricing and requiring all subscribers to pay the same amount for broadband service, regardless of the performance or usage of the service, would force lighter end users of the network to subsidize heavier end users.").

61 *See* Cecilia Kang, *FCC Chairman Supports Broadband Data Caps Amid Net ix Protests*, Wash. Post Tech Blog (May 22, 2012, 11:16 AM), http://www.washingtonpost.com/blogs/post-tech/post/fcc-chairman-supports-broadband-data-caps-amid-net_ix-protests/2012/05/22/gIQAfdN9hU_blog.html.

62 Joe Waz & Philip Weiser, *Internet Governance: e Role of Multistakeholder Organizations* 10 J. on Telecomm. & High Tech L. 331 (Dec. 2012).

63 *Id.* at 335 n.11, 339.

64 *Id.* at 335.

65 *Id.* at 337.

66 *See* Broadband Internet Technical Advisory Group, *BITAG History*, http://www.bitag.org/bitag_organization.php?action=history